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TRANSLATION AND THE VALIDATION PROCESS OF THE HEMINGWAY: MEASURE  
OF ADOLESCENT CONNECTEDNESS (MAC) INTO TURKISH

A

DISSERTATION

Presented to the Faculty of the Graduate School of  
St. Mary's University in Partial Fulfillment  
of the Requirements  
for the Degree of

DOCTOR OF PHILOSOPHY

In

Counseling Education and Supervision

by

Yasir Kurt, M.A.

San Antonio, Texas

July 2017

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TRANSLATION AND THE VALIDATION PROCESS OF THE HEMINGWAY: MEASURE  
OF ADOLESCENT CONNECTEDNESS (MAC) INTO TURKISH

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## Abstract

### TRANSLATION AND VALIDATION PROCESS OF THE HEMINGWAY: MEASURE OF ADOLESCENT CONNECTEDNESS (MAC) INTO TURKISH

Yasir Kurt

St. Mary's University, 2017

Dissertation Adviser: R. Esteban Montilla, Ph.D.

Adolescent connectedness has been studied by researchers around the world because of its positive associations with academic, behavioral, and emotional indicators of positive youth development. Researchers in several countries also have found that it could serve as a protective factor against several health risk problems. The *Hemingway: Measure of Adolescent Connectedness* is one of the few assessment tools to measure connectedness across the adolescent social ecology, capturing connectedness in school and at home, in the present and in the anticipated future. The need for such instrument is particularly great in Turkish society where the scarcity of such psychometric scales constrains the development and evaluation of youth development programs. The purpose of this research study was to examine the validity evidence for the use of the *Turkish Hemingway: Measure of Adolescent Connectedness* (T-MAC). A survey research design with a sample of 245 Turkish adolescents was used to analyze internal consistency and validity evidence of the T-MAC following the guidelines of the International Test Commission and the Standard for Educational and Psychological Testing. The guiding research questions specifically focus on estimating the internal consistency among subscale items for all T-MAC subscales in terms of Coefficient Alpha and the convergent and discriminant validity evidence for five subscales of T-MAC (Connectedness to School, Teachers,

Parents, Peers, and Self) for which there are Turkish translations of reliable assessments of similar constructs. The data were analyzed using IBM SPSS 24.3 to generate descriptive and inferential statistics to answer these questions. The results suggest that the T-MAC showed acceptable internal consistency for all but three subscales, Connectedness to Teachers, Peers, and Self-in-the-Future. Five other subscales of the T-MAC (Connectedness to School, Teachers, Parents, Peers, Self-in-the-Present) yielded strong validity evidence and internal consistency. Some mean differences across gender and developmental groups were found and are discussed. Finally, exploratory analyses were conducted of specific items that did not have adequate internal consistency in the two subscales, which also did not show consistency with the original MAC, are discussed as well.

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“As you start to walk out on the way, the way appears.”

(RUMI)

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## **Chapter One: The Problem and Justification of The Study**

### **Introduction**

Turkish students, like students around the world, face various issues due to a lack of connectedness between themselves and the external world (friends, family, and society); areas of concern extend to academics, behavior, emotions, and health during adolescence. Unlike most developed countries (ex: The United States), there is a serious lack of assessment instruments to evaluate connectedness in Turkey. This deficiency makes it very difficult for mental health professionals to reliably evaluate the level of connectedness among Turkish students. The proposed study intended to resolve this lack of Turkish assessment tools by translating the Hemingway: *Measure of Adolescent Connectedness* (MAC; Karcher, 2003), a commonly used assessment tool measuring adolescent connectedness, into Turkish. This present study used a quantitative methodology to create and validate a Turkish-Measure of Adolescent Connectedness (T-MAC) with group of Turkish adolescents (6 through 12 grades). Turkish researchers, administrators, and school counselors may benefit from this Turkish version of the MAC when measuring connectedness levels of adolescents and/or when studying and applying peer helping or mentoring programs as well.

Because human beings are born with the essential need to connect with others, people strive to belong to a particular group in order to survive and thrive. (Kagatcibasi, 2005). Barber and Schluterman, (2008) reviewed the literature extensively to clarify the conceptualization of connectedness, pointing out that connectedness has been used in various constructs including closeness to an individual or group, perceived care and support, sense of belonging, satisfaction in relationships, and talking about problems with significant others. Moreover, Yuen (2011) simply described connectedness as a perception that makes individuals feel genuinely accepted, comfortable, valued and free to contribute in a given environment or relationship. Whitlock,

Wyman, and Moore (2014) pointed out that connectedness needs to be defined more accurately by considering both structural and subjective domains. In other words, they define connectedness as “the degree to which an individual (or group) possesses a subjective sense of emotional interrelatedness (belonging, caring, value, and trust) and a willingness to share with and seek resources from the individuals and communities in which he/ she is socially or geographically embedded” (p.21).

There are several definitions and explanations of connectedness in the literature and researchers most commonly define connectedness as “*a great need of human beings*” (Kagitcibasi, 2005; Lee & Robbins, 2000), “*a vital motivation for interpersonal connections*” (Baumeister & Leary, 1995), and “*a relationship experience that helps individuals to promote sense of comfort, well-being, and anxiety reduction*” (Townsend & McWhirter, 2005). Townsend and McWhirter (2005) pointed out that they reviewed 288 articles and chapters on connectedness in order to define connectedness appropriately. Following their research, they summarized connectedness to be “when a person is actively involved with another person, object, group, or environment, and that involvement promotes a sense of comfort, well-being, and anxiety reduction” (p. 193). Townsend and McWhirter’s definition coincides with other literature that emphasizes both behavioral and emotional dimensions in understanding how adolescents experience different contexts and relationships (Karcher & Sass, 2010).

The MAC’s operational definition of connectedness is consistent with Townsend and McWhirter (2005) as “connectedness is the degree of activity and positive affect youth report that they direct toward people, places and things” (Karcher & Sass, 2010, p.2) Connectedness may be achieved only through social skills and perspective-taking skills of the individuals in specific contexts (Karcher, 2004).

Literature shows several related constructs when discussing adolescent connectedness such as bonding, attachment, belonging, and relatedness. All these terms try to explain how well youth relate to the external world. As consistent with those related constructs, connectedness has also focused on the perceptions of youth regarding how well they think they are connected to others (Karcher, Holcomb, & Zambrano, 2008). Connectedness has been misinterpreted as just the feelings of relatedness and belongingness; however, it is the behavior and attitude to the response of those certain feelings that truly defines connectedness. Connectedness is not a concrete internal trait that an individual has, but rather a flexible interaction that may change and enhance over time. Connectedness is not just applied to the outreach of interacting with others in a positive way it is also about self-investment with places, activities, and of course relationships (Karcher, 2005).

The MAC defines connectedness as more than just acknowledging the actions of others, it has also been defined as the outward action to seek support from other individuals in a positive way. When adolescents reach out to connect with others they are expressing that the one they are reaching out to is important to them. This viewpoint focuses more on motivation to connect with people instead of just passively receiving social support and acknowledging connection implemented by the other person (Karcher, 2005).

Connectedness arises in the relationships and experiences of youth when they have higher levels of praise, esteem, and support from their external world. They first experience this positive attachment behavior in early stages of life when they receive affection from their caregivers (Kohut, 1977). Baumeister and Leary (1995) stated that youth first interact with their family members and then transition to socially supportive interactions with significant others such as their teachers, friends, and peers. They experience interpersonal relatedness and belonging

extended from their family and into their communities and social environment. As a result, they feel higher levels of relatedness and strive to positively connect with others by seeking continuous interaction and communication.

The consistent evidence in the connectedness literature clearly exhibits that there is a positive association between the level of connectedness and adolescents' academic, social, personal, and emotional development (Karcher, Holcomb, & Zambrano, 2008). Connectedness is also related to several factors including school attitude, social interest, self-esteem, resiliency, and protective factors (Karcher, 2005). Karcher, McWhirter and McWhirter (2011) emphasized that connectedness is a significant protective factor with regard to its academic and behavioral outcomes for adolescents. Moreover, individuals obtain higher levels of self-esteem, life satisfaction, and self-efficacy when they have sense of connectedness (Allen & Bowles, 2012).

On the other hand, lack of connectedness or feeling disconnected may have negative impact on the individuals' wellbeing, social relationships, psychological adjustments, and health. More specifically, disconnectedness may cause pervasive social problems, social exclusion, deficits in belongingness, and a lack of meaning or purpose in life (Baumeister & Leary, 1995), social isolation, feelings of worthlessness, and not being resilient against stress (Townsend & McWhirter 2005), psychological distress (Buchholz & Catton, 1999), psychological adjustment and health issues and lack of wellbeing (Rude & Burham, 1995), and even suicide (Durkheim, 1951). In other words, individuals with a lack of connectedness tend to experience disconnection from their internal self (intrapersonal level) and from the social world (external world/interpersonal level) and as a result they feel lost and alone. Because of this, these individuals might experience serious relationship issues with their friends, family members, and



colleagues. Although they may have nonconflictual relationships with friends, family members, and colleagues; these individuals mostly report a lack of supportive relationships.

Therefore, the importance of building healthy connectedness is vital during critical life periods; in particular, in adolescent ages. Perhaps; this is the reason why the media pays special attention to connectedness and why it has become popular in academic and educational settings. The development of connectedness in adolescence is influenced by factors such as parental closeness, communication, empathy, concern, support, and respect (Yuen, 2011). In the United States, schools and organizations provide some programs for children and adolescents to develop their connectedness levels with their school, family, and social environment (McWhirter, & McWhirter, 2011).

### **Turkish Culture**

Turkey, which is officially called the Republic of Turkey, is the only country that is located across two continents (Europe and Asia). Since 1299, Turkey was once the center of the Ottoman Empire until the Republic of Turkey was founded by Mustafa Kemal Ataturk in 1923. Turks speak their own language, “Turkish”, which was shaped by Mustafa Kemal Ataturk himself. Turkey is an associate member of European Union for a while and still considered a developing country. Turkey is a democratic country with approximately 75 million citizens (98% of which are Muslim) ([www.turkstat.gov.tr/](http://www.turkstat.gov.tr/)).

### **Connectedness and its Implications in Turkey**

Even though Turkish culture consists of mainly collectivistic characteristics, individualism also has an impact in Turkey. Turks culturally value a collectivistic lifestyle, which is why, hospitality and loyal friendships are deemed very important along with a protective and kind attitudes toward children and older adults in the society (Hofstede, 1980).

Collectivistic societies focus on both autonomy and the need for connectedness, which helps flourish overall well-being levels. In comparison, individualistic societies solely focus on autonomy which does not lead to or promote connectedness (Kagitcibasi, 2002). A Turkish adolescent's family environment shapes his/her self-development in terms of both autonomy and connectedness. Moreover, studies show that young Turkish people became autonomous in their values and behaviors while keeping their connectedness with their families (Yetim, 2003).

Connectedness plays a vital role in Turkish society. In Turkey, religion and culture are crucial elements in people's lives and affect them greatly. Additionally, close ties with relatives and neighbors are crucial, as Turks are driven towards interpersonal relationships. It is common to share personal issues with family members, friends, and close relatives. Therefore, Turkish individuals do not intend to seek professional help from counselors (McCarthy, 2005). Turkish people were reported with more external locus of control and they believe that everything is controlled by others (Mocan-Aydin, 2000).

Moreover, student to student and student to teacher interactions have a serious impact on Turkish youth's lives. In their cross-cultural study, Beyazturk & Kesner (2005) compared teacher to student relationships in Turkey and United States schools. This study showed that the quality of teacher-student relationships have a great impact on academic achievement and students' behaviors, demonstrated in both samples. They also found that teacher to child interaction affects children's development in many ways, just like parent to child attachments.

There is an urgent need for an instrument to measure adolescent connectedness in Turkey because connectedness is the center of peer helping programs and mentoring programs (Karcher, 2005) that schools in Turkey need (Aladag, 2005; Savi, 2011). The National Ministry of Education reported that one school counselor was assigned 941 students in Turkey (Milli Egitim

Istatistikleri, 2011-2012). School counseling and guidance services cannot perform at their best as desired. This is why peer helping interventions have become more of an issue in Turkey (Aladag, 2005), especially as, the Ministry of National Education cannot assign more school counselors in the near future due to economic and political reasons. Despite the Ministry's shortcomings, a program (or programs) is definitely needed to help school counseling and guidance services in Turkish schools.

### **Statement of the Problem**

In Turkey, most of the school counseling departments do not provide quality service to their students due to insufficient school counselors and training (Aladag, 2005; Taskaya, & Kurt, 2010). As a result, Aladag (2005) suggested that peer helping programs be used to supplement school counseling services, because promoting connections between peers is the key target of these programs.

Building peer connectedness during critical periods of adolescence is crucial. For example, there is a positive association between connectedness and students' academic, social, personal, and emotional development (Karcher, Holcomb, & Zambrano, 2008). There is consistent evidence in the literature that mentoring programs (Portwood, Ayer, Kinnison, Waris, & Wise, 2005) and peer helping programs (Karcher, 2008) can help students strengthen connectedness. Resnick et al., (1997) stated that one of the after-school programs' goals was to improve connectedness to family, peers, or the school. However, in order to measure the effectiveness of peer helping and mentoring programs to supplement school counseling services in Turkey, a valid Turkish instrument is needed. Therefore, translating the Hemingway: *Measure of Adolescent Connectedness* into Turkish and conducting the initial validation could be beneficial for the Turkish education system, school counseling services, and students in Turkey.

## **Purpose of the Study**

The purpose of this present study was to translate of The *Hemingway: Measure of Adolescent Connectedness* (MAC, short version, grades 6-12) into Turkish and conduct validation of the Turkish instrument with a group of Turkish adolescents in order to provide a valid and reliable instrument for mental health professionals, educators, and administrators to measure adolescent connectedness in Turkish culture. Consequently, the first step is (a) to translate of the MAC (short version, grades 6-12) into the Turkish language and (b) examine its validity based on the data collected from Turkish adolescents.

## **Research Questions**

In this study, the following questions were examined:

The general research question of the study is: what is the evidence for the Turkish-Measure of Adolescent Connectedness (T-MAC) being a good instrument to measure the level of connectedness of Turkish adolescents? The first set of questions aimed to answer this general question including five specific hypotheses. These five questions address the degree of construct validity evidence for the T-MAC on five specific subscales.

- 1) What are the psychometric properties of the T-MAC Connectedness to School subscale when given to a sample of Turkish adolescents?
  - a) How strong is the internal consistency of the items of the T-MAC Connectedness to School subscale in terms of Coefficient Alpha?
  - b) Are correlations between the T-MAC Connectedness to School subscale and the School Attachment Scale sufficiently large to provide strong convergent validity evidence for the Connectedness to School as a measure of school connectedness?

- 2) What are the psychometric properties of the T-MAC Connectedness to Teachers subscale when given to a sample of Turkish adolescents?
  - a) How strong is the internal consistency of the items of the T-MAC Connectedness to Teachers subscale in terms of Coefficient Alpha?
  - b) Are correlations between the T-MAC Connectedness to Teachers subscale and the School Attachment Scale to Attachment to Teacher subscale sufficiently large to provide strong convergent validity evidence for the T-MAC Connectedness to Teachers subscale as a measure of teacher connectedness?
- 3) What are the psychometric properties of the T-MAC Connectedness to a Self-in-the-Present subscale when given to a sample of Turkish adolescents?
  - a) How strong is the internal consistency of the items of the T-MAC Self-in-the-Present subscale in terms of Coefficient Alpha?
  - b) Are correlations between the T-MAC Connectedness to a Self-in-the-Present subscale and the Rosenberg Self-Esteem Scale sufficiently large to provide strong convergent validity evidence for the T-MAC Connectedness to a Self-in-the-Present subscale as a measure of self-esteem in the present?
- 4) What are the psychometric properties of the T-MAC Parent Connectedness subscale when given to a sample of Turkish adolescents?
  - a) How strong is the internal consistency of the items of the T-MAC Connectedness to Parents subscale in terms of Coefficient Alpha?

- b) Are correlations between the T-MAC Connectedness to Parents subscale and the Parent Attachment Scale of the Turkish translation of the Inventory of Parent and Peer Attachment-Short Form scale sufficiently large to provide strong convergent validity evidence for the T-MAC Connectedness to Parents subscale as a measure of parent connectedness?
- 5) What are the psychometric properties of the T-MAC Connectedness to Peers subscale when given to a sample of Turkish adolescents?
- a) How strong is the internal consistency of the items of the T-MAC Connectedness to Peers subscale in terms of Coefficient Alpha?
  - b) Are correlations between the T- MAC Connectedness to Peers subscale and the Peer Attachment Scale of the Turkish translation of the Inventory of Parent and Peer Attachment-Short Form scale sufficiently large to provide strong convergent validity evidence for the T-MAC Connectedness to Peers subscale as a measure of peer connectedness?
- 6) How strong is the evidence of discriminant validity in terms of the size and direction of correlations between the two interpersonal connectedness scales, Connectedness to Parents and to Peers, and the Turkish translation of the Social Anxiety Scale for Adolescents?

The second main research question is about the presence of gender and developmental differences in psychometric properties. In order to assess whether the psychometric properties estimated with the whole sample (above) are similar enough in subsamples of boys and girls, and both older youth and younger youth, to suggest that the scale demonstrates sufficient validity

evidence across sex and age of adolescents, the same five research questions posed above will be run with these four groups: all boys, all girls, adolescents in grades 6 through 8, and adolescents in grades 9 through 12. Does reliability and convergent/discriminant validity evidence suggest that the 10 subscales demonstrate sufficient reliability (and for five scales validity) evidence across sex and age of adolescents?

The third main question is about the reliability of the remaining T-MAC subscales. The other T-MAC Connectedness subscales for which there were no corresponding measures that had been translated into Turkish will only have their psychometric properties if internal consistency assessed in this study. Therefore, the third main research question is, what is the evidence of inter item consistency for the items in the T-MAC subscales measuring Connectedness to Friends, Siblings, Neighborhood, Reading and Self-in-the-Future?

#### Theoretical Perspective

This present study used the adolescent connectedness theory as a theoretical base frame since it is in the center of the Hemingway: *Measure of Adolescent Connectedness* (MAC)

#### **Adolescent Connectedness Theory (ACT)**

The ACT reflects two needs: to belong and to become (Karcher, 2003). As stated by Schulze and Naidu (2014), researchers extensively study adolescent connectedness because studying this critical stage is more valuable since adolescents shape autonomous identity during this period (Erikson, 1968). This present study used the adolescent connectedness theory as a theoretical base frame since it is in the center of the MAC. The MAC was shaped and developed by the idea of Nakkula and Selman who stated that researchers better understand human beings by reflecting youths' interpretations of connectedness to the world over time (as cited in Karcher, 2011).

As explained by Karcher (2011), the framework of the adolescent connectedness theory is structured by three fundamental concepts including developmental principles (Kohut's self-development model, Erikson's model of identity development, and Winnicott's concept about the capacity to be alone), ecological structures (Baumeister & Leary's "need to belong" theory, Bronfenbrenner's ecological model), and prevention research (Jessor's problem behavior theory).

Adolescent connectedness is different from adult belongingness. Baumeister and Leary (1995) pointed out that adolescents' need to belong is characterized based on the frequency of action and persistent caring for relationships and places in their social context. Jessor's problem behavior theory focuses on conventionality. This theory proposes that unconventional relationships may cause delinquent behaviors (as cited in Karcher, 2003).

Cooper (1999) stated that individuals may be connected to self, others, or to society. Adolescent Connectedness Theory emphasizes the importance of unique social contexts where adolescents interact with others including family (parents, father, mother, siblings), friends (peers, boyfriend/girlfriend), school (teachers), self (including present, self, and future self), and society (different cultures, religion, reading, school, and neighborhood) (Karcher, 2003).

### **Domains of Connectedness**

Connectedness literature has been comprehensively focused on school connectedness because youth spend the majority of their time in school. Therefore, school connectedness is a very powerful context for young people's social, academic, and behavioral development (Pianta, Stuhlman, & Hamre, 2002). To understand and conceptualize the MAC and the adolescent connectedness framework comprehensively, the studies related to the domains of connectedness need to be reviewed. These domains are the subscales of the MAC (Karcher, 2001). In the



following section, as consistent with the domains of the MAC (5.5 short version) school, family, peer, community, and social connectedness will be reviewed.

### **School Connectedness**

Goodenow (1993) defined school connectedness as a level of feeling supported, included, respected, and accepted by others at school. Centers for Disease Control and Prevention (CDCP) define school connectedness as “the belief by students that adults and peers in the school care about their learning as well as about them as individuals” (CDCP, 2009, P.3).

According to Blum (2005), there are seven factors that significantly impact students’ connectedness. When students experience school connectedness they “like school, feel that they belong, believe teachers care about them and their learning, believe that education matters, have friends at school, believe that discipline is fair, and have opportunities to participate in extracurricular activities” (Blum, 2005, p. 16).

There are several studies that show the advantages of school connectedness. Thompson (2005) stated that if students are actively involved at school and have positive feelings towards school, they most likely become independent learners and complete their education. Finn and Rock (1997) found that school connectedness impacts academic success, so students have high level of academic expectations. Manlove (1998) pointed out that a high level of school connectedness helps decrease school dropout and teen (student) pregnancy rates.

High levels of school connectedness diminish substance use and improve school completion and mental health of adolescents (Bond et al., 2007). Shochet, Homel, Cockshaw, and Montgomery (2008) stated that school connectedness is a major protective factor against adolescent depression. Langille, Rasic, Kisely, Flowerdew, and Cobbett (2012) found that high levels of school connectedness work as a protective factor against depression among Canadian

high school students. Turkish students with a high level of school connectedness are successful in school, active in social activities, adapting social life easily, and skip school less (Savi, 2011; Ilgar & Parlak, 2014; Turgut, 2015). As Ilgar and Parlak (2014) stated, increasing students' school connectedness level might prevent several school related issues such as school dropout, skipping school, isolation, behavioral problems, substance use, and delinquency. Yildiz and Kutlu (2013) also stated that Turkish adolescents are less likely face psychological problems such as social anxiety and depression, if they have a high level of school connectedness.

On the other hand, a low level of school connectedness (or disconnected to school) may cause several issues such as isolation, alienation, and separation. Students who are disconnected from school are more likely to experience substance use, teen pregnancy, crime involvement, and drop out of school (Caraway, Tucker, Reinke, & Hall, 2003). Low levels of connectedness can cause the development of psychological problems including anxiety and depression. Additionally, disconnected adolescents often use substances such as tobacco, marijuana, and alcohol. These adolescents also show poor academic achievement (Bond et al., 2007).

### **Family Connectedness**

Family connectedness is defined as the degree to which children feel understood, loved, wanted, and paid attention to by other family members (Blum & Rinehart, 1997) and the quality of relationship between parents and their children (Lezin, Rolleri, Bean, & Taylor, 2004). High levels of family connectedness lowers health risk behaviors and improves prosocial behaviors among adolescents (Resnick et al., 1997), protects adolescents from several problems including emotional distress, suicide, substance use, violence, and early sexual activity (Blum & Rinehart, 1997), and can delay and reduce adolescent sexual intercourse, and as a result, it lowers risk of teen pregnancy (Miller, Benson, & Galbraith, 2001). High levels of connectedness to family

increased self-esteem and academic achievement (Turktan & Savran, 2010) and positive social behaviors and self-esteem among Turkish adolescents (Miller, Benson, & Galbraith, 2001).

Adolescents may have *connected to non-parental adults* (or significant others such as coaches, teachers, friends' parents, neighbors, counselors, religious leaders, and so on) in various social contexts. It is healthy for adolescents to build connectedness with different types of social and age groups. This type of relationship may be established either in an informal or formal way like mentoring programs, popular social intervention in the United States (Rhodes & DuBois, 2008). 73% of young adults have a mentor in their lives and most of them are extended family members (DuBois & Silverthorn, 2005). Mentoring programs have a great influence on adolescents' emotional, behavioral, and academic development (DuBois, Holloway, Valentine, & Cooper, 2002).

Literature shows that if adolescents have a mentor (an older and wise adult) they complete their education, have higher self-esteem and life satisfaction, and choose healthier lifestyles and they are less likely to be involved in violence (DuBois & Silverthorn, 2005). Moreover, having a relationship with a significant non-parental adult such as coaches or teachers reduces the chance of facing psychosocial adjustment problems among adolescents (Masten, 2001).

### **Peer Connectedness**

Peer connectedness is defined as “the degree to which youth feel they fit in with their peers, their sense of belonging in the school general, and feelings of acceptance.” (Karcher, 2011). Building peer connectedness during the critical period of adolescence is vital. Students who have strong relationships with their peers gain a sense of security and it improves their concept of identity and self-esteem (Goodenow, 1993; Skinner & Snyder, 1999).

Bayraktar, Sayil, and Kumru (2009) found that strong peer connectedness during high-school and college years increases positive social behaviors and self-esteem, while it simultaneously decreases aggressive behaviors. McGraw, Moore, Fuller, and Bates (2008) stated that peer connectedness is a strong predictive factor for well-being and depression, while low levels of peer connectedness were reported as a significant factor for suicidal thoughts. Peer connectedness is a very strong factor that influence adolescents' connectedness to school (Furrer & Skinner, 2003; Waters, Cross, & Shaw, 2010) and parents (Ozdemir & Koruklu, 2013).

### **Community connectedness**

Community connectedness is defined as adolescents' perceptions of caring by adults (Rauner, 2000) and sense of belonging (Beckman, Barnwell, Horn, Hanson, & Gutierrez, 1998) in the community. Whitlock (2004) stated that religiosity, group involvement, relationships with parents are significant predictor of community connectedness.

According to Centers for Disease Control and Prevention (CDCP), youth with high levels of connectedness were more active in community cultural activities and were more associated with traditional beliefs and values in their community. Therefore, they are less likely to be at risk for suicidal behavior (CDCP, 2011). Feelings of belonging to one's community is also reported to be an effective protective factor for many health outcomes including poor body image, emotional stress, multiple drug use, school absenteeism, and risk of injury and pregnancy (Rutter, 1993).

High levels of connectedness to the community increases adolescents' social skill levels and lowers their chance to engage in risky health behaviors (Bernat & Resnick, 2009; Youngblade, Curry, Novak, Vogel, & Shenkman, 2006). Metz and Youniss (2005) pointed out that these findings are consistent with research in Canada, the U.S, and Australia on adolescents'

connectedness to community. They stated that participating in community service can impact levels of adolescents' connectedness to their community in a great way by increasing compassion and overall positive behavior.

### **Social Connectedness**

Social connectedness is defined as an individuals' close relationships to the external world including family, friends, and society (Lee & Robbins, 1995). Townsend and McWhirter (2005) stated that daily positive interactions are also a part of social connectedness.

High levels of social connectedness positively influence adolescents' psychological well-being, self-esteem, social skills, and relationships (Lee, Draper, & Lee, 2001). Higher levels of social connectedness help students cope with adjustment issues during their transition to college education (Duru, 2008a; Duru & Poyrazli, 2011).

In several studies, social connectedness was negatively correlated with depression and loneliness (Duru, 2008b; Libbey, Ireland, & Resnick, 2002), in addition to suicide (Czyz, Liu, & King, 2012; Van Orden et al., 2010). Other studies found social connectedness as a significant protective factor against distress (Donald, Dower, Correa-Velez, & Jones, 2006), stress (Lee, et al., 2002; Whittaker, 2008), health risk behaviors (Bond, et al., 2007; Whittaker, 2008) and suicide, depression (Armstrong & Oomen-Early, 2009), substance use, violence, and delinquency (Czyz, Liu, & King, 2012).

### **Significance of The Study**

The Turkish version of The Hemingway: *Measure of Adolescent Connectedness* (T-MAC) may be useful to assess Turkish students' connectedness levels. With the results of the T-MAC, researchers could be able to distinguish students with a higher level of connectedness than students with a lower level of connectedness across multiple domains. The MAC measurement

includes more domains than any other scale that measures adolescent connectedness in the literature (Karcher, 2011). It might help counselors and researchers to assess Turkish adolescents' connectedness levels for each specific domain such as self, parents, siblings, friends, school, neighborhood, boyfriend/girlfriend, religion, and reading. Therefore, Turkish adolescents could be differentiated with a higher level of connectedness and a lower level of connectedness for each specific domain mentioned above which may help counselors identify youth who could benefit most from a peer mentoring program. Turkish researchers may benefit from reliability tests of this T-MAC when studying and applying peer helping or mentoring programs as well.

### **Limitations of the Study**

There are several potential limitations of this current study. The sample size was the first limitation of the study because the number of participants would not be enough to represent the whole adolescent population in Turkey. The potential bias on the participants' responses was another limitation of the study. T-MAC consists of 156 items which is a substantial amount of items for the adolescent participants to focus and concentrate on. The participants' mood and wellness while taking the survey might be another limitation of the study. Lastly, the error in the instrument was another limitation that might cause inappropriate measure of the connectedness levels.

### **Definition of Terms**

**Adolescents.** In the Hemingway: *Measure of Adolescent Connectedness*, adolescents are 6<sup>th</sup> to 12<sup>th</sup> grade students.

**Connectedness.** Connectedness "is the degree of activity and positive affect youth report that they direct toward people, places and things." (Karcher, 2003).

**Adolescent Connectedness Theory.** The theory was developed by Karcher (2001). He followed the idea of Nakkula and Selman who stated that researchers better understand human beings by reflecting youths' interpretations of connectedness to the world over time (As cited in Karcher, 2003). The Adolescent Connectedness Theory reflects two needs: to belong and to become.

**The Hemingway: *Measure of Adolescent Connectedness.*** This assessment tool was developed by Karcher in 2001 to measure the connectedness level of adolescents in the United States.

**Turkey.** Turkey is a country which is a bridge between Asia and Europe and is officially called The Republic of Turkey.

**Turkish.** In this study, Turkish is referred the language spoken by people who live in Turkey and also individuals who are the citizens of the Republic of Turkey.

### **Organization of Remaining Chapters**

In the next chapter, the connectedness literature will be reviewed extensively based on adolescent connectedness and connectedness in Turkey. In addition, Turkish culture will be described. Chapter 3 will describe, the methodology of the study, including research design, participants, procedures, analysis, benefits of the study, and potential limitations. Chapter 4 will present results and the interpretations of the results. Finally, Chapter 5 will discuss the limitations of the study, implications and recommendations for the future research.

## **Chapter Two: Review of the Literature**

The increasing academic related issues such as school dropout, skipping school, academic failure, and education incompleteness and the already recognized mental and psychological distresses among Turkish adolescents are all good reasons to study adolescent connectedness in Turkey. Turkish adolescents are also not having sufficient support from school counseling services or mental health field to handle those issues to develop a healthy identity (Aladag, 2005). The lack of intervention to prevent problems that adolescents face as well as lack of instruments to reliably assess connectedness emphasize the need for scales to assess the connectedness levels of adolescents in Turkey.

This chapter provides background information about the available measures to assess connectedness and related constructs among adolescents in Turkey, a review of the Hemingway: *Measure of Adolescent Connectedness* (MAC) and its original validation studies, the translation and cross-cultural validation studies before reviewing outcomes of connectedness in the existence literature.

### **Connectedness Measures for Turkish Adolescents**

Even though there are several assessment instruments were translated into Turkish to measure related constructs with connectedness subscales such as self-scale (ex: self-esteem) and school and parent/peer connectedness (Rosenberg Self-Esteem Scale (RSES, Cuhadaroglu, 1986), School Attachment Scale (SAS, Savi, 2011), and the Inventory of Parent and Peer Attachment (IPPA, Kocayoruk, 2010), there are no assessment instruments available in Turkish to help researchers, administrators, and mental health professionals to measure and evaluate the levels of connectedness among adolescents in Turkey. Surprisingly, the term and construct “adolescent connectedness” has not even been used in the Turkish literature since its



development in 2001 in the U.S. Perhaps, the reasons of this absence is because of concept confusion in the literature, translation issues, as well as Turkish academia, not being updated about the new constructs and theories in the field. Therefore, there is an urgent need for a culture and language-sensitive assessment instrument in Turkish to better evaluate connectedness levels of Turkish adolescents.

The MAC has been used in several studies, translated into different languages, and tested with sufficient reliability and validity evidence across various cultures (Karcher, & Lee, 2002; McWhirter, & McWhirter, 2011; Sass et al., 2010; Schulze, & Naidu, 2014). The following section reviews translated assessment instruments that measure similar constructs with the MAC, original validation studies, translation and cross-cultural validation studies of the MAC.

#### **Rosenberg self-esteem scale (RSES; Rosenberg, 1965)**

Rosenberg (1965) developed a self-report instrument in order to measure adolescent's global self-esteem. The Rosenberg Self-esteem Scale (RSES) has 12 subscales and 63 items; however, the present study used only the Self-Esteem subscale that includes 10 items to assess the appraisal of individual. The Turkish adaptation study of RSS was conducted by Çuhadaroglu (1986) through psychometric interviews with middle school students (9 through 11 grades). It is a four-point Likert-type scale including the ratings of “Strongly Disagree” (1 point) to “Strongly Agree” (4 points). In this study, the internal consistency coefficient was found as  $\alpha = .83$ . The test-retest was done four weeks after and the correlation between the two scores was  $r = 0.71$ . The results revealed strong reliability and validity evidence in the middle adolescence sample in Turkey (Cuhadaroglu, 1986).

### **The School Attachment Scale for Children and Adolescents (SAS-CA; Hill, 2006)**

Hill (2006) developed the School Attachment Scale for Children and Adolescents (SAS-CA) in 2006 in the U.S. The adaptation and validation studies of this scale into Turkish were done by Savi Cakar (2011). The SAS has three main domains including teacher, friend, and school attachment. The original version of the SAS is a 5-point Likert-type scale with a total of 15 items. However, the Turkish version includes 13 items and they are also divided into three factors as following: school attachment, attachment to teacher, and attachment to friends. The participants of this study were 708 students (356 females and 352 males) with the average age of 11.4. The Turkish version of the scale was evaluated for its factor structure, criterion-related validity, Cronbach alpha internal consistency, test re-test, split-half and item-total reliability. The first factor consists of 4 items and explains 21.940% of the variance; the second factor consists of 4 items and explains 18.471% of the variance; and the third factor consists of 5 items and explains 18.279% of the variance. All three subscales explained 58.69% of the total variance. Cronbach's alpha inner consistency coefficient was calculated as .84; and inner consistency coefficients derived for scale's alt dimensions, attachment to school calculated as .82, attachment to teacher as .74 and attachment to friends .71. Test-retest reliability was determined .85; and relation of item with total point as ranging from .66 and .85 for the Turkish version (Savi Cakar, 2011).

### **The Inventory of Parent and Peer Attachment (IPPA; Armsden, & Greenberg, 1987)**

The Inventory of Parent and Peer Attachment (IPPA) was developed by Armsden and Greenberg in 1987 in the U.S. The IPPA derives from the theoretical framework of attachment theory. The IPPA assesses adolescents' perceptions of the positive and negative cognitive dimension of adolescents' relationships with their parents and close friends. The IPPA aims to

help better understand how well individuals' fathers, mothers, and close friends serve as sources of psychological security. The original version of the IPPA were clustered into three factors including "Communication", "Trust", and "Alienation" (Armsden & Greenberg, 1987). The original version samples were 16 to 20 years of age; however, as stated by the researchers the IPPA has been used successfully in several studies with adolescents as young as 12 years old. The instrument is a self-report questionnaire that uses 5 point likert-scale. The original version of the IPPA consists of 25 peer items for all three scales (father, mother, and peers). Internal consistencies for the subscales were reported as: mother attachment .87; father attachment .89; and peer attachment .92.

The adaptation and validation studies of the Turkish version of the IPPA was conducted by Kocayoruk in 2010. This study used 399 students who were studying in a high school during the 2007-2008 academic year in Ankara, Turkey. The analysis showed that the value of the Alternative Model ( $M_i$ ) was significant for peer attachment subscale [ $\chi^2(m)=275.07, p<.01$ ], the Cronbach' Alpha ( $\alpha$ ) internal consistency was  $\alpha = .89$  for total peer attachment scale ( $\alpha = .80$  for Communication,  $\alpha = .85$  for Trust, and  $\alpha = .71$  for the Alienation scales), and test-retest reliability for the peer subscale was .55 for total peer attachment (PA), .51 for Communication, .53 for Trust and .46 for Alienation. To estimate convergent validity evidence of the Turkish version of the IPPA the total and subscale of IPPA Turkish version scores correlated with Positive and Negative Affect Scale (PANAS) and Rosenberg Self-Esteem Scale (RSS). The peer attachment scale and its communication and trust subscale scores were positively correlated to PA and RSS and the total score of peer attachment negatively correlated to NA.

### **Social Anxiety Scale for Adolescents (SASA; La Greca & Lopez , 1998)**

The Social Anxiety Scale for Adolescents (SASA) was developed by La Greca and Lopez in 1998 to measure social anxiety levels of adolescents. This version of SASA was adapted from the same researchers' previous work, the Social Anxiety Scale for Children-Revised (La Greca et., al. 1988). The SASA has a 22 items self-reported instrument with a 5 response Likert scale. La Greca and Lopez (1998) reported that they assessed five models and then three-factor model fit the data better: fear of negative evaluation (FNE), social avoidance and distress in new situations (SAD-New), and social avoidance and distress general (SAD-General). Four items such as "I like reading", "I like to play sports" are not involved in scoring. The SASA showed good internal consistencies as  $\alpha = .76$  to  $\alpha = .91$ . Internal consistencies of the subscales were as following: FNE showed the highest score as  $\alpha$  value of .91; SAD-New  $\alpha = .83$ , and SAD-General  $\alpha = .76$ . The correlation of the subscales found significantly associated but distinct. These correlations between FNE and SAD-General (.52); SAD-General and SAD-New was (.55); and FNE and SAD- New (.67) were reported as large correlations and they were all  $p$ 's  $< .001$ .

The adaptation and validation studies of the Turkish version of the SASA was conducted by Aydin and Sutcu (2007). The participants of this study were 1242 (643 girls, 599 boys) adolescents between 12-15 years of age. The results of this validation study showed consistency with the original scale by having a three-factor structure for the Turkish version of the SASA.

Reliability estimates by Cronbach's alpha and split half coefficients were acceptable for the SASA subscales and total. Cronbach's alpha score for the total scale was found as .88 (split half was .85) which is a "large" level of internal consistency. The subscales' alpha scores were found as FNE .83 (split half was .85); SAD-New .71 (split half was .67); and SAD-General .68

(split half was .71). The SASA presented statistically significant correlations with other social phobia (ÇESFÖ) and trait anxiety (STAI-C-T) measures that indicate construct validity. The subscales of the SASA showed moderate correlations with each other. The comparison of SASA scores between girls and boys showed significant differences as girls scored significantly higher than boys on the FNE whereas boys scored higher than girls on the SAD-G.

### **Original validation study of the MAC**

The initial validation and reliability study of the MAC was conducted in 2001 (Karcher, 2003). The researcher conducted five studies that included construct, item, and scale development and examined the internal consistency, test-retest reliability, and convergent validity through these studies. Additionally, factor analysis was used across separate samples to evaluate construct validity, as well as to compare observed mean differences across several groups (i.e., genders, teens vs. pre-teens, and delinquent vs. non-delinquent youth). The participants of this study were 8 through 12 grade students (N= 427) from different regions and ethnic backgrounds. This sample consisted of 257 females and 170 males including 298 Caucasian, 47 African-American, 36 Hispanic, 17 Asian-American, and the remaining 29 students were either bi-racial or others.

The Cronbach's Alpha internal consistency ( $\alpha$ ) in the MAC measure, for the following domains were composites including Family ( $\alpha = .87$ ), School ( $\alpha = .84$ ), Friends ( $\alpha = .82$ ), Self ( $\alpha = .82$ ) and for the subscales were Parents ( $\alpha = .82$ ), Siblings ( $\alpha = .94$ ), School ( $\alpha = .75$ ), Reading ( $\alpha = .91$ ), Teachers ( $\alpha = .75$ ), Peers ( $\alpha = .60$ ), Friends ( $\alpha = .84$ ), Neighborhood ( $\alpha = .84$ ), Self-in-the-Present ( $\alpha = .82$ ), Self-in-the-Future ( $\alpha = .68$ ), Other Cultures ( $\alpha = .86$ ), and Religion ( $\alpha = .91$ ), and Test-retest reliability of the MAC measure was satisfactory. The reliability of the MAC was in the good (.70-.80) to very good (.80- .90) range (Karcher, 2003). In addition, Exploratory

Factor Analysis (EFA) for 14 factors with eigenvalues were greater than 1.0 and majority of the items (73%) loaded on the scales to which they were intended were reported at a level of .30 or greater. The data fit the hypothesized model well as the  $\chi^2/df$  was  $213/41 = 3.60$ .

The findings of these five studies showed that subscales of the MAC have demonstrated a distinct factor structure, evidence of convergent and discriminant validity, and good one-month test-retest reliability. This study found evidence of discriminant and convergent validity as well using other scales of connectedness, conventional activities, self-esteem, and future orientation. The connectedness subscales have been found to correlate with self-esteem, resiliency factors, social interest, and school attitude. In this study, low scores of connectedness had a positive correlation with depression, violence, substance abuse, academic under achievement, risk factors, and social skills deficits. On the other hand, high scores of connectedness were found positively associated with self-esteem, social skills, and academic achievement (Karcher, 2003).

As stated by Karcher (2003), these five studies comprehensively explained the importance of connectedness in the study of adolescents' motivation, academic success, risk-taking, and psychopathology. As suggested by the results of these five studies adolescents' connectedness is ecological and it can be characterized in terms of conventionality. Connectedness reflects a response to the need to belong and changes over time and as a function of sex. As a result, these studies showed evidence that the MAC and its theoretical framework may be useful in future research on adolescent development.

Besides this initial validation study, some other validation studies have been conducted in other countries such as Chile, South Africa, and Taiwan and these studies have factorial validity evidence (Karcher, & Lee, 2002; McWhirter, & McWhirter, 2011; Sass et al., 2010; Schulze, & Naidu, 2014).

## **Translation and Cross-Cultural Validation Studies of the Hemingway**

The Hemingway: *Measure of Adolescent Connectedness* (MAC) has been studied and validated in several cultures. The overall findings of those researches revealed significant consistent results with the original sample (American youth).

Karcher and Lee (2002) studied connectedness among Taiwanese youth. The Chinese version of the Hemingway was developed and translated by the second author of this study. They used cross-sectional single wave survey data in this study and the data were analyzed by using Cronbach's alpha and item-total correlations in order to assess the MAC's reliability with a Taiwanese sample. Moreover, the researchers used variance and correlations analyzes to test the hypotheses of this study including the factors contributing to adolescent self-development, the prevalence of separation-individuation process during junior year, and gender differences. The sample of this study consisted of 309 students from seventh through ninth grades in a high school in central Taiwan. The findings of this study revealed that Taiwanese youth less connected to their neighborhood and peers that both had the  $\alpha = .63$ . The Taiwanese youth were reported more connected to their siblings ( $\alpha = .90$ ), the kids from other cultures ( $\alpha = .83$ ), and reading ( $\alpha = .81$ ). The findings indicated that the Chinese version of the MAC showed good validity and reliability with the Taiwanese sample and the scores were consistent with the results of original version with American youth.

In another study, Karcher and Sass (2010) examined the validity and reliability practice of the ten-scale (short version) MAC by using confirmatory factor analysis (CFA) to measure construct validity and to internal consistency coefficient (Cronbach) to measure reliability and tests its invariance across gender and ethnicity among 3927 predominately Midwestern African-American, Caucasian, and Latina/o middle school-aged adolescents. The sample of this research

was 3927 students from African American (10.2%), Caucasian (71%), Latino (10.4%), Asian (1.6%), and Biracial (4.6%) backgrounds. Most of the participants were female students (52.1%). The researchers stated that all the items had large estimated factor loadings on their corresponding factors, which means that the results showed excellent construct validity. The assessed model was found fit and indicated minimal cross loadings and it also suggested that each subscale factor was unidimensional. The results provided an excellent model fit,  $\chi^2$  (df = 1439) = 13665.71,  $p < .05$ , CFI = .964, RMSEA = .051, SRMR = .049.

Moreover, each subscale is able to discriminate between others; therefore, convergent and discriminate validity evidence were shown as well. Internal consistency coefficients (Cronbach's  $\alpha$ ) showed good to excellent internal consistency using the entire sample, as well as at the subgroup level for the different gender and ethnic groups. While reliability coefficient between males and females was not different ( $\Delta\alpha < .03$ ), it was ranged from .61 to .94 with a mean of .79 (sd = .09) across ethnicity because the sample size of each group was not identical. Therefore, this study supported that the Hemingway: *Measure of Adolescent Connectedness* (MAC) is appropriate for different ethnic groups and genders.

Sass, Castro-Villarreal, McWhirter, McWhirter, and Karcher (2011) found a strong internal consistency and evidence of current validity of the MAC connectedness scores in the Chilean sample. The purpose of this study was to assess factorial validity, internal consistency, and measurement invariance in order to compare the Chilean and United States sample. The participants of this study were 508 youth from the United States and 893 youth from Chile. In this study, the researchers implemented the five subscales out of the full 15 subscales of the MAC. The results of this study revealed that internal consistency scores for the five scales for the current sample of Chilean adolescents were  $\alpha = 0.88$ . School ( $\alpha$  US = .84 &  $\alpha$  C = .69), Teachers



( $\alpha$  US = .83 &  $\alpha$  C = .74), Peers ( $\alpha$  US = .72 &  $\alpha$  C = .64), Self-in-the-Present ( $\alpha$  US = .83 &  $\alpha$  C = .75), and Self-in-the-Future ( $\alpha$  US = .80 &  $\alpha$  C = .62). As stated in the analysis section, all the five scales reflected factorial validity in both samples; however, the connectedness to school, teachers, and Self-in-the-Future factors were non-invariant and the factors of connectedness to peers and self-in-the-present were invariant across groups. As a result, it was suggested by the researchers that all five subscales can be used in both cultures.

In another connectedness study in Chile, McWhirter and McWhirter (2011) studied connectedness among Chilean adolescents. The participants of their study were 390 students from seventh through twelfth grades. The participants were aged from 12 to 19 and most of the participants were female students ( $n=207$ ). Most of the participants (62%) lived with both their biological mother and father, 31% lived with their biological mother but not father, 2% lived with their biological father but not mother, and the remaining lived with neither of the two.

Teachers ( $n=12$ ) and parents ( $n=376$ ) also participated in this study. The participants completed the Spanish version of the MAC. Almost half of the all participants ( $n= 162$ ) did not respond to the items related to connectedness to boyfriend/girlfriend and also 41 of the participants did not respond to the items related to connectedness to their siblings. The 10 items that were related to sibling ( $n= 5$ ) and boyfriend/girlfriend ( $n= 5$ ) and the items were loading below .32 and item number 7 based on internal consistency reliability analyses also were removed from the MAC. As a result, the 66-item 13 subscales MAC was found as an effective measure of connectedness through various areas in Chilean adolescents' lives.

The findings stated that participants with more problematic behaviors were reported to have higher connectedness to their neighborhoods and low connectedness to their families, teachers, and schools. The students with higher parental monitoring of their behavior were

reported more connected to their families, religion, peers, teachers, and schools. The students with low level of connectedness to their school, teachers, and peers were viewed by their teachers as having attention problems, being sad and/or alone, and being drug and/or alcohol users. In addition, the students were not reported as sad, alone, or depressed by their teachers if they had higher connectedness to religion and they also mostly were reported as having positive relationships with their families. Overall findings of this study revealed a significant association between connectedness and several risk and protective factors among Chilean adolescents. Therefore, the researchers suggested that connectedness to family and religion may be in the center of prevention and intervention programs as they were strong protective factors among Chilean adolescents.

In a recent study, Schulze and Naidu (2014) translated the MAC into Afrikaans and they reported the Cronbach's alphas between  $\alpha = .70$  through  $\alpha = .88$  for the 11 subscales and  $\alpha = .70$  below for Self-in-the-Present, peers, teachers and future among South African adolescents.

The participants of this study (N= 835) were eight to eleventh grade students from variety of cultural backgrounds studying in four schools in Gauteng, South Africa. Most of the participants came from African families (60%), Caucasian families (30%), and the remaining were mixed descent. The data were gathered through the Afrikaans version of the MAC, and then analyzed by comparison of means and standard deviation of the connectedness scores for each cultural group. The findings of this study revealed that adolescents from all three cultural backgrounds were most connected to religion (M= 4.11), the future (M= 4.29), and their parents (M= 4.06) and they were least connected to reading (M= 3.11), their neighborhoods (M= 2.81), and romantic partners (M= 2.76). Moreover, the adolescents from all three groups were reported with higher level of connectedness to their teachers (M= 3.75) than to their friends (M= 3.47)

and peers (M= 3.36). The connectedness to mother was reported with a higher score than to connectedness to siblings and fathers whom the adolescents feel less connected except Caucasian students. For the Caucasian adolescents, the rank order was connectedness to first their mother, then father, and siblings.

The most significant difference among the three cultures was reported as connectedness to kids from other cultures. The mixed descent adolescents were found with higher levels of connectedness to kids from other cultures (M= 4.32) which was the second highest score, following the connectedness to future (M= 4.35). On the other hand, the mean for the connectedness to kids from other cultures was low for Caucasians (M= 3.63) and Afrikaans (M= 3.94) adolescents.

In addition, Caucasian adolescents were more connected to their friends, mothers, fathers, teachers, religion, and reading than their African peers. In the light of the results of this study, the researchers did not recommend any changes on the MAC. The Cronbach's alphas (internal validity) were between .70 through .88 for the 11 subscales and were below .70 for Self-in-the-Present, peers, teachers and future. The researchers also pointed out that future studies must use a representative sample with an in-depth follow-up qualitative research. Also, schools in South Africa need to help students improve their connectedness to kids from other cultures and they also need to address the issue of lack of reading among the African students.

The Table 1 below presents Cronbach's ( $\alpha$ ) internal consistency scores from some validation studies in the United States, Chile, and Taiwan with along the current study in Turkey.

Table 1

*Cronbach's (alpha) Internal Consistency of the T-MAC, MAC, and Translations*

Scale	Translations			
	Turkey	US	Chile	Taiwan
Teachers	.50	.75	.76	.72
Peers	.57	.60	.73	.63
Self-in-the-Future	.69	.68	.77	.66
Friends	.73	.84	.84	.77
Self-in-the-Present	.74	.82	.77	.78
School	.79	.84	.63	.75
Parents	.81	.82	.89	.76
Neighborhood	.81	.84	.86	.63
Siblings	.89	.94	.88	.90
Reading	.91	.91	.86	.81

Note= Cronbach's Alpha score above .70 is considered as acceptable in this current study.

**Connectedness Outcomes**

Connectedness is a significant prevention for several social, academic, health, and behavioral outcomes. Perhaps this is the reason why the media pays special attention to connectedness and it also has become popular in academic and educational settings. In the United States, schools and organizations provide some programs for children and adolescents to develop their connectedness levels with school, family, and social environment (McWhirter, & McWhirter, 2011). The most well-known programs that promote connectedness are mentoring programs that build connectedness relationships through formal ways. DuBois and Silverthorn (2005) reported that 73% of young adults have a mentor in their lives. Mentoring programs report positive outcomes on adolescents' emotional, behavioral, social, academic, and health development (DuBois, Holloway, Valentine, & Cooper, 2002). Knowing this, Turkish schools need to implement mentoring programs to help students strengthen their connectedness with themselves and the external world; as a result, the students might be able to have better outcomes from their education. High levels of connectedness lead to good outcomes and low levels of

connectedness to poor outcomes. In the following section, the expected outcomes of connectedness and consequences of high and low connectedness will be reviewed comprehensively.

### **Academic Outcomes**

Connectedness to school (teachers, peers, coaches, etc.) and family are the main factors that influence academic outcomes. Adolescents with higher levels of school connectedness or family connectedness show better academic outcomes than their peers who show lower levels of connectedness to school and family. Higher level of connectedness to teachers and school contribute to higher academic performance (Karcher, 2009). The relationship between students and teachers is vital for students' connectedness to school, because students who have a higher level of connectedness to their teachers feel safer at school, feel cared and interested by their teachers (Allen & Bowles, 2012; Blum, 2005). School connectedness is higher when students' parents have higher education and SES levels (Bellici, 2015); additionally, connectedness to school is higher when the student's parents are still together, if the student has stable friendships, and if the student is involved in afterschool activities (McNeely, Nonnemaker, & Blum, 2002; Thompson, Iachan, Overpeck, Ross, & Gross, 2006). Therefore, schools should help students increase their levels of connectedness to significant others such as their families, teachers, coaches, and peers by providing educational and fun after school activities.

High levels of connectedness are linked to several academic outcomes including academic achievement (McNeely, Nonnemaker, & Blum, 2002), academic performance (Blum, 2005; Furrer & Skinner, 2003), educational motivation, classroom engagement, and school attendance (Blum, 2005; Savi, 2011; Ilgar & Parlak, 2014; Turgut, 2015), school dropouts (Caraway, Tucker, Reinke, & Hall, 2003; Finn & Rock, 1997; Manlove, 1998), and school

completion (Bond, Butler, Thomas, Carlin, Glover, Bowes, & Patton, 2007; Blum, 2005; Thompson, 2005).

Rutter (1993) indicated that feelings of belonging to one's community as an effective protective factor for school absenteeism. Having close relationships with teachers play a vital role for students' development (Allen & Bowles, 2012), in that positive teacher to student relationships can contribute to students' wellbeing and pro-social behavior; additionally, to their learning outcomes (McGrath and Noble, 2007).

In their meta-analysis research, DuBois, Holloway, Valentine and Cooper (2002) reviewed fifty-five articles (N= 55) to evaluate mentoring programs between; 1970 through 1998, which revealed that mentoring programs promote adolescent connectedness and that they have a positive influence on adolescents' academic development. In a further study, DuBois and Silverthorn (2005) used a nationally representative sample (N= 2,053) from Add Health, which found that adolescents were less likely involved in violent behavior at school if they had a mentor. The findings of the study also revealed that adolescents with a mentor had higher chances of completing school. The researchers compared the mentoring relationships and outcomes based on the mentors' backgrounds. They found out that mentors with educational and other helping professions background promoted their mentees college attendance. Therefore, the researchers concluded that having a higher level of connectedness to a non-parental adult/mentor greatly influenced adolescents' perception on academic development whether to continuing their education.

In their study, Furrer and Skinner (2003) examined the role of connectedness on academic engagement and performance among children. This study used existing data from a longitudinal study that examined youths' motivation and coping in the academic domain. The

participants of this study were elementary school students (N= 641) from third through sixth grades, coming from middle-class and working-class families. Most of the participants were from Caucasian families (95%) and the remaining participants were from Hispanic, African American, Asian, or mixed race or other backgrounds. The findings of this study stated that high levels of connectedness are a significant factor that influenced participants' academic motivation and performance. The participants with higher level of connectedness (connectedness to parents, teachers, and peers) were reported with greater emotional and behavioral engagement in school. Female participants were reported to have a higher level of connectedness than their male peers, while the male participants of this study were reported with higher peer connectedness, but their connectedness to teachers were stronger than other variables, and the level of connectedness to teachers decreased for older participants. In addition, the connectedness to parents were reported as a strong predictor for participants' engagement with peers, teachers, and school as well.

Ozdemir (2015) examined the role of homework, academic motivation, age, gender, and school connectedness on Turkish students' school burnout. The study consisted of 208 student participants (male: slightly above of 50%) from two middle schools with the students age range through 11 to 15 years old. The findings of this study stated that gender has an impact on students' school burnout rates and female students were reported to have higher levels of school burnout. He found a significantly negative association between school connectedness of the students and their level of school burnout. Uysal (2005) also found the same result in his research, which was conducted with 221 Turkish college students, that high levels of school connectedness decreases the risk of school burnout. In light of these results, Ozdemir (2015) pointed out that a high level of school connectedness was a protective factor against school burnout, negative feelings towards school, and low self-esteem among the participants. The

researcher suggested that schools need to provide psychological support to their students to help prevent school burnout and improve their academic motivation, which would be possible by increasing their level of school connectedness.

In their school based longitudinal study, Bond, et al., (2007) examined whether social and school connectedness predict academic outcomes after a 2 through 4-year period. The participants were 13-14 years old Australian students (N=2678) from 26 secondary schools. The results of this study showed that students with low levels of connectedness to school showed poor academic achievement. In addition to this, school completion rates decreased because of the low level of school and social connectedness.

In her research, Aladag (2005) studied the effectiveness of peer helping programs in Turkey. She found that these programs played an immense role in helping students develop a higher connectedness level to their peers, schools, and parents. Outcomes of the peer helping programs in Turkey showed that close relationships to peers, teachers, and schools improve academic achievement (Yildirim, 2000).

### **Behavioral Outcomes**

Connectedness is a significant protective factor for several behavioral risk outcomes such as aggression, substance use, and delinquency. A high level of connectedness increases the conventional (socially desired or wanted) behaviors; whereas, a lack of connectedness or low connectedness causes risky behaviors.

In their research, Catalano, Haggerty, Oesterle, Fleming & Hawkins (2004) investigated two longitudinal studies including the Seattle Social Development Project (SSDP) and Raising Healthy Children (RHC). As stated by the researchers, these studies had interventions to reduce risk factors and increase protective factors for adolescent health and behavior problems. The



SSDP was a quasi-experimental research and included 808 students from first through tenth grade. Most of the participants were male (51%) and European-American (46%). The interventions of this study aimed to improve participants' interactions to school, family, and peers. As the researchers indicated, school bonding was a strong predictor of drinking, smoking, and alcohol abuse and dependence in later stages in life, and a strong protective factor against school dropout, misbehavior, violence, substance use, delinquency, and gang membership in school. In addition to this, school bonding was also associated with academic achievement and social skills in this study. On the other hand, 1,239 students from first and second grade participated in the RHC study, with most of the participants were males (53%) and European-American (81%). The RHC study aimed to extend the SSDP research; therefore, the interventions aimed to improve participants' interactions to same three domains including school, family, and peers. The RHC examined the relationship between school bonding and academic achievement and problem behaviors. The findings of RHC reported that school bonding increased academic success, and reduced school problems, violence, alcohol abuse, and risky sexual behavior.

In their school based longitudinal study, Bond et al., (2007) examined whether social and school connectedness could predict substance use after a 2 to 4-year period. The participants of his study were 13-14 year old Australian students (N= 2678) from 26 secondary schools. They found that students with a low level of connectedness to school were more likely struggle with substance abuse. The findings revealed that a low level of social and school connectedness leads to drinking alcohol in later ages. The students with high levels of school connectedness, but low levels of social connectedness were reported more involved in at risk behaviors that led to poor health.

Henry and Slater (2007) examined the impact of school connectedness on adolescents' alcohol use. The participants of this study were middle and high school students from 32 schools (N= 4216) throughout the United States where the students previously participated in a prevention experiment for four years from 1999 to 2003. The findings of this study indicated that students with a high level of school connectedness were reportedly less likely to be involved in risky behaviors, such as alcohol use.

Shears, Edwards, and Stanley (2006) gathered the data from 193 communities in all over the United States (except California and Utah) during a five-year period between 1996 and 2000 with the participants of this study ranging from 7th to 12th graders (N= 181,351). The aim of the study was to examine the relationship between adolescents' school connectedness level and substance use. They found a significantly negative association between school connectedness and substance use. In other words, the study revealed that school connectedness was a preventive factor against alcohol and marijuana use.

In their research, Griffin, Botvin, Scheier, Doyle, and Williams (2003) examined the predictors of substance use, aggression, and delinquency among minority youth. They gathered the data from sixth grade students (N= 5442) from 42 schools in New York City. The participants came from different ethnic backgrounds including Black (41%), Hispanic (32%), White (9%), Asian (5%), American Indian (2%), and biracial or other (11%). Almost half of the participants were male, and 30% of the all participants lived in mother-only households. The findings showed that students with a high level of school connectedness were reported less likely to be aggressive. They also found that school attendance was a protective factor against aggression and smoking.

In one unique study, Chapman, Buckley, Sheehan, Shochet, and Romaniuk, (2011) studied the association between Australian high school students' school connectedness levels and violence and transport-related injuries among Australian students. As the researchers pointed out, this study is the first reported research to develop strategies to increase school connectedness as a part of a school-based injury prevention program. The participants of this study (N= 509) were assessed by their levels of school connectedness, engagement in transport and violence risk taking behavior, and their experiences with injury. The researchers used logistic regression analyses to see if school connectedness could predict engagement in transportation and violent risk taking behavior. The findings revealed that students with a higher level of school connectedness were reported to have less violent tendencies (fighting and being physically attacked) and transport-related injuries including motor vehicle and motorcycle risks (being a passenger of a dangerous driver and underage driving).

In her dissertation, Dixon (2007) studied the link between attachment quality and school connectedness in a longitudinal study called "The Longitudinal Study of Co-Morbid Disorders in Children and Adolescents". The participants of this study were high school students (N= 157) that were 15 to 18 year olds who completed self-reported questionnaires of attachment quality and school connectedness, where the findings of this study revealed that students with a higher level of peer and parental attachment reported higher levels of school connectedness as well. Students that had expressed a lower level of school connectedness expressed riskier behaviors. In addition, the effect of peer attachment on school connectedness was moderately reported among the groups. As consistent with previous studies in the literature, family connectedness was reported as a strong predictor of academic achievement among the participants of this study.

## **Health Outcomes**

Lack of connectedness may cause serious health problems such as anxiety, depression, aggression, suicide, and so on. On the other hand, a high level of connectedness is associated with physical, psychological, and emotional well-being. In addition, there is great evidence that connectedness is a very significant protective factor against several health issues as well.

The National Longitudinal Study of Adolescent Health (2005), which is also called Add Health (four phases research), has produced data that is most used by researchers studying connectedness, because the samples they gathered give an accurate representative in the US. The survey data of Add Health includes comprehensive information about participants' social, economic, psychological and physical well-being and background data on the family, neighborhood, community, school, friendships, peer groups, and romantic relationships. The original purpose of Add Health research aimed to examine the influence of social environments and behaviors on adolescents and to later examine health and achievement outcomes in early adulthood. The participants of this initial study were American adolescents from 7th to 12th grade (N= 90, 118) from 132 schools including private, religious, and public schools from communities located in urban, suburban, and rural areas across the United States. The sample that was used in Add Health was a randomly selected sample and nationally representative (<http://www.cpc.unc.edu/projects/addhealth>).

There are several studies that used this national representative data from Add Health to examine the link between connectedness and health risk behaviors (Blum & Rinehart, 1997; Dornbusch, Erickson, Laird, & Wong, 2001; Jacobson & Rowe, 1999; McNeely, Nonnemaker & Blum, 2002; McNeely & Falci, 2004; Resnick, Harris & Shew, 1997). The findings of these studies revealed that school connectedness was a protective factor against suicidal thoughts and

behaviors (Kaminski, Puddy, Hall, Cashman, Crosby, & Ortega, 2010; McNeely, Nonnemaker & Blum, 2002; McNeely & Falci, 2004; Resnick, Harris & Shew, 1997); smoking cigarettes, alcohol and marijuana use, delinquency and violent behaviors (Dornbusch, Erickson, Laird, & Wong, 2001; McNeely, Nonnemaker & Blum, 2002); early sexual activity (McNeely, Nonnemaker & Blum, 2002); school connectedness also was found negatively associated with depression symptoms (Jacobson & Rowe, 1999).

Ross, Shochet, and Bellair (2010) studied the impact of school connectedness concerning depression. The participants of this study were 10 to 13 years old Australian students (N= 127) from four primary schools. They found a strong influence of school connectedness on depressive symptoms among Australian students. It was also noted that social skills influence depression indirectly through school connectedness because social skills of the participants have a great impact on their school connectedness.

In their correlational study, Yildiz and Kutlu (2013) examined the relations between social anxiety, depressive symptoms, and school attachment in early adolescents. The participants of their study were 450 elementary school students (females were slightly above 50%) with ages ranging from 11 to 15 in Diyarbakir, Turkey. The findings of this study revealed that school attachment was negatively correlated with social anxiety and depressive symptoms that were both significant predictors of school attachment. The researchers suggested that school counselors should provide group counseling or psycho-education groups for students who have a low level of school attachment, because it may cause serious psychological problems. As researchers pointed out, both group counseling and psycho-education groups may help students improve their school attachment levels.

Social connectedness was found negatively correlated with depression and loneliness (Libbey, Ireland, & Resnick, 2002; Jose & Lim, 2014; Olsson et al., 2013) and suicide (Van Orden et al., 2010). In several studies, social connectedness has been found as a significant protective factor against stress (Donald, Dower, Correa-Velez, & Jones, 2006; Lee, et al., 2002; Whittaker, 2008), and health risk behaviors (Bond, et al., 2007; Whittaker, 2008).

In their study, Armstrong and Oomen-Early (2009) found that social connectedness is a protective factor from depressive symptoms. Their findings revealed that individuals with a low level of social connectedness have a high risk of depression and low self-esteem while high levels of social connectedness report high levels of self-esteem. Czyz, Liu, and King, (2012) found that social connectedness was a significant protective factor against suicide, depression, substance use, violence, and delinquency. Olsson, McGee, Nada-Raja, and Williams (2013) indicated that family connectedness has a great influence on social connectedness that helps adolescents to develop interpersonal skills and as a result predicts future well-being in adulthood. McGraw, Moore, Fuller, and Bates (2008) found that participants with low level of social connectedness were reported to have depression and suicidal thoughts (even actions).

Connectedness to family is reported as one of the most powerful protective factors in adolescents' lives (Bernat & Resnick, 2009). High levels of family connectedness lowers involvement in health risking behaviors and improve prosocial behaviors among adolescents (Resnick et al., 1997) and protect youth from several problems including emotional distress, suicide, substance use, violence, and early sexual activity (Blum & Rinehart, 1997).

Comprehensive studies on parent-child connectedness used nationally representative data from Add Health ([www.cpc.unc.edu](http://www.cpc.unc.edu)) to examine whether family connectedness protects youth from harm or not (Resnick et al., 1997; Blum & Rinehart, 1997). The consistent findings in both

studies revealed that connectedness to family is a significant protective factor for several health problems including emotional distress, suicide, violence, substance use, and sexual activity among adolescents.

Miller, Benson, and Galbraith (2001) extensively reviewed the existing literature on family connectedness and its influence on teen pregnancy. The researchers aimed to include all studies conducted in the 1980s and 1990s that presented empirical data about family relationships and adolescent pregnancy. As stated by the researchers, they excluded studies that were more than 20 years old to provide a practical association among the findings, but also the leading research took off in the 1980s. They reviewed over 100 articles in this study. As stated by the researchers, findings were consistent in that family connectedness delayed and reduced adolescent sexual intercourse, which, as a result, lowered the risk of teen pregnancy.

Borowsky, Taliaferro, and McMorris (2013) studied the risk and protective factors associated with suicidal thinking and suicide attempts among youth involved in verbal and social bullying. This study used the data from the 2010 Minnesota Student Survey which was a population-based, cross-sectional survey administered every 3 years to students (N= 130,908) from 6th to 12th grade. This survey aimed to examine health behaviors and potential risks, as well as protective factors among youth. Most of the participants were female (50.2%) and white (73.0%) students. The remaining came from various background including African-American (5.5%), Asian/Pacific Islander (5.4%), Hispanic (4.4%), American Indian (1.5%), mixed race (6.8%), and 3.5% were reported as unknown. The findings of this study showed that youth who were reported with suicidal thoughts had lower scores for parent connectedness, connectedness to other adults, perceived caring by teachers, perceived caring by friends, liking school, academic achievement, physical activity, perceived school safety, and perceived neighborhood

safety. The students with higher levels of parent connectedness and stronger perceived caring by friends were protected from suicidal thoughts and suicidal attempts among the bullying groups. A higher level of parent connectedness was reported as a protective factor for all of the participants.

In another dissertation, MacKay (2007) studied the link between youth assets and positive indicators of health and well-being. The participants were 7th through 12th graders (N= 30, 588) in 2003. The data were gathered from the British Columbia Adolescence Health Survey called “BC AHS III” in British Columbia public school students. The survey consisted of 140 items to measure adolescents’ physical and emotional health. Most of the students were female (50.3%) and students from European backgrounds (61%). The remaining were from East Asia (18%), Aborigine (7%), South Asia (4%), African (2%), West Asian (3%), and (3%) did not know their background. The findings of this dissertation revealed that family connectedness was a strong predictor of participant’s health outcomes with other two predictors including school belonging and perceived competence.

In their research, Stone, Luo, Lippy, and McIntosh (2015) studied whether or not social connectedness could decrease the risk of suicidal behavior and whether it had different effects by sexual orientation. The participants of this study were Milwaukee public school students (N= 3733) in either 2007 or 2009. However, 1,106 participants were removed from this study because they were not in sexual relationships. The findings of this study indicated that social connectedness was a protective factor against suicide among all participants, while family connectedness was reported as the most consistently protective effect against suicide. They also found school connectedness related to suicide, however the effect was not statistically significant after comparing it with social and family connectedness. The researchers suggested that future



research should be tested to examine these relationships between the domains of connectedness. The researchers suggested that interventions should be designed to increase youth's family connectedness levels to protect them from risks of suicide, regardless of sexual orientation. In a very similar research, Kaminski, Puddy, Hall, Cashman, Crosby, and Ortega (2010) found that connectedness to family, significant adults (non-parent), and school reduced the risk of suicide among adolescents. The results of the study showed that if students feel cared and interested by their teachers they felt more connected to their schools. A high level of teacher connectedness was reported to hinder health-risk behaviors including cigarette smoking, drinking to the point of getting drunk, marijuana use, suicidal ideation or attempt, first sexual intercourse, and weapon related violence (McNeely & Falci, 2004).

The Commission on Children at Risk (CCR, 2003) conducted a study to understand why emotional and behavioral issues such as depression, anxiety, attention deficit, conduct disorders, and suicide are very high among American children. The findings of the study indicated that youth with high levels of connectedness to their social environment are more protected from long-term harm if they do experience emotional and behavioral problems. With social environment connectedness, adolescents were also less likely to participate in risky activities that negatively influenced their well-being.

In their one-year longitudinal research, McGraw, Moore, Fuller, and Bates (2008) found that peer connectedness was a strong predictive factor for well-being and depression. The data initially were conducted from 12th grade students (N= 941) and one year later 204 of the previous participants involved in the second phase of the study. They found high levels of depression (more than 10% of the participants), stress (more than 10% of the participants), and anxiety (more than 20% of the participants) among participants. They also found that almost 1

out of 5 participants (20%) had suicidal thoughts. The findings indicated that participants who were lonely and disconnected from their peers were reported suffering with depression after one year at the second phase of this study. The participants who had a low level of family and peer connectedness were reported to have suicidal thoughts (even actions) after one year.

### **Social Outcomes**

Social outcomes of connectedness correlate with high levels of self-esteem, social skills, and having close and healthy relationships to the external world including family, friends, and society. Building connectedness with peers plays a vital role, as adolescents who create relationships and bonds with their peers gain a sense of security, helping them improve their concept of their own identity and self-esteem (Goodenow, 1993; Skinner & Snyder, 1999). Having a relationship with a significant non-parental adult such as coaches or teachers reduces the chance of facing drastic psychosocial adjustment problems among adolescents (Masten, 2001).

Lee, Draper, and Lee (2001) studied the relationship between social connectedness, and dysfunctional interpersonal behaviors. The participants of this study were college students (N= 184) ranging from ages 17 to 23 years old from a southwestern university, and most of the participants were from a European American background (n=127). The findings of this study indicated that high level of social connectedness positively influenced adolescents' psychological well-being, self-esteem, social skills, and relationships.

In their 3-year longitudinal research, Jose and Lim (2014) investigated whether social connectedness would be a protective factor against loneliness in adolescence. The researchers used existing data from the Youth Connectedness Project (YCP). The YCP conducted a survey three times from 2006, 2007, and 2008. The study was designed to investigate the development

of social connectedness in adolescents from 78 different schools in New Zealand. The adolescents sample in this study (N= 1774), who completed the YCP surveys all three years, composed primarily of female participants (51.9%) and were reported as New Zealand Europeans (57.7%). A large effect size ( $r=.55$ ) between loneliness and depression variables was found in this study. The findings of this study revealed that loneliness and depressive symptoms were negatively associated with social connectedness. Moreover, social connectedness was found as a significant protective factor against loneliness and depression. The findings of this longitudinal research were consistent with previous longitudinal studies (Czyz, Liu, & King, 2012; McGraw et al., 2008; Olsson, McGee, Nada-Raja, & Williams, 2013) where social connectedness was negatively associated with loneliness and depression.

In another study, Youngblade et al., (2007) aimed to examine the role of family, school, and community risk and promotive factors on adolescents' development. This study used a large sample (N= 42305) of adolescents, with ages ranging from 11 to 17, from the 2003 National Survey of Children's Health. The findings of this study indicated that adolescents who live in a social environment where they can receive positive resources from important others such as parents, schools, and communities were reported with less negative outcomes and expressed positive development. Adolescents' social competence and self-esteem were associated with positive family characteristics and academic problems. School and community safety were associated with increased social competence and decreased externalizing behavior. Additionally, they found that adolescents that live in neighborhoods that care and help members of their neighborhood have increased levels of social compassion and health more than their peers.

## **The Use of Translated Measures of Connectedness**

Researchers can take advantage of already established assessment instruments with good psychometric properties, because saving them time and energy. However, researchers need to check for an accurate translation, adaption and validation process to have an appropriate instrument for the new target population (Cha, Kim, & Erlen, 2007). Translating assessment instruments from the original language to another language might be challenging for researchers, because these assessment instruments (in their original language/culture) are mostly based on cultural beliefs and values of the main culture. Therefore, participants (test takers) from different cultures might respond to the instrument differently from the intended purpose of the instrument because they could inevitably answer questions based on their personal perception, beliefs, and values. These differences that vary from culture to culture may threaten the validity and reliability of test scores (Sidani et al., 2010). Researchers can eliminate this potential issue by preserving the content and concepts proposed by the original instrument in the new translated version by asking corresponding questions that are understood similarly by individuals from the target culture (Herrera et al., 1993).

There is still no consensus in the literature about the necessary steps for the validation processes. The process of validation studies of assessment instruments involves methodological thoroughness and it is highly versatile. The validation process is multifaceted; therefore, researchers need to make sure that the final version is appropriate for the new culture and the scores are also consistent with the original version (Hambleton, 2005).

Therefore, newly translated measures need to be subjected to instrument validation tests. As Borsa, Damasio, & Bandeira (2012) stated that the most appropriate research design for an instrument validation study is a quantitative design. The quantitative method starts with a theory

(or hypothesis) and investigates its validation or rejection (Balnaves & Caputi, 2001). Quantitative research focusses on facts, relationships, cause and effects, and products and outcomes and it uses different statistical instruments that provide numerical and visual data as well including tables and graphs to present clear and explicit information to stake holders, policy makers, administrators, and politicians. In addition, survey research design is the best method to collect original data and describe a population that is too large to observe directly. Moreover, survey research design is more appropriate to describe attitudes and orientations of a large population sufficiently as well (Babbie, 2013). As Babbie (2013) stated, survey research designs are generalizable, reliable, and versatile. Survey design could allow to yield more generalizable results by collecting data from larger sample than was used in the pilot study.

Despite the large number of studies that have been conducted of the strengths and difficulties associated with adolescent connectedness in several Western countries, little to know information is known about the usefulness of this construct in the Middle East and specifically in Turkey, which reflects a country that bridges the West and Eastern cultures. With measures of adolescent connectedness, studies of the correlations between similar real-world phenomenon could be conducted in Turkey. This could help educators understand whether promoting connectedness in Turkey might have benefits similar to what its promotion among Western adolescents can do to help them.

But validity is a central concern of researchers using survey design studies. Only instruments that have demonstrated reliability and validity evidence supporting their use with Turkish adolescents, so that currently no studies of adolescent connectedness can be conducted. What is needed is a study that compares how well a measure of connectedness is related to translations of other similar measures. This is a construct validation study. In this study, four

scales with considerable construct validity evidence were utilized to estimate the convergent and discriminant validity evidence present in correlations between these constructs and those on a set of connectedness measures that have been translated into Turkish and piloted but not fully examined for validity evidence.

The Hemingway: *Measure of Adolescent Connectedness* (MAC) (short form) is a survey of adolescent connectedness that assesses 10 constructs using subscales derived from mean scores on subsets of the 57 items in the survey. An earlier study piloted a translation of this with a small sample of adolescents, but it did not assess the degree of convergent and discriminant validity evidence. This study collected data that can be analyzed to reveal, patterns of internal consistency as well as differentiation between subscales reflecting different constructs of interest with the goal of determining to what extent this translated scale could be useful in measuring connectedness among Turkish adolescents in future studies.

### **Summary**

A review of the literature presents that connectedness is a significant prevention for several social, academic, health, and behavioral outcomes. The importance of adolescent connectedness and its implications have been studied extensively and the validation studies of the Hemingway: *Measure of Adolescent Connectedness* have been conducted in several cultures, but not included particularly adolescent population in Turkey.

### **Chapter Three: Methodology**

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

The purpose of this study was to assess the psychometric properties of a Turkish translation of the Hemingway: *Measure of Adolescent Connectedness* (MAC, Adolescent Version 5.5 short, Karcher & Sass, 2010) with a sample of Turkish adolescents to gather evidence of the internal consistency and validity evidence for use with Turkish students in order to better understand whether the translated scale (T-MAC) might provide a good instrument for mental health professionals, educators, and administrators to measure adolescent connectedness in Turkey. This chapter presents the methodology of this study by clearly explaining: (a) the research questions and the hypotheses, (b) the research design, (c) the population, (e) the sampling, (f) the instrumentation, (g) the data collection, and (h) the data analysis plan.

#### **Research Questions**

In this study, the three main questions were examined regarding the use and validity evidence demonstrated in the proposed study using the Turkish translation of the Measure of Adolescent Connectedness (T-MAC). As suggested by and with the permission of the scale author, Dr. Karcher, from this point on an acronym will be used instead of the long, descriptive title for the translated scale, Turkish translation of the Hemingway: *Measure of Adolescent Connectedness*. The goal of the study was to estimate psychometric properties of the T-MAC, including reliability estimates for all subscales and estimates of construct distinctiveness of five of the subscales.

The general research question of the study is: What is the evidence for the T-MAC being a good instrument to measure the level of connectedness of Turkish adolescents? The first set of questions asked to help answer this general question includes five specific hypotheses. These

five questions address the degree of construct validity evidence, as indicated by internal consistency and convergent and discriminant validity, for the T-MAC on five specific subscales.

- 1) What are the psychometric properties of the T-MAC Connectedness to School subscale when given to a sample of Turkish adolescents?
  - a) How strong is the internal consistency of the items of the T-MAC Connectedness to School subscale in terms of Coefficient Alpha?
  - b) Are correlations between the T-MAC Connectedness to School subscale and the School Attachment Scale sufficiently large to provide strong convergent validity evidence for the Connectedness to School as a measure of school connectedness?
- 2) What are the psychometric properties of the T-MAC Connectedness to Teachers subscale when given to a sample of Turkish adolescents?
  - a) How strong is the internal consistency of the items of the T-MAC Connectedness to Teachers subscale in terms of Coefficient Alpha?
  - b) Are correlations between the T-MAC Connectedness to Teachers subscale and the School Attachment Scale to Attachment to Teacher subscale sufficiently large to provide strong convergent validity evidence for the T-MAC Connectedness to Teachers subscale as a measure of teacher connectedness?
- 3) What are the psychometric properties of the T-MAC Connectedness to a Self-in-the-Present subscale when given to a sample of Turkish adolescents?
  - a) How strong is the internal consistency of the items of the T-MAC Self-in-the-Present subscale in terms of Coefficient Alpha?



- b) Are correlations between the T-MAC Connectedness to a Self-in-the-Present subscale and the Rosenberg Self-Esteem Scale sufficiently large to provide strong convergent validity evidence for the T-MAC Connectedness to a Self-in-the-Present subscale as a measure of self-esteem in the present?
- 4) What are the psychometric properties of the T-MAC Parent Connectedness subscale when given to a sample of Turkish adolescents?
- a) How strong is the internal consistency of the items of the T-MAC Connectedness to Parents subscale in terms of Coefficient Alpha?
  - b) Are correlations between the T-MAC Connectedness to Parents subscale and the Parent Attachment Scale of the Turkish translation of the Inventory of Parent and Peer Attachment-Short Form scale sufficiently large to provide strong convergent validity evidence for the T-MAC Connectedness to Parents subscale as a measure of parent connectedness?
- 5) What are the psychometric properties of the T-MAC Connectedness to Peers subscale when given to a sample of Turkish adolescents?
- a) How strong is the internal consistency of the items of the T-MAC Connectedness to Peers subscale in terms of Coefficient Alpha?
  - b) Are correlations between the T-MAC Connectedness to Peers subscale and the Peer Attachment Scale of the Turkish translation of the Inventory of Parent and Peer Attachment-Short Form scale sufficiently large to provide strong convergent validity evidence for the T-MAC Connectedness to Peers subscale as a measure of peer connectedness?

- 6) How strong is the evidence of discriminant validity in terms of the size and direction of correlations between the two interpersonal connectedness scales, Connectedness to Parents and to Peers, and the Turkish translation of the Social Anxiety Scale for Adolescents?

The second main research question is about the presence of gender and developmental differences in psychometric properties. In order to assess whether the psychometric properties estimated with the whole sample (above) are similar enough in subsamples of boys and girls, and both older youth and younger youth, to suggest that the scale demonstrates sufficient validity evidence across sex and age of adolescents, the same five research questions posed above were run with these four groups: all boys, all girls, adolescents in grades 6 through 8, and adolescents in grades 9 through 12. Does reliability and convergent/discriminant validity evidence suggest that the 10 subscales demonstrate sufficient reliability (and for five scales validity) evidence across sex and age of adolescents?

The third main question is about the reliability of the remaining T-MAC subscales in terms of item internal consistency. The other T-MAC Connectedness subscales for which there were no corresponding measures that had been translated into Turkish only had their psychometric properties if internal consistency assessed in this study. Therefore, the third main research question is, what is the evidence of inter item consistency for the items in the T-MAC subscales measuring Connectedness to Friends, Siblings, Neighborhood, Reading and Self-in-the-Future?

### **Research Design**

In this quantitative study, a non-experimental cross-sectional survey methodology was used. The T-MAC and four assessments of corresponding constructs, which have already been translated into Turkish and have been found to generate satisfactory psychometric properties

when completed by Turkish adolescents, were administered to 245 Turkish adolescents (6th to 12th grades) to ascertain the psychometric properties of the T-MAC.

The purpose of the study was to collect data from a sample of Turkish adolescents and analyze this data to estimate the validity evidence for the T-MAC's in terms of its use to differentiate abstract characteristics in terms of specific items used to measure an affect, belief or behavior (American Psychological Association, 1999). Construct validity evidence was estimated in two ways. First, the determination of internal item consistency was made using estimates of Coefficient alpha computed using SPSS for the four scales under examination: Connectedness to School, to Parents, to Peers and to Self-in-the-Present. Second, determinations of the magnitude and direction of Pearson correlations between subscale scores on the T-MAC and the other assessments was used to estimate how strongly similar and dissimilar constructs are related.

### **Strengths and Limitations of Research Design**

The primary limitations of this study are that it does not collect data from a random sample of Turkish adolescents and that no estimates of other forms of validity are to be made. The data were collected from schools in southern Turkey, and were collected as a convenience sample of those youth and their parents who consented to their participation. This leaves unknown both how adolescents in other parts of Turkey, from, other cities and youth in rural areas, might respond to these surveys. Additionally, no estimates of whether the estimates of connectedness in the 10 subscales predict real world phenomena such as school success, peer social competence, family relationships, or confidence to take on challenges (e.g., resulting from high self-esteem).

## Subjects

### Population

The target population of this study is Turkish adolescents. As stated by Gall et al. (2007), researchers want to generalize the results of their research to all the members of a real or hypothetical set of people use target population. As mentioned in Chapter Two above, there is no instrument to measure conenctendes levels of adolescents in Turkey; therefore, it makes theoretical sense to target this population.

### Sampling

In this present study, the researcher administered the T-MAC survey to a convenience sample of 245 adolescents from seven schools in Turkey. This sample calculation assumes a normal distribution, a p-value of .05, and an effect size of .30. There are five research questions tested through correlations (zero-order bi-serial correlations), so the p-value of .05 is divided by 5 to get a Bonferroni adjustment for chance of  $p \leq .01$ . At that level of statistical significance, with an expected correlation of .30 between the MAC peer/parent subscales and the Armsden IPPA peer/parent subscales reported by Karcher (2003), the expected sample size needed to detect this size correlation is 169. Given that there is language translation involved, the researcher chose to expect a smaller correlation to account for additional error in the data. Using a correlation of .25 as the effect size, the G-power estimate of needed sample size to detect this size effect at  $p = .01$  is 240 (Faul, Erdfelder, Lang, & Buchner, 2007).

The figure 1 (G-power: Sample size estimate) below represents how to estimate the needed sample size for the current study.

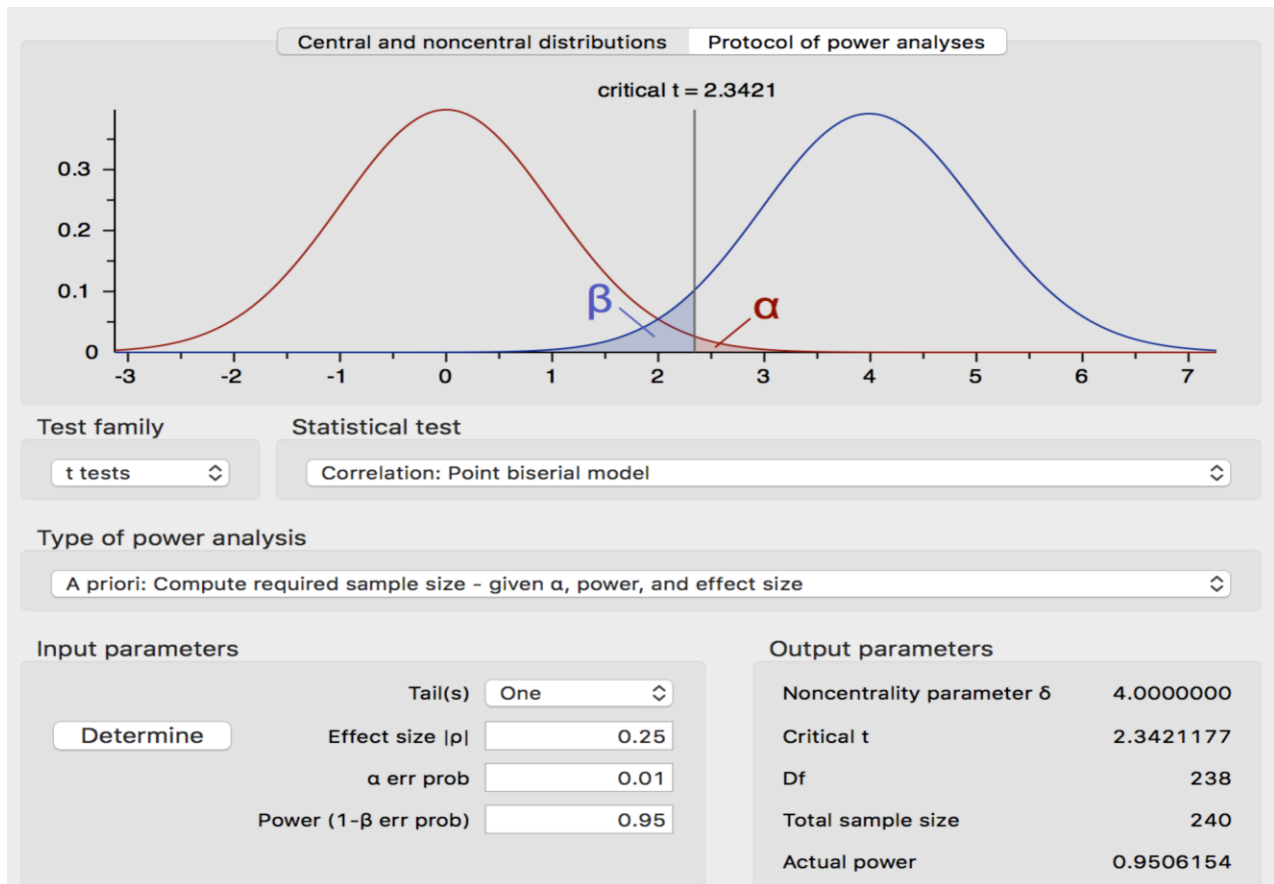


Figure 1. G-power: Sample size estimate. Note= The figure was adapted from Faul, Erdfelder, Lang, & Buchner (2007).

These participants were voluntarily recruited from middle schools and high schools (6th-12th grades) located in southern Turkey through the branch of Ministry of National Education. The authorities in this branch were requested to announce the current study to the schools, students, and parents in their region. They were also requested to work collaboratively with the study coordinators (teachers at schools in that city) who assisted the researcher of this present study to gather the data from the participants.

### Instruments of the Study

In this section, the instruments of the study will be described. First, the demographic questionnaire (See Appendix A and B) that was created by the researcher of this study will be

explained and then the T-MAC, and four other corresponding scales including RSES, SAS, IPPA, and SASA.

### **Demographic Questionnaire**

The Demographic Questionnaire is a self-administered instrument that includes three simple questions about participants' gender, grade level, and who they live with. The purpose of these questions is to have information about participants' demographic characteristics. (See Appendix A).

### **The Hemingway: Measure of Adolescent Connectedness (Adolescent Version 5.5 short)**

The Hemingway: *Measure of Adolescent Connectedness* (MAC) was created by Michael Karcher to measure the connectedness level of adolescents in the United States (2001). The MAC is still one of the very few scales used to measure adolescent connectedness in the published literature in and outside of the United States.

The MAC appears to be the only published measure of adolescent connectedness that has demonstrated validity evidence beyond face validity. Specifically, Karcher and Sass (2010) measured how much the psychometric properties of the ten main subscales were consistent across male and female adolescents, older and younger adolescents, and across three ethnic groups. Their findings suggest that the scales are largely invariant across these groups, with only a few items making different contributions to the subscales, like two items on the "Connectedness to Teachers" about trust that differed between white and black adolescents.

The MAC scale was developed based on grounded theory approaches, item response theory, and factor analytic studies. The sample of the scale during the development process consisted of youth in schools and graduate students, because they were familiar with the concept of connectedness. The researcher had the developed versions of the MAC with appropriate

language considering the development stage of the both population and framework of connectedness. The versions were also developed consistently with the purpose of serving as an assessment of intervention effectiveness. Later, the theoretical framework was extended and the researcher included the ecological attachment (Hirschi, 1969), the conventionality of adolescent worlds (Jessor, 1984), and the relatedness and need to belong (Baumeister & Leary, 1996) and underlying structure of the phenomenon was confirmed by factor analysis. The items of the MAC were drawn from two literatures: one describing antecedents of academic achievement and the other one reviewing risk-taking and problem behaviors.

The MAC is a 78-item self-report measure (long form) that assesses 15 subscales with questions about conduct (does the youth seek out specific people, places, activities and ideas) and caring (how much does the youth care about these people, places, activities and ideas) toward the different contexts that adolescents interact. The questions help to conceptualize and fully understand the nature of adolescents' connectedness.

There are four comprehensive domains including family, friends, school, and self, and three subscales that include connectedness to self (including present self and future self), connectedness to others (including friends, parents, father, mother, siblings, teachers, peers, and boyfriend/girlfriend), and connectedness to society (including different cultures, religion, reading, school, and neighborhood) in the MAC (Karcher, 2003). The MAC theoretical framework is shaped by both ecological and developmental theory; that is why, adolescent's social ecology such as school, friends, family, and neighborhood are described as a world of connectedness. The MAC consists of several worlds that refer to common and important contexts, relationships, and activities of engagement in adolescents' lives (Nakkula & Selman, 1991).

As Karcher (2003) stated, some schools have preferred to not include some questions in their surveys (fearing parents would not like to have their children asked about other cultures, religion, dating, race, or about each parent specifically). Taking Turkish culture and social norms into consideration, in Turkey, the present study used the short version of the MAC (Adolescents short 5.5, Karcher, 2007) which did not have the subscales including connectedness to religion, romantic partners, mother, father, and kids from other cultures.

For the same reasons, this present study used the short version that consists of 57 items and 10 subscales, in which eight of the total ten subscales include reverse wording items. It is important to note that the two scales (short and full version) are the same. Each subscale was rated on a 5-point Likert-type scale by 1 (not at all true) to 5 (very true) which are averaged to get a subscale score ranging from 1 to 5. The authors reported that the Hemingway: *Measure of Adolescent Connectedness* (MAC) is easy to administer, taking adolescents between 10-20 minutes to complete.

Examples of the content of the main subscales on which construct validity was measured in this study, Karcher (2003) stated that the Connectedness to School scale has items focus on how actively adolescents try to be successful in school and the importance youth place on school. The Connectedness to Teachers scale assesses the effort adolescents made to have a good relationship with teachers and their concerns about earning teachers' respect and trust. The Connectedness to Peers scale evaluates how adolescents feel about their peers and about working on projects and, particularly, school-related tasks together with their classmates. The Connectedness to Parents scale measures how much adolescents seek out their parents, care about their parents, and try to get along with their parents. Lastly, Self in-the-Present measures



feelings about current relationships (in contrast to the Self-in-the-Future subscale which measures the behaviors and qualities that will help adolescents have a positive future).

The Cronbach's Alpha internal consistency ( $\alpha$ ) in the MAC measure, for the following domains were reported in a prior validation study in the US by Karcher and Sass (2010) were good to strong for the higher order scales of Family ( $\alpha = .87$ ), School ( $\alpha = .84$ ), Friends ( $\alpha = .82$ ), Self ( $\alpha = .82$ ) and for the subscales for Parents ( $\alpha = .82$ ), Siblings ( $\alpha = .94$ ), School ( $\alpha = .75$ ), Reading ( $\alpha = .91$ ), Friends ( $\alpha = .84$ ), Neighborhood ( $\alpha = .84$ ), Self-in-the-Present ( $\alpha = .82$ ). The lowest internal consistency estimates were for Peers ( $\alpha = .76$ ), Teachers ( $\alpha = .75$ ), and Self-in-the-Future ( $\alpha = .68$ ). Test-retest reliability of the MAC measure was satisfactory (Karcher, 2007). The reliability of the MAC was in the good (.70-.80) to very good (.80-.90) range (Karcher, 2003).

In addition to this original validation study, some other validation studies have been conducted in other countries such as Chile and Taiwan. These studies showed factorial validity evidence (Karcher, & Lee, 2002; McWhirter, & McWhirter, 2011; Sass et al., 2010). The MAC was translated to several languages including Spanish, French, Chinese, Korean, Lithuanian (Karcher, 2011), and recently into Afrikaans (Schulze and Naidu, 2014).

### **Surveys Used to Estimate Convergent and Discriminant Validity Evidence**

**The Turkish Version of Rosenberg Self-Esteem Scale (Cuhadaroglu, 1986).** The present study used only the Self-Esteem subscale of the Turkish version of the Rosenberg Self-esteem Scale (RSES) that includes 10 items to assess the appraisal of individuals. It is a four-point Likert-type scale including the ratings of "Strongly Disagree" (1 point) to "Strongly Agree" (4 points). The internal consistency coefficient was reported as  $\alpha = .83$ . The test-retest was done four weeks after and the correlation between the two scores was  $r = 0.71$ . The results

revealed strong reliability and validity evidence in the middle adolescence sample in Turkey (Cuhadaroglu, 1986).

**The Turkish Version of School Attachment Scale (Savi Cakar, 2011).** The adaptation and validation studies of the SAS into Turkish were done by Savi Cakar (2011). The Turkish version of the SAS has three main domains including teacher, friend, and school attachment and includes 13 items. The Turkish version reported Cronbach's alpha inner consistency coefficient as  $\alpha = .84$ ; and inner consistency coefficients derived for scale's alt dimensions, attachment to school as  $\alpha = .82$ , attachment to teacher as  $\alpha = .74$  and attachment to friend as  $\alpha = .71$ . Test-retest reliability was determined  $\alpha = .85$ ; and relation of item with total point as ranging from  $\alpha = .664$  and  $\alpha = .853$  for the Turkish version (Savi Cakar, 2011).

**The Turkish Version of the Inventory of Parent and Peer Attachment-Short Form (Kocayoruk, 2010).** The adaptation and validation studies of the Turkish version of the IPPA was conducted by Kocayoruk in 2010. The analysis showed the Cronbach' Alpha ( $\alpha$ ) internal consistency was  $\alpha = .89$  for total peer attachment scale ( $\alpha = .80$  for Communication,  $\alpha = .85$  for Trust, and  $\alpha = .71$  for the Alienation scales), and test-retest reliability for the peer subscale was .55 for total peer attachment (PA), .51 for Communication, .53 for Trust and .46 for Alienation. To estimate convergent validity evidence of the Turkish version of the IPPA the total and subscale of IPPA Turkish version scores correlated with the Positive and Negative Affect Scale (PANAS) and the Rosenberg Self-Esteem Scale (RSS). The peer attachment scale and its communication and trust subscale scores were positively correlated to PA and RSS and the total score of peer attachment negatively correlated to NA.

### **The Turkish Version of Social Anxiety Scale for Adolescents (Aydin & Sutcu, 2007).**

The adaptation and validation studies of the Turkish version of the SASA was conducted by Aydin and Sutcu (2007). The participants of this study consisted of 1242 (643 girls, 599 boys) adolescents between 12-15 years of age. The results of this validation study showed consistency with the original scale by having a three-factor structure for the Turkish version of the SASA.

Reliability estimates by Cronbach alpha and Split-half Coefficients were acceptable for the SASA subscales and total. Cronbach's alpha score for the total scale was found as .88 (split half was .85) which is a "large" level of internal consistency. The subscales' alpha scores were found as FNE .83 (split half was .85); SAD-New .71 (split half was .67); and SAD-General .68 (split half was .71). The SASA presented statistically significant correlations with other social phobia (ÇESFÖ) and trait anxiety (STAI-C-T) measures that indicate construct validity. The subscales of the SASA showed moderate correlations with each other. The comparison of SASA scores between girls and boys showed significant differences as girls scored significantly higher than boys on the FNE whereas boys scored higher than girls on the SAD-G.

### **Procedure**

#### **Data Collection**

This research study used survey questionnaires to collect data. The researcher of this present study received approval from the St. Mary's University's Institutional Review Board (IRB) before starting the data collection procedures, in which all the ethical research practices were followed during the data collection period. Participants of the study were recruited through a branch of Ministry of National Education in southern Turkey. The authorities in this department were requested to announce the current study to the schools, students, and parents in their region. They were also requested to work collaboratively with the study coordinators

(teachers at schools in that city) who assisted the researcher of this study to gather the data from the participants.

The data were collected through the T-MAC, School Attachment Scale (SAS), Inventory of Parent and Peer Attachment (IPPA), Rosenberg Self-Esteem Scale (RSES), and Social Anxiety Scale for Adolescents (SASA) scales and a demographic variable questionnaire created by the researcher. The data were collected during the 2017 spring semester. Because the participants are considered minors (under the age 18), a parental information form (See Appendix C and D) was obtained before data collection. The coordinator teachers also provided information about the study and procedure to participants, letting participants know that they were available during the process whenever students needed them.

The T-MAC was developed through the back-translation method. In the back-translation method, the synthesized and revised version of the instrument is meant to translate back into its original language (Borsa, Damasio, & Bandeira, 2012). After receiving permission from Dr. Karcher, the author of the MAC, each item of the MAC was translated into Turkish by three experts including the researcher of this current study, a bilingual (Turkish-English) counselor, and an English teacher, who works in a high-school in Turkey. Then each item was discussed by the researcher of this study with the bilingual counselor and English teacher to determine the proper wording. Once the translation was done and combined in one text, it was translated back to English by an independent expert who is a bilingual professor both in English and Turkish who is a faculty member at the University of Incarnate Word (UIW) in the Education and Literacy department. The researcher and the bilingual professor reviewed each item, deciding what was not well translated, word-by-word and they suggested minor vocabulary modifications to ensure language appropriateness for Turkish speakers. The researcher also consulted with

Turkish researchers and educators on the intended meaning and optimal phrasing of each item. Finally, a Turkish school guidance counselor, who works in a high-school setting, also reviewed and approved each item with respect to clarity, meaning, and comprehension. Finally, all items were assessed by an English-speaking counseling professor to ensure they reflected the same concepts as the original measures.

The measures and assessment procedures were reviewed by a committee in a southern branch of the National Ministry of Education in Turkey, who found the study to be necessary and beneficial for future research and programs in Turkey. The committee wrote a permission letter to the Institutional Review Board (IRB) at St. Mary's University to show that the researcher can conduct the study in Turkey. The researcher also submitted a proposal of the current study to obtain permission from the IRB at St. Mary's University to conduct the study in Turkey. The researcher also had permission from the legal guardians of the participants since the intended participants of the study are considered minors.

The researcher of this study administered and collected all the measures during a class period in the 2017 spring semester through the coordinator teachers. The coordinator teachers of this research explained to students that participation is voluntarily and there is no payment or incentives for participation. The test package consists of parental information (See Appendix C and D) and adolescent assent forms (See Appendix E and F), solicitation speech letter (See Appendix G and H), the MAC (See Appendix I and J), SAS (See Appendix K and L), RSES (See Appendix M and N), IPPA (See Appendix O and P), and SASA (See Appendix Q and R) scales in English and Turkish. The coordinator teachers described the measure, the purpose of the study, and explained to the legal guardians of the participants that the participants are not going to write their names on the survey. The legal guardians were given a clear explanation about the

confidentiality policy by the researcher. The coordinator teachers clearly stated to the legal guardians of the participants that they were going to be available at all times to explain individual items and to answer questions asked of the participants. Prior to assessment, the participants were informed about the informed consent form.

## **Analysis**

### **Estimating Validity Evidence**

The Turkish versions of the Measure of Adolescent Connectedness (T-MAC), Rosenberg Self-Esteem Scale (RSES), School Attachment Scale (SAS), Social Anxiety Scale for Adolescents (SASA), and Inventory of Parent and Peer Attachment (IPPA) scales were administered in person using pen and paper surveys. A branch manager of the National Ministry of Education transferred the responses from the anonymous surveys into a pre-formatted excel spreadsheet. The survey data were entered into an excel data file using the double-entry method, so that the two separate entries can be compared to find entry errors. Once the data were entered into the excel file, the paper copies were shipped to the United States so that the data can remain available for the researcher's lead professor for the required period after publication before the forms would be destroyed.

Upon receipt via email, these two excel files were uploaded into an SPSS data file and, using syntax available from the measurement website ([www.adolescentconnectedness.com](http://www.adolescentconnectedness.com)), subscales can be created and subscale reliability can be estimated by using SPSS 24.3.

The psychometric properties of the T-MAC and the other four instruments were analyzed through reliability coefficient and bivariate correlation coefficient estimates. The Statistical programming for social science IBM SPSS 24.3 were used for descriptive and inferential examination.

First, descriptive statistics of the subscales and the total scales were presented for each subscale, for older and younger youth, and for boys and girls separately to determine the distribution of scores for each instrument. Initial analyses were utilized (means, standard deviations, frequencies, and percentages were determined for all variables) in order to see normality in data distribution, initial data patterns, and descriptions of participants' responses in order to ensure that the data corresponded to the expected values and ranges. The researcher examined percentages, means, and standard deviations for all variables used in this present study. These frequencies provided valuable insight into the distribution of responses across age groups and sex.

Second, the reliability of the subscales of the MAC were evaluated using alpha coefficients (Cronbach's alpha) that measures the internal consistency of a scale (Babbie, 2013). Interpretation considered alpha between  $>.90$  is very high; between  $.70 - .89$  is high;  $.30 - .69$  is moderate; and  $<.30$  is low (Babbie, 2013). In this present study, alpha value  $>.70$  is considered as acceptable.

Third, as many researchers have suggested and used in their studies to show the construct validity evidence of their scales relative to similar measures (Babbie, 2013), evidence of construct discriminant and convergent validity evidence for five T-MAC subscales were examined using the Pearson correlation coefficient ( $r$ ) test. Five tests of the strength of the correlations between comparable constructs were conducted in order to estimate the construct validity evidence of these subscales of the T-MAC. The correlation size criteria used in this present study was proposed by Rubin and Babbie (2001); therefore,  $r = .10$  is weak;  $r = .30$  is medium; and  $r = .50$  is considered as strong correlation size.

The present study used the Pearson correlation coefficient ( $r$ ) test, which is the most preferred method to show that scale items are measuring what they claim, to demonstrate the convergent and discriminant validity evidence of subscales that were applied to a group of Turkish adolescents. These analyses provided correlation scores between the total and subscale scores of the Turkish version of the MAC and other scales including RSES, SAS, SASA, and IPPA in order to estimate convergent and discriminant validity evidence.

### **Reliability**

AERA, APA, & NCME (1999) defined reliability as the degree to which scores are free from measurement error (consistent and dependable). The most common method for the reliability analysis is internal consistency reliability that includes Cronbach's coefficient alpha for statistical calculations to find the average correlation of all test items (Neukrug & Fawcett, 2014) were utilized to estimate reliability in this present study.

Reliability can be evaluated through three approaches: Classical test theory (which has been the most common way), generalizability theory (developed by Cronbach through expanding the approach he initially applied in creating his internal consistency reliability formula), and item response theory, where each item is studied independently for its ability to discriminate from other items based on the construct being measured (AERA, APA, & NCME, 2014). In 2014, the Standards for Educational and Psychological testing described reliability as follows:

The term reliability has been used in two ways in the measurement literature. First, the term has been used to refer to the reliability coefficients of classical test theory, defined as the correlation between scores on two equivalent forms of the test, presuming that taking one form has no effect on performance on the second form. Second the term had been used in a more general sense, to refer to the consistency of scores across replications



of a testing procedure, regardless of how this consistency is estimated or reported (e.g., in terms of standard errors, reliability coefficients per se, generalizability coefficients, error/tolerance ratios, item response theory (IRT) information functions, or various indices of classification consistency) (AERA, APA, & NCME, 2014. p. 33).

### **Validity Evidence**

Generally, “validity refers to the appropriateness, meaningfulness, and usefulness of the specific inferences made from test scores” (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1985, p. 8). Validity also refers to the degree to which evidence and theory support the interpretations of test scores entailed by proposed uses of tests. The Standards for Educational and Psychological Testing recognize three different ways to gather evidence about the validity of test scores inferences: content related evidence, criterion related evidence and construct evidence of validity. In addition to this, The Standards for Educational and Psychological testing indicated the difference between the types of evidence and types of validity as follows:

These sources of evidence may illuminate different aspects of validity, but they do not represent distinct types of validity. Validity is a unitary concept. It is the degree to which all of the accumulated evidence supports the intended interpretation of test scores for the intended purpose (AERA, APA, & NCME, 1999. p. 11).

The foremost concern of this present study was to demonstrate construct validity evidence of the T-MAC since it was translated from one language to another (English into Turkish) and the target population is different from the original population the scale was created for (Erkut, 2010). Construct validity is a process that involves a group of methods for assessing

the degree to which the instrument measures the theoretical construct (Cronbach & Meehl, 1955). Construct validity includes convergent and discriminant validity.

Convergent validity evidence is about the degree to which the construct is similar to (converges on) other constructs to which it theoretically should be similar. Measures of similar constructs that are related to each other should be strongly correlated. In this study, convergent validity evidence was estimated through assessment of the magnitude of the correlations between T-MAC subscales of Connectedness to School, Self-in-the-Present, Teachers, Parents, and Peers and corresponding constructs measured by the other four assessments with previously estimated validity evidence when used with Turkish adolescents.

Discriminant validity evidence concerns the degree to which the construct is not similar to (diverges from) other constructs in which it, theoretically, should not be similar. Measures of different constructs that are not related to each other should not correlate highly with each other. If there is a significant positive correlation between scores it shows convergent validity evidence. Conversely, it is expected that there would be a weak correlation between scores of different constructs to reveal discriminant validity evidence. Specifically, the T-MAC social connectedness higher order construct is expected to have weak, and negative correlations with IPPA peer/parent anxiety scores. There is no single analysis to gather validity evidence for the construct interpretations of a test. Correlational methods include the most widely used approaches to construct validation; such as: correlations between a measure of the construct measure and other designed, multi-trait multi-method studies, and factor analysis studies.

This present study used a Pearson correlation coefficient test to determine validity evidence. Validity analysis was conducted by correlating the total and subscales of the MAC scores with Rosenberg Self-Esteem Scale (RSES), School Attachment Scale (SAS), Social

Anxiety Scale for Adolescents (SASA), and the Inventory of Parent and Peer Attachment (IPPA) in order to determine whether the total score and subscale (peers, school, and self) scores of the MAC are correlated significantly and positively with the total and subscale scores of the RSES, SAS, and IPPA scales and weakly with SASA.

### **Hypotheses Tested in the Present Study**

It is expected that the T-MAC would have satisfactory levels of construct validity due to a strong correlation with other instruments including Turkish RSES, SAS, and IPPA and a weak correlation to SASA. Construct validation demonstrates that the scale items measure the constructs they intend to measure (Babie, 2013). In this present study, construct validity evidence for the T-MAC was indicated by its statistically significant positive strong correlation ( $> .50$ ) with similar instruments including Turkish RSES, SAS, and IPPA (measure similar constructs) and its weak ( $< .10$ ) correlation to SASA (measure unrelated constructs).

In this study, the three main questions that were examined regarding the use and validity evidence demonstrated in the proposed study using the Turkish translation of the Measure of Adolescent Connectedness (T-MAC).

Research Question I. What is the degree of reliability and validity evidence for the Connectedness to School, Teachers, Parents, Peers and Self-in-the-Present for the T-MAC?

Hypothesis I: It is expected that the T-MAC will show a statistically significant positive correlation with the Turkish School Attachment Scale that demonstrated convergent validity evidence. Furthermore, the school connectedness subscale of the T-MAC is expected to demonstrate a statistically significant positive higher correlation with the Turkish SAS than other subscales of the T-MAC.

It is expected that the T-MAC will show a statistically significant positive correlation with the Turkish version of the Self-Esteem Scale that demonstrated convergent validity

evidence. Also, Self-in-the-Present subscale of the T-MAC is expected to demonstrate higher statistically significant positive correlation with the Turkish SES than other subscales of the T-MAC.

It is expected that the T-MAC will show statistically significant positive correlations with the Inventory of Parent and Peer Attachment that demonstrated convergent validity evidence for the Connectedness to Parents and Peers scale. Peer subscale of the T-MAC is expected to show a higher statistically significant positive correlation with the peer subscale of the Inventory of Parent and Peer Attachment than the parent scale. But these two connectedness subscales are expected to both correlate more highly with the Parent and Peer Attachment surveys than the School Attachment or Self-Esteem measures, and this served as evidence of discriminant validity.

It is expected that the T-MAC will show a weak correlation with the Social Anxiety Scale for Adolescents that demonstrated discriminant validity evidence because these two instruments measure two different constructs, which is why they were not highly correlated.

Research Question II. Does reliability and convergent/discriminant validity evidence suggest that the 10 subscales demonstrate sufficient reliability (and for five scales validity) evidence across sex and age of adolescents?

Hypothesis II: The T-MAC is expected, like the measure used with adolescents in the US (Karcher & Sass, 2010), to yield reliability (and for the five with corresponding translated scales, validity) evidence that is comparable (within .15 difference) across sex and age groups.

Research Question III What is the evidence of inter-item consistency for the items in the T-MAC subscales measuring Connectedness to Friends, Siblings, Neighborhood, Reading and Self-in-the-Future?

Hypothesis III: It is expected that the total scale T-MAC and its ten subscales will have high internal consistency estimates.

### **Limitations of the Study**

There are several potential limitations that might affect the study. The translation issues are the first limitation of the study because translation might have ignored cross-cultural differences in the conceptualization of the construct and/or individual items might not have the same psychometric properties in the translated version because of poor item wording and/or meaning. Sample size is another limitation of the study because the number of participants is not enough to represent the whole adolescent population in Turkey. Potential biases of the participants towards the survey and responses is another limitation of the study. The total scales of this study include 156 items, would be a lot of items for young participants to focus on. The participants' mood and wellness at the time when taking the survey might be another limitation of the study. The last, but not least, limitation is the error in the instrument, which might cause an inappropriate measure of the connectedness level.

### **Benefits of the Study**

The Turkish version of *The Hemingway: Measure of Adolescent Connectedness* (T-MAC) may be useful to assess Turkish students' connectedness levels. With the results of the T-MAC, researchers could be able to distinguish students with a higher level of connectedness than students with a lower level of connectedness across multiple domains. The MAC measurement includes more domains than any other scale that measures adolescent connectedness in the literature (Karcher, 2011). It could help counselors and researchers to assess Turkish adolescents' connectedness level for each specific domain such as self, parents, siblings, friends, school, neighborhood, boyfriend/girlfriend, religion, and reading. This means that Turkish adolescents might be differentiated with a higher level of connectedness and a lower level of

connectedness for each specific domain mentioned above which may help counselors identify youth who could benefit most from a peer mentoring program. Turkish researchers may benefit from reliability tests of this T-MAC when studying and applying peer helping or mentoring programs as well.

### **Axiology**

The following ethical steps were implemented:

- 1) An approval from the St. Mary's University's Institutional Review Board (IRB) was obtained before data collection.
- 2) Before data collection, all programmatic permissions were obtained; for instance, granted permission from the Turkish Educational Attaché and from a southern branch of the National Ministry of Education in Turkey.
- 3) All IRB ethical regulations were followed before data collection (i.e., informing participants about their rights and their rights to withdraw anytime from the study without negative consequences).
- 4) Permissions to use surveys were attained from developers of each instrument.
- 5) To ensure the confidentiality of participant responses, data were collected anonymously.
- 6) Data were collected from only volunteer participants.
- 7) The study was conducted with the permission of dissertation chair and committee members.
- 8) All of the study information and data are kept under lock and key.

## Summary

In Chapter Three, the methodology of this study was explained extensively. The research design of this quantitative study is survey method. The participants of this study were Turkish adolescents studying 6th-12th grades in southern Turkey and in order to recruit these participants, a convenience sampling method was used. The connectedness level of the participants was measured with the T-MAC. The potential benefits of the study, and limitations, were described. The original Hemingway: *Measure of Adolescent Connectedness* (MAC) was also explained in detail with its psychometric properties.

## **Chapter Four: Results**

### **Introduction**

The purpose of this research study was to examine the reliability and validity evidence of the Turkish translated Measure of Adolescent Connectedness (T-MAC) based on data collected from Turkish middle and high school students. To answer research questions and to determine psychometric properties of the T-MAC, the inter item reliability (Cronbach's  $\alpha$ ) and the Pearson coefficient correlation tests were performed. This chapter presents descriptive statistics of participants' demographics, the responses to the scales of the study, and the analysis of the quantitative inquires with regards to the research questions.

### **Descriptive Statistics**

Prior to addressing the research questions, a summary of the characteristics of the sample are provided. Normality in data distribution, initial data patterns, and descriptions of participants' responses are summarized utilizing descriptive statistics. Means, standard deviations, frequencies, and percentages, were estimated for all variables.

### **Sample Characteristics**

The total number of the respondents to this study was 245 Turkish students (130 males and 115 females) from 6 through 12 grades from three high schools and two middle schools. While most of the participants are high school students 142 (58%), 7th graders, which was made up of 46 students (18.8%), showed the highest participation among all seven groups (See Table 2). Only 13 participants (1 father, 7 mother, and 5 others) out of 245 were reported that they do not live with both parents (See Table 1). Most of the participants was from three high schools ( $n= 142$ ) and the remaining 103 students were from two middle schools (See Table 2).



Table 2

*Demographic Characteristics of Sample*

Demographic	Response	Sample N	Sample %
Gender	Male	130	53.1
	Female	115	46.9
Education Level	6 grade	24	9.8
	7 grade	46	18.8
	8 grade	33	13.5
	9 grade	43	17.6
	10 grade	36	14.7
	11 grade	39	15.9
	12 grade	24	9.8
Live with Family	Mother	7	2.9
	Father	1	0.4
	Mother and Father	232	94.7
	Others	5	2.0

Note= Participants are 245 students (N=245)

Table 3 below shows that, in terms of mean scores, the participants reported the highest levels of connectedness to parents (M= 4.26), future self (M= 4.15), teachers (M= 4.13), and friends (M= 4.03); on the other hand, less connected to their neighborhood (M= 3.05), peers (M= 3.55), and reading (M= 3.59). Furthermore, they were more attached to their peers (M= 20.44) than their teachers (M= 15.74) and school (M= 14.85); and, more attached to their mothers (M= 72.59) than their peers (M= 70.96) and fathers (M= 69.15) (See Table 3).

Table 3

*Total Mean, Standard Deviations, and Minimum and Maximum Scores of all Tests*

	Mean	SD	Minimum	Maximum	Range
<u>Connectedness to</u>					
Neighborhood	3.05	0.90	1.00	5.00	4.00
Friends	4.03	0.71	1.60	5.00	3.40
Self-in-the-Present	3.84	0.75	1.00	5.00	4.00
Parents	4.26	0.71	1.00	5.00	4.00
Siblings	3.95	1.00	1.00	5.00	4.00
School	3.66	0.80	1.00	5.00	4.00
Peers	3.55	0.64	1.00	5.00	4.00
Teachers	4.13	0.81	1.67	10.83	9.17
Reading	3.59	1.17	1.00	5.00	4.00
<u>Social Anxiety Scale</u>					
SASA fear	18.62	7.79	7.00	61.00	54.00
SASA gen	11.42	4.63	5.00	25.00	20.00
SASA new	17.22	5.17	6.00	30.00	24.00
Rosenberg	3.52	0.53	1.60	4.50	2.90
<u>School Attachment Scale</u>					
SAS school	14.85	4.46	4.00	20.00	16.00
SAS teachers	15.74	3.66	4.00	20.00	16.00
SAS peers	20.44	6.29	5.00	75.00	70.00
<u>Attachment Scale</u>					
IPPA mother	72.59	14.24	24.00	90.00	66.00
IPPA father	69.15	15.96	9.00	90.00	81.00
IPPA peers	70.96	14.73	26.00	166.00	140.00

*Note. Total N=245., Siblings n=234., IPPA mother n= 244., IPPA father n= 240. Note. SASA = Social Anxiety Scale for Adolescents. Rosenberg= Rosenberg Self-Esteem Scale. SAS= School Attachment Scale. IPPA= Inventory of Parent and Peer Attachment.*

As seen on the Table 4 below the total number of the participants are 245 including 130 males and 115 female students. Most of the participants are high school students (n= 142) and the rest were middle school students. However, 11 participants did not respond to the questions about their siblings, and that is why they were not computed in the analysis for the Connectedness to Siblings subscale. The results showed that male participants have higher

connectedness to friends, school, peers, teachers, Self-in-the-Future, and reading. On the other hand, female participants showed higher level of connectedness to neighborhood, Self-in-the-Present, parents, and siblings (See Table 4).

Table 4

*Mean Scores regarding to gender for TMAC subscales*

Scales	Gender	N	Mean	SD
Connectedness to Neighborhood	Male	130	2.91	.84
	Female	115	3.22	.93
Friends	Male	130	4.09	.70
	Female	115	3.97	.71
Self-in-the-Present	Male	130	3.82	.76
	Female	115	3.87	.73
Parents	Male	130	4.26	.75
	Female	115	4.27	.67
Siblings	Male	127	3.90	1.05
	Female	107	4.01	.94
School	Male	130	3.74	.86
	Female	115	3.58	.72
Peers	Male	130	3.56	.67
	Female	115	3.55	.61
Teachers	Male	130	4.21	.96
	Female	115	4.05	.59
Self-in-the-Future	Male	130	4.21	.64
	Female	115	4.09	.61
Reading	Male	130	3.98	1.05
	Female	115	3.16	1.15

The Table 5 below shows the mean scores of T-MAC subscales based on participants' education levels. The results showed that middle school students have higher connectedness levels than high school students in all the subscales, with the exception of connectedness to friends (See Table 5).

Table 5

*Mean scores regarding to Education Level for T-MAC subscales*

Education	Connectedness Scale	N	Mean	SD
Middle School	Neighborhood	103	3.18	.95
	Friends	103	3.96	.72
	Self-in-the-Present	103	3.87	.66
	Parents	103	4.38	.68
	Siblings	98	4.00	1.06
	School	103	3.94	.73
	Peers	103	3.57	.69
	Teachers	103	4.20	.67
	Self-in-the-Future	103	4.24	.53
	Reading	103	3.65	1.11
High School	Neighborhood	142	2.96	.84
	Friends	142	4.09	.69
	Self-in-the-Present	142	3.83	.81
	Parents	142	4.18	.73
	Siblings	136	3.92	.95
	School	142	3.46	.78
	Peers	142	3.54	.60
	Teachers	142	4.08	.89
	Self-in-the-Future	142	4.09	.69

**Research Questions**

The main research question was what are the psychometric properties of all the T-MAC subscales when administered to a sample of Turkish adolescents? This main research question was divided into two parts including reliability and validity evidence. The following section will present the Coefficient Alpha scores of the all T-MAC subscales first. Then the Connectedness to School, Teachers, Peers, Parents, and Self-in-the-Present subscales' validity evidence are examined by utilizing Pearson correlations to reveal convergent and discriminant validity evidence of those subscales respectively.

The first part of the main research question examines how strong is the internal consistency of the items of the all T-MAC subscales in terms of Coefficient Alpha?

To answer the question above the internal consistency of the items for all subscales of the T-MAC was determined by computing a Cronbach Coefficient Alpha. The following section presents the results of the Cronbach test and the item analysis for each subscale as well.

### **T-MAC Internal Consistency Reliability**

The collected data was used to test the psychometric properties of the Turkish translated *Hemingway: Measure of Adolescent Connectedness* (T-MAC). The internal consistency reliability of the T-MAC was examined using Cronbach's alpha from data collected from 245 participants. Moreover, Cronbach's alpha coefficients for all the ten subscales of the original the *Hemingway: Measure of Adolescent Connectedness* (MAC, short version) were also computed, and the results are shown in Table 5. The alpha score for the T-MAC total scale and for Connectedness to Reading were above  $\alpha = .90$ . The subscales for Connectedness to Neighborhood, Parents, and Siblings were strong ( $\alpha = .80$ ). Alpha for Friends, Self-in-the-Present, and School were satisfactory (above  $\alpha = .70$ ). However, the reliability coefficients for Connectedness to Peers and Teachers were below  $\alpha = .60$  suggesting poor reliability.

### **Psychometric Properties for the Scales Used to Estimate T-MAC Validity Evidence**

The collected data were used to test the psychometric properties of the other four Turkish translated scales including the School Attachment Scale (SAS) for the three subscales  $\alpha$  as following: alpha value of school subscale was strong ( $\alpha = .93$ ), and alpha value were below  $\alpha = .60$  for teachers  $\alpha = .59$  and peers  $\alpha = .41$  subscales suggesting poor reliability; for the Rosenberg Self-Esteem Scale (RSES) alpha value was strong ( $\alpha = .83$ ); for the Inventory of Parent and Peer Attachment (IPPA) all three subscales reported strong alpha value mother  $\alpha = .92$ , father  $\alpha = .92$ , and peers  $\alpha = .82$ ; and for the Social Anxiety Scale for Adolescents (SASA) alpha value also reported as strong ( $\alpha = .89$ ) (See Table 6).

Table 6

*Cronbach's (alpha) Internal Consistency of Scales Including All Items*

	Number of Items	Cronbach's Alpha
Total T-MAC	57	.90
<u>Connectedness to</u>		
Neighborhood	6	.81
Friends	6	.73
Self-in-the-	6	.73
Present	6	.81
Parents	5	.88
Siblings	6	.79
School	6	.57
Peers	6	.50
Teachers	6	.69
Self-in-the-Future	6	.81
Reading	4	.91
<u>Social Anxiety Scale</u>		
SASA fear	7	.91
SASA gen	5	.82
SASA new	6	.78
Rosenberg	10	.83
<u>School Attachment Scale</u>		
SAS school	4	.93
SAS teachers	4	.59
SAS peers	5	.41
<u>Attachment Scale</u>		
IPPA mother	18	.92
IPPA father	18	.92
IPPA peers	18	.82

*Note. SASA= Social Anxiety Scale for Adolescents. Rosenberg= Rosenberg Self-Esteem Scale. SAS= School Attachment Scale. IPPA= Inventory of Parent and Peer Attachment.*

**Connectedness to Neighborhood.** Item analyses were conducted on the items assumed to assess Connectedness to Neighborhood subscale. Cronbach's alpha for this subscale was found as  $\alpha = .81$ , which presents a "high" level of internal consistency between the items of this subscale (See Table 6).

*Corrected item-total correlation* for this six-item scale yielded correlations (ranged between .38 and .70) between each item and the total subscale score. All the correlation values are larger than .30, which is accepted as a cut-off point indicating adequate correlations between an item and the total subscale score (Field, 2005). The values of *Cronbach's alpha if item deleted* ranged between .75 and .82. This means that deleting some items make the alpha score greater than the subscale's overall Cronbach's alpha score of .81 (Field, 2005). As it is seen on the Table 7 below if the deletion of an item increases Cronbach's alpha score, this means that the deletion of that specific item (item-1 and item-51) improves the reliability of the Connectedness to Neighborhood subscale (See Table 7).

Table 7

*Reliability Analysis for Connectedness to Neighborhood Subscale of the T-MAC*

Item	M	SD	N	Corrected Item-Total Correlation	$\alpha$ if Item Deleted
1. I enjoy spending time in my neighborhood	3.57	1.06	214	.38	.82
11. I spend a lot of time with the kids in my neighborhood	2.91	1.31	214	.70	.75
21. I get along with the kids in my neighborhood	3.62	1.14	214	.62	.78
31. I spend time in my neighborhood playing or doing other things	2.38	1.26	214	.64	.77
41. I spend a lot time with the kids in my neighborhood	2.66	1.31	214	.70	.75
51. My neighborhood is boring	3.37	1.43	214	.42	.82

*Note.* Scale Statistics:  $\alpha = .81$ , Mean = 18.53, Std. Deviation = 5.44,  $N = 6$

**Connectedness to Friends.** Item analyses were conducted on the items assumed to assess Connectedness to Friends subscale. Cronbach's alpha for this subscale was found as  $\alpha = .73$  which presents a "high" level of internal consistency between the items of this subscale (See Table 6).

*Corrected item-total correlation* for this six-item scale yielded correlations (ranged between .29 and .58) between each item and the total subscale score. The correlation value of item 2 is smaller than .30, which is accepted as a cut-off point indicating adequate correlations between an item and the total subscale score (Field, 2005). The values of *Cronbach's alpha if item deleted* ranged between .66 and .75. This means that deleting some items make the alpha score greater than the subscale's overall Cronbach's alpha score of .73 (Field, 2005). As it is seen on the Table 8 below if the deletion of an item increases Cronbach's alpha score, this means that the deletion of that specific item (item-2) improves the reliability of the Connectedness to Friends subscale (See Table 8).

Table 8

*Reliability Analysis for Connectedness to Friends Subscale of the T-MAC*

Item	M	SD	N	Corrected Item-Total Correlation	$\alpha$ if Item Deleted
2. Spending time with my friends is not very important for me	4.10	1.18	227	.29	.75
12. I have very close friends that I can trust fully	4.46	.88	227	.41	.71
2. Spending time with friends plays a big part in my life	4.04	1.03	227	.58	.66
32. My friends and I can talk about personal issues freely	3.97	1.08	227	.42	.71
42. I spend time with my friends as much as I can	3.95	.99	227	.57	.66
52. I spend a lot of time with my friends talking about things	3.97	1.07	227	.55	.67

*Note.* Scale Statistics:  $\alpha = .73$ , Mean = 24.51, Std. Deviation = 4.08,  $N = 6$

**Connectedness to Self-in-the-Present.** Item analyses were conducted on the items assumed to assess Connectedness to Self-in-the-Present subscale. Cronbach's alpha for this subscale was found as  $\alpha = .74$  which presents a "high" level of internal consistency between the items of this subscale (See Table 6).



*Corrected item-total correlation* for this six-item scale yielded correlations (ranged between .40 and .65) between each item and the total subscale score. All of the correlation values are larger than .30, which is accepted as a cut-off point indicating adequate correlations between an item and the total subscale score (Field, 2005). The values of *Cronbach's alpha if item deleted* ranged between .64 and .72. This means that all items are worthy of retention as deleting none of the items increase alpha score greater than the subscale's overall Cronbach's alpha score of .73 (Field, 2005) (See Table 9).

Table 9

*Reliability Analysis for Connectedness to Self-in-the-Present Subscale of the T-MAC*

Item	M	SD	N	Corrected Item-Total Correlation	$\alpha$ if Item Deleted
3.I can tell you five things people like about me	3.79	1.02	206	.45	.71
13. There is nothing that makes me special or different	3.58	1.28	206	.43	.72
23. I can tell you three things other kids like about me	3.85	1.04	206	.40	.72
33. I like who I am	4.28	.97	206	.45	.71
43. I have hobbies, abilities and skills	4.06	1.09	206	.47	.70
53. I have unique interests and skills that make me interesting	3.84	1.09	206	.65	.65

*Note.* Scale Statistics:  $\alpha = .74$ , Mean = 23.42, Std. Deviation = 4.29,  $N = 6$

**Connectedness to Parents.** Item analyses were conducted on the items assumed to assess Connectedness to Parents subscale. Cronbach's alpha for this subscale was found as  $\alpha = .81$  which presents a "high" level of internal consistency between the items of this subscale (See Table 6).

*Corrected item-total correlation* for this six-item scale yielded correlations (ranged between .41 and .74) between each item and the total subscale score. All of the correlation values are larger than .30, which is accepted as a cut-off point indicating adequate correlations between

an item and the total subscale score (Field, 2005). The values of *Cronbach's alpha if item deleted* ranged between .74 and .84. This means that deleting some items make the alpha score greater than the subscale's overall Cronbach's alpha score of .81 (Field, 2005). As it is seen on the Table 10 below if the deletion of an item increases Cronbach's alpha score, this means that the deletion of that specific item (item-34) improves the reliability of the Connectedness to Neighborhood subscale (See Table 10).

Table 10

*Reliability Analysis for Connectedness to Parents Subscale of the T-MAC*

Item	M	SD	N	Corrected Item-Total Correlation	$\alpha$ if Item Deleted
4. My family enjoys spending time together	4.21	.95	232	.68	.76
14. My parent's trust in me is important	4.75	.58	232	.47	.81
24. I enjoy spending time with my family	4.33	.93	232	.74	.75
34. My parents and I do not agree on many issues	3.50	1.29	232	.41	.85
44. I get along with my parents	4.25	.94	232	.70	.76
54. I care deeply about my parents	4.72	.67	232	.62	.78

Note. Scale Statistics:  $\alpha = .81$ , Mean = 25.78, Std. Deviation = 3.98, N = 6

**Connectedness to Siblings.** Item analyses were conducted on the items assumed to assess Connectedness to Siblings subscale. Cronbach's alpha for this subscale was found as  $\alpha = .88$  which presents a "high" level of internal consistency between the items of this subscale (See Table 6).

*Corrected item-total correlation* for this five-item scale yielded correlations (ranged between .55 and .82) between each item and the total subscale score. All of the correlation values are larger than .30, which is accepted as a cut-off point indicating adequate correlations between an item and the total subscale score (Field, 2005). The values of *Cronbach's alpha if item deleted*

ranged between .84 and .90. This means that deleting some items make the alpha score greater than the subscale’s overall Cronbach’s alpha score of .88 (Field, 2005). As it is seen on the Table 11 below if the deletion of an item increases Cronbach’s alpha score, this means that the deletion of that specific item (item-45) improves the reliability of the Connectedness to Siblings subscale (See Table 11).

Table 11

*Reliability Analysis for Connectedness to Siblings Subscale of the T-MAC*

Item	M	SD	N	Corrected Item-Total Correlation	$\alpha$ if Item Deleted
5. I enjoy spending time with my siblings	3.96	1.15	211	.76	.86
15. I feel close to my siblings	4.03	1.16	211	.80	.85
25. I enjoy spending time with my siblings	4.14	1.12	211	.82	.85
35. I try to spend as much time as possible with my siblings	3.72	1.19	211	.71	.87
45. I avoid being around my siblings	4.24	1.16	211	.55	.90

*Note.* Scale Statistics:  $\alpha = .89$ , Mean = 20.11, Std. Deviation = 4.81,  $N = 5$

**Connectedness to School.** Item analyses were conducted on the items assumed to assess Connectedness to School subscale. Cronbach’s alpha for this subscale was found as  $\alpha = .79$  which presents a “high” level of internal consistency between the items of this subscale (See Table 6).

*Corrected item-total correlation* for this six-item scale yielded correlations (ranged between .42 and .69) between each item and the total subscale score. All of the correlation values are larger than .30, which is accepted as a cut-off point indicating adequate correlations between an item and the total subscale score (Field, 2005). The values of *Cronbach’s alpha if item deleted* ranged between .72 and .78. This means that all items are worthy of retention as deleting none of

the items increase alpha score greater than the subscale’s overall Cronbach’s alpha score of .79 (Field, 2005) (See Table 12).

Table 12

*Reliability Analysis for Connectedness to School Subscale of the T-MAC*

Item	M	SD	N	Corrected Item-Total Correlation	$\alpha$ if Item Deleted
6. I study hard at school	3.55	1.05	218	.47	.78
16. I enjoy going to school	3.52	1.29	218	.69	.72
26. I get bored while I am at school	3.31	1.20	218	.55	.76
36. I am successful at school	3.79	1.02	218	.42	.78
46. I feel happy at school	3.50	1.15	218	.69	.72
56. Being successful at school is very important for me	4.43	.89	218	.41	.79

*Note.* Scale Statistics:  $\alpha = .79$ , Mean = 22.11, Std. Deviation = 4.65,  $N = 6$

**Connectedness to Peers.** Item analyses were conducted on the items assumed to assess Connectedness to Peers subscale. Cronbach’s alpha for this subscale was found as  $\alpha = .57$  which presents a “moderate” level of internal consistency between the items of this subscale (See Table 6).

*Corrected item-total correlation* for this six-item scale yielded correlations (ranged between .01 and .55) between each item and the total subscale score. The correlation values of items 27 and 57 are smaller than .30, which is accepted as a cut-off point indicating adequate correlations between an item and the total subscale score (Field, 2005). The values of *Cronbach’s alpha if item deleted* ranged between .43 and .69. This means that deleting some items make the alpha score greater than the subscale’s overall Cronbach’s alpha score of .57 (Field, 2005). As it is seen on the Table 13 below if the deletion of an item increases Cronbach’s alpha score, this means that the deletion of that specific item (item-57) improves the reliability of the Connectedness to Friends subscale (See Table 13).

Table 13

*Reliability Analysis for Connectedness to Peers Subscale of the T-MAC*

Item	M	SD	N	Corrected Item-Total Correlation	$\alpha$ if Item Deleted
7. My classmates often bother me	3.55	1.08	210	.37	.50
17. I like almost all my peers at school	3.31	1.11	210	.40	.48
27. I enjoy studying with my classmates	3.74	1.11	210	.21	.57
37. I get along with my classmates	3.92	.93	210	.55	.43
47. My classmates like me	4.05	.89	210	.50	.46
57. I rarely argue or fight with the other kids in school	2.87	1.38	210	.01	.69

*Note.* Scale Statistics:  $\alpha = .57$ , Mean = 21.47, Std. Deviation = 3.70,  $N = 6$

**Connectedness to Teachers.** Item analyses were conducted on the items assumed to assess Connectedness to Teachers subscale. Cronbach's alpha for this subscale was found as  $\alpha = .50$  which presents a "moderate" level of internal consistency between the items of this subscale (See Table 6).

*Corrected item-total correlation* for this six-item scale yielded correlations (ranged between .12 and .51) between each item and the total subscale score. The correlation values of items 18, 28, and 50 are smaller than .30, which is accepted as a cut-off point indicating adequate correlations between an item and the total subscale score (Field, 2005). The values of *Cronbach's alpha if item deleted* ranged between .36 and .64. This means that deleting some items make the alpha score greater than the subscale's overall Cronbach's alpha score of .50 (Field, 2005). As it is seen on the Table 14 below if the deletion of an item increases Cronbach's alpha score, this means that the deletion of that specific item (item-28 and 50) improves the reliability of the Connectedness to Friends subscale (See Table 14).

Table 14

*Reliability Analysis for Connectedness to Teachers Subscale of the T-MAC*

Item	M	SD	N	Corrected Item-Total Correlation	$\alpha$ if Item Deleted
8. I care about what my teachers think about me	4.37	.93	231	.40	.43
18. I cannot get along with some of my teachers	3.48	1.36	231	.24	.47
28. I want my teachers to respect me	4.51	.75	231	.12	.51
38. I try to get along with my teachers	3.32	.85	231	.49	.41
48. I try very hard to gain the trust of my teachers	3.98	1.09	231	.51	.37
50. I usually like my teachers	4.29	2.78	231	.21	.65

*Note.* Scale Statistics:  $\alpha = .51$ , Mean = 24.97, Std. Deviation = 4.72,  $N = 6$

**Connectedness to Self-in-the-Future.** Item analyses were conducted on the items assumed to assess Connectedness to Self-in-the-Future subscale. Cronbach's alpha for this subscale was found as  $\alpha = .69$  which presents a "moderate" level of internal consistency between the items of this subscale (See Table 6).

*Corrected item-total correlation* for this five-item scale yielded correlations (ranged between .25 and .56) between each item and the total subscale score. The correlation value of item 19 is smaller than .30, which is accepted as a cut-off point indicating adequate correlations between an item and the total subscale score (Field, 2005). The values of *Cronbach's alpha if item deleted* ranged between .58 and .70. This means that deleting some items make the alpha score greater than the subscale's overall Cronbach's alpha score of .69 (Field, 2005). As it is seen on the Table 15 below if the deletion of an item increases Cronbach's alpha score, this means that the deletion of that specific item (item-19) improves the reliability of the Connectedness to Friends subscale (See Table 15).

Table15

*Reliability Analysis for Connectedness to Self-in-the-Future Subscale of the T-MAC*

Item	M	SD	N	Corrected Item-Total Correlation	$\alpha$ if Item Deleted
9. I will have a good future	4.25	.76	203	.51	.62
19. Being successful at school will help my future	4.64	.69	203	.25	.71
29. I participate in activities outside the school to help with my future	3.85	1.07	203	.43	.65
39. I work hard to prepare for my future	3.91	1.00	203	.56	.58
49. I always think about my future	4.30	.90	203	.48	.62
55. Whatever I do now will not affect my future	4.34	1.08	203	.31	.69

Note. Scale Statistics:  $\alpha = .69$ , Mean = 20.95, Std. Deviation = 2.99, N = 6

**Connectedness to Reading.** Item analyses were conducted on the items assumed to assess Connectedness to Reading subscale. Cronbach's alpha for this subscale was found as  $\alpha = .91$  which presents a "very high" level of internal consistency between the items of this subscale (See Table 6).

*Corrected item-total correlation* for this four-item scale yielded correlations (ranged between .78 and .83) between each item and the total subscale score. All of the correlation values are larger than .30, which is accepted as a cut-off point indicating adequate correlations between an item and the total subscale score (Field, 2005). The values of *Cronbach's alpha if item deleted* ranged between .87 and .89. This means that all items are worthy of retention as deleting none of the items increase alpha score greater than the subscale's overall Cronbach's alpha score of .91 (Field, 2005) (See Table 16).

Table 16

*Reliability Analysis for Connectedness to Reading Subscale of the T-MAC*

Item	M	SD	N	Corrected Item-Total Correlation	$\alpha$ if Item Deleted
10. I enjoy reading books by myself	3.51	1.35	228	.80	.89
20. I enjoy reading	3.79	1.26	228	.83	.87
30. I never read books in my spare time	3.81	1.32	228	.78	.89
40. I usually read books in my spare time	3.33	1.28	228	.78	.89

Note. Scale Statistics:  $\alpha = .91$ , Mean = 14.46, Std. Deviation = 4.63, N = 4

**Validity Evidence**

The second part of the main research question examines the validity evidence of five Turkish version of the Measure of Adolescent Connectedness (T-MAC) subscales (Connectedness to School, Teachers, Peers, Parents, and Self-in-the-Present).

This validity evidence test was divided into three questions to measure 1) convergent validity evidence; 2) discriminant validity evidence; 3) validity evidence across gender and developmental differences.

To determine the convergent validity evidence the following question was asked: are correlations between the Connectedness to School subscale of the T-MAC and School Attachment subscale of the School Attachment Scale (SAS) ; Connectedness to Teachers subscale of the T-MAC and Teachers Attachment subscale of the School Attachment Scale (SAS); Connectedness to Parents subscale of the T-MAC and Parent Attachment subscale of the Inventory of Parent and Peer Attachment (IPPA); Connectedness to Peers subscale of the T-MAC and Peers Attachment subscale of the Inventory of Parent and Peer Attachment (IPPA); Self-in-the-Present subscale of the T-MAC and Self-Esteem subscale of the Rosenberg Self-



Esteem Scale (RSES) sufficiently large to provide strong convergent validity evidence for the subscales of T-MAC as measures of School, Teachers, Parents, Peers, and Self connectedness?

### Convergent Validity Evidence

To answer the above research question, a Pearson correlation coefficient test was computed to determine the convergent validity evidence between the T-MAC subscales (Connectedness to School, Teachers, Parents, Peers, and Self-in-the-Present) and (School and Teachers Attachment of the SAS; Parents and Peers Attachment of the IPPA; and Self-esteem subscale of the RSES) respectively (See Table 17). The following section provides the detailed information about the correlation results.

Table 17

#### *Correlation Matrix of all Scales*

Scale	Conn. to School	Conn. to Teachers	Conn. to Self-in-the-Present	Conn. to Parents	Conn. to Peers
Conn. to School	1.00	.52**	.25**	.43**	.52**
SAS school	.63**	.42**	.10**	.30**	.45**
Conn. to Teachers	.52**	1.00	.23**	.45**	.40**
SAS teachers	.56**	.48**	.22**	.39**	.48**
Conn. to Self-in-the-Present	.25**	.23**	1.00	.26**	.28**
Rosenberg	.28**	.20**	.51**	.24**	.22**
Conn. to Parents	.43**	.45**	.26**	1.00	.40**
IPPA parents	.38**	.38**	.35**	.64**	.33**
Conn. to Peers	.52**	.40**	.28**	.40**	1.00
IPPA peers	.23**	.19**	.18**	.31**	.40**
SASA	.10	.12	-.27**	-.0**	-.07

*Note.* \*\* Correlation is significant at the 0.01 level. \* Correlation is significant at the 0.05 level (N=245) Note. SAS= School Attachment Scale. Rosenberg= Rosenberg Self-Esteem Scale. IPPA= Inventory of Parent and Peer Attachment Scale. SASA= Social Anxiety Scale for Adolescents

**Connectedness to School.** The correlation results for the Connectedness to School subscale of the T-MAC shows statistically significant positive strong size correlations with four

subscales as following: School Attachment subscale of the SAS ( $r = .63, p < .001$ ) which is the stronger correlation for the Connectedness to School subscale of the T-MAC; Teachers Attachment subscale of the SAS ( $r = .56, p < .001$ ); Connectedness to Peers subscale of the T-MAC ( $r = .52, p < .001$ ); and Connectedness to Teachers subscale of the T-MAC ( $r = .52, p < .001$ ) (See Table 17).

**Connectedness to Teachers.** The correlation results between the Connectedness to Teacher subscale of the T-MAC and Attachment to Teachers subscale of the SAS shows a statistically significant positive medium size correlation between these two scales ( $r = .48, p < .001$ ). The Connectedness to Teachers subscale of the T-MAC also shows a statistically significant positive strong size correlation with Connectedness to School subscale of the T-MAC ( $r = .52, p < .001$ ) (See Table 17).

**Connectedness to Peers.** The correlation results for the T-MAC Connectedness to Peers subscale shows a statistically significant positive correlation with six subscales as following: Connectedness to School subscale of the T-MAC shows strong correlation ( $r = .52, p < .001$ ) and medium correlations with the remaining including Attachment to Teachers ( $r = .48, p < .001$ ) and Attachment to School ( $r = .45, p < .001$ ) subscales of the SAS; Connectedness to Teachers ( $r = .40, p < .001$ ) and Connectedness to Parents ( $r = .40, p < .001$ ) subscales of the T-MAC; and Peer Attachment subscale of the IPPA ( $r = .40, p < .001$ ) (See Table 17).

**Connectedness to Parents.** The correlation results between the T-MAC Connectedness to Parents subscale and the Parent Attachment subscale of the Turkish translation of the Inventory of Parent and Peer Attachment Scale shows a statistically significant positive strong correlation between these two scales ( $r = .64, p < .001$ ) (See Table 17).

**Connectedness to Self-in-the-Present.** The correlation results between T-MAC Connectedness to Self-in-the-Present subscale and the Rosenberg Self-Esteem Scale shows a statistically significant positive strong correlation between these two scales ( $r = .51, p < .001$ ) (See Table 17).

To determine the discriminant validity evidence the following research question was asked: how strong is the evidence of discriminant validity in terms of the size and direction of correlations between the two interpersonal T-MAC connectedness subscales (Connectedness to Parents and Peers) and the Turkish translation of the Social Anxiety Scale for Adolescents?

### **Discriminant Validity Evidence**

To answer the above research question, a Pearson correlation coefficient test was computed to determine the discriminant validity evidence between the two T-MAC subscales (Connectedness to Parents and Peers) and SASA (See Table 17). The following section provides the detailed information about the correlation results.

**Connectedness to Peers.** There is a not significant correlation but rather a negative weak correlation and not statistically significant correlation between the T-MAC Connectedness to Peers and the SASA scales ( $r = -.07, p = .271$ ) (See Table 17).

**Connectedness to Parents.** There is a not significant correlation but rather a negative weak correlation and not statistically significant correlation between the T-MAC Connectedness to Parents and the SASA scales ( $r = -.03, p = .618$ ) (See Table 17).

### **Reliability and Validity Evidence Across Gender and Developmental Differences**

The last research question examined reliability and convergent/discriminant validity evidence suggest that the 10 subscales demonstrate sufficient reliability (and for Connectedness to School, Teachers, Peers, Parents, and Self-in-the-Present validity) evidence across sex and age

of adolescents. In order to assess whether the psychometric properties estimated with the whole sample (above) are similar enough in subsamples the research question was asked: do the T-MAC subscales (Connectedness to School, Teachers, Peers, Parents, and Self-in-the-Present) demonstrate sufficient validity evidence across gender and age of adolescents for four groups: all boys, all girls, adolescents in grades 6 through 8 (middle school students), and adolescents in grades 9 through 12 (high school students)?

To answer the last research question above, a Pearson correlation coefficient test was computed for subsamples including boys, girls, middle, and high school students to determine the validity evidence of the five T-MAC subscales (Connectedness to School, Teachers, Peers, Parents, and Self-in-the-Present). The following section provides the detailed information about the correlation results.

Table 18

*Correlation Matrix by Gender*

Scale	Gender	SAS school	SAS teachers	Rosenberg	IPPA parents	IPPA peers	SASA
Conn. to School	Male	.65**	.63**	.28**	.44**	.28**	.14
	Female	.60**	.46**	.26**	.31**	.18	.06
Conn. to Teachers	Male	.40**	.46**	.16**	.36**	.17**	.20*
	Female	.50**	.56**	.28**	.46**	.23**	.01
Conn. to Self-in-the-Present	Male	.03	.18**	.42**	.32**	.11**	-.26**
	Female	.19**	.29**	.64**	.39**	.26**	-.29**
Conn. to Parents	Male	.28**	.34**	.12**	.68**	.38**	.11
	Female	.33**	.47**	.43**	.58**	.29**	-.22
Conn. to Peers	Male	.39**	.48**	.12**	.29**	.37**	-.01
	Female	.55**	.48**	.36**	.39**	.45**	-.15

*Note.* \*\*. Correlation is significant at the 0.01 level. \*. Correlation is significant at the 0.05 level. Note. SAS= School Attachment Scale. Rosenberg= Rosenberg Self-Esteem Scale. IPPA= Inventory of Parent and Peer Attachment Scale. SASA= Social Anxiety Scale for Adolescents.

## **Gender differences**

*For male students.* There is a statistically significant positive strong size correlation between the Connectedness to School subscale of the Turkish version of the Measure of Adolescent Connectedness (T-MAC) and Attachment to School subscale of the School Attachment Scale (SAS) ( $r = .65, p < .001$ ), Connectedness to Teachers subscale of the T-MAC and Attachment to Teachers subscale of the SAS ( $r = .46, p < .001$ ), Connectedness to Peers subscale and the Peers Attachment subscale of the Turkish translation of the Inventory of Parent and Peer Attachment (IPPA) ( $r = .37, p < .001$ ), Connectedness to Parents subscale of the T-MAC and the Parent Attachment subscale of the IPPA ( $r = .68, p < .001$ ), Connectedness to Self-in-the-Present subscale of the T-MAC and the self-esteem subscale of the Rosenberg Self-Esteem Scale (RSES) ( $r = .42, p < .001$ ) for male participants in this present study (See Table 18).

*For female students.* There is a statistically significant positive correlation between the Connectedness to School subscale of the T-MAC and Attachment to School subscale of the SAS showed strong size correlation ( $r = .60, p < .001$ ), Connectedness to Teachers subscale of the T-MAC and Attachment to Teachers subscale of the SAS showed strong size correlation ( $r = .56, p < .001$ ), Connectedness to Peers subscale of the T-MAC and the Peers Attachment subscale of the IPPA showed medium size correlation ( $r = .45, p < .001$ ), Connectedness to Parents subscale of the T-MAC and the Parent Attachment subscale of the IPPA showed strong size correlation ( $r = .58, p < .001$ ), Connectedness to Self-in-the-Present subscale of the T-MAC and the self-esteem subscale of the RSES. showed strong size correlation ( $r = .64, p < .001$ ) for male participants in this present study (See Table 18).

Table 19

*Correlation Matrix by Education Level*

Scale	Education	SAS school	SAS teacher	Rosenberg	IPPA Parents	IPPA Peers	SASA
Conn. to School	Middle	.72**	.62**	.18	.44**	.37**	.25
	High	.54**	.49**	.28**	.29**	.15	-.05
Conn. to Teachers	Middle	.58**	.70**	.12	.47**	.22**	.55**
	High	.34**	.37**	.23**	.33**	.19**	.03
Conn. to Self-in- the-Present	Middle	-.01	.15	.55**	.24**	.16	-.29**
	High	.16	.26**	.50**	.41**	.20**	-.35**
Conn. to Parents	Middle	.45**	.45**	.06	.50**	.23**	.15
	High	.17*	.32**	.33**	.71**	.40**	-.20*
Conn. to Peers	Middle	.55**	.61**	.10	.43**	.39**	.09
	High	.38**	.39**	.31**	.27**	.40**	-.23**

*Note.* SAS= School Attachment Scale. Rosenberg= Rosenberg Self-Esteem Scale.  
IPPA= Inventory of Parent and Peer Attachment Scale. SASA= Social Anxiety Scale  
for Adolescents.

**Developmental differences**

*For middle school students.* There is a statistically significant positive correlation between the Connectedness to School subscale of the T-MAC and Attachment to School subscale of the SAS ( $r = .72, p < .001$ ), Connectedness to Teachers subscale of the T-MAC and Attachment to Teachers subscale of the SAS ( $r = .70, p < .001$ ), Connectedness to Peers subscale of the T-MAC and the Peers Attachment subscale of the IPPA ( $r = .39, p < .001$ ), Connectedness to Parents subscale of the T-MAC and the Parent Attachment subscale of the IPPA ( $r = .50, p < .001$ ), Connectedness to Self-in-the-Present subscale of the T-MAC and the Self-Esteem subscale of the RSES ( $r = .55, p < .001$ ) for middle school participants in this present study (See Table 19).

*For high school students.* There is a statistically significant positive correlation between the Connectedness to School subscale of the T-MAC and Attachment to School subscale of the

SAS ( $r = .54, p < .001$ ), Connectedness to Teachers subscale of the T-MAC and Attachment to Teachers subscale of the SAS ( $r = .37, p < .001$ ), Connectedness to Peers subscale of the T-MAC and the Peers Attachment subscale of the IPPA ( $r = .40, p < .001$ ), Connectedness to Parents subscale of the T-MAC and the Parent Attachment subscale of the IPPA ( $r = .71, p < .001$ ), Connectedness to Self-in-the-Present subscale of the T-MAC and the Self-Esteem subscale of the RSES ( $r = .50, p < .001$ ) for high school participants in this present study (See Table 19).

### **Discussion**

This section provides an overview of research questions, explanations of quantitative data, a summary of key findings, and an interpretation of findings presented within the perspective of prior research.

This study used a quantitative methodology to create and determine validity evidence of the Turkish-Measure of Adolescent Connectedness (T-MAC) with 245 Turkish adolescents (6 through 12 grades). The findings of the current study may lead Turkish researchers and administrators when measuring connectedness levels of adolescents and/or when studying and applying peer helping or mentoring programs as well.

Because there is a huge need for an effective intervention and assessment tools to measure connectedness levels of adolescents comprehensively it is crucial to explore the definition, conceptualization, and dimensions of connectedness from a comprehensive perspective. The following research questions were used to determine validity evidence of the Turkish-Measure of Adolescent Connectedness (T-MAC).

The main research question asked: what are the psychometric properties of all the T-MAC subscales when given to a sample of Turkish adolescents? This main research question was divided into two parts including reliability and validity evidence.

The first part of the results section examined how strong is the internal consistency of the items of all T-MAC subscales in terms of Coefficient Alpha.

The second part of the results section presented tests of the validity evidence for five T-MAC subscales (Connectedness to School, Teachers, Peers, Parents, and Self-in-the-Present).

These validity evidence tests addressed three questions to measure 1) convergent validity evidence, 2) discriminant validity evidence, 3) validity evidence across gender and developmental differences.

Specifically, this final set of analyses addressed whether the T-MAC subscales demonstrated sufficient validity evidence across gender and age of adolescents for four groups: all boys, all girls, adolescents in grades 6 through 8 (middle school students), and adolescents in grades 9 through 12 (high school students)?

### **Interpretation of Findings**

In this study, true differences in experience of connectedness across domains cannot be attributed to the differences across subscales, because the nature of the questions or indicators of connectedness in each subscale differed considerably. This means that someone might feel more connected to their parents than to their peers, but the questions for the peer subscale might be worded in such a way that one tends to answer those questions more strongly than the parent subscale items. That would give a higher overall score but not reflect a true difference favoring connectedness to peers. Having stated this, however, a comparison of overall scores indicates the participants scored more highly on their parents, future self, teachers, and friends; on the other hand, their scores on their neighborhood, peers, and reading were lower.

The comparison of boys and girls, however, on specific scales may tell us whether there were gender differences in the degree of connectedness across sexes, assuming these subscale



items were responded to similarly by boys and girls. There is some evidence from item-scale correlations that all of the scale items were not equally useful across boys and girls. That said, male participants had higher Connectedness to Friends, School, Peers, Teachers, Self-in-the-Future, and Reading subscale scores than female participants; whereas, female participants showed higher Connectedness to Neighborhood, Self-in-the-Present, Parents, and Siblings subscale scores than male participants in this present study. In addition, middle school students have higher connectedness subscale scores than high school students except Connectedness to Friends subscale score.

### **Reliability Evidence**

The Table 20 below shows the internal consistency for the MAC for four different cultures. The first column shows the alpha scores of the subscales in the present study conducted in Turkey. The results show that seven subscales except Connectedness to Teachers, Peers, and Self-in-the-Future have acceptable level of Cronbach's alpha value which is above  $\alpha = .70$  indicating these subscales have acceptable internal consistency. The alpha scores of the Connectedness to Teachers, Peers, Friends, and Self-in-the-Present subscales are lower than the same subscales' alpha scores in other cultures; however, the other six subscales present consistent alpha scores with other cultures. Additionally, the alpha values of Connectedness to Teachers and Peers are lower than the acceptable level for the internal consistency that is  $.70$ ; therefore, the following section will focus on Connectedness to Teachers and Peers subscales comprehensively. The potential cultural aspects that might have influence on the alpha scores will be explained in more detail as well in the following section.

Table 20

*Cronbach's (alpha) Internal Consistency of the Hemingway, T-MAC and Translations*

Scale Connectedness to	Culture			
	Turkey	US	Chile	Taiwan
Teachers	.50	.75	.76	.72
Peers	.57	.60	.73	.63
Self-in-the-Future	.69	.68	.77	.66
Friends	.73	.84	.84	.77
Self-in-the-Present	.74	.82	.77	.78
School	.79	.84	.63	.75
Parents	.81	.82	.89	.76
Neighborhood	.81	.84	.86	.63
Siblings	.89	.94	.88	.90
Reading	.91	.91	.86	.81

**Connectedness to Peers.** The results of the internal consistency for the T-MAC show that the Connectedness to Peers ( $\alpha = .57$ ) has the second lowest alpha score among all the ten subscales of the T-MAC. The Connectedness to Peers alpha score .57 also has the lowest score in the Turkish sample when compared to other cultures.

The Cronbach's alpha score for Connectedness to Peers ( $\alpha = .57$ ) subscale can be increased to  $\alpha = .69$  by deleting item 57 (I rarely argue or fight with the other kids in school) (See Tale 21). Deleting item-57 will increase reliability significantly for Connectedness to Peers subscale and it would almost reach the acceptable level of alpha value .70. Moreover, item 57 may not measure the same construct with the other items in the Connectedness to Peers subscale. The Cronbach's alpha presents how well the items are correlated to each other in a unidimensional scale (Connectedness to Peers scale) that measures the same construct, but it does not tell if the items are unidimensional. Therefore, the more advance test, Factor Analysis, need to be run to understand the loadings of the items in the Connectedness to Peers subscale and if the items are unidimensional; in other words, if they measure the same construct or not. After

this, it will be determined if item- 57 needs to be removed from the T-MAC scale completely or not.

As stated by Karcher and Sass (2010) this item has been reported as problematic in the validation studies of the MAC in other cultures and its original validation as well. The reason behind this issue is related to the using the two negative words together, so mostly this item has been misunderstood or misinterpreted by the participants. Because of this, it needs to be determined if there is a need for modifications for the wording and meaning for this item when used with a Turkish sample.

**Connectedness to Teachers.** The results of the internal consistency for the T-MAC show that the Connectedness to Teachers ( $\alpha = .50$ ) has the lowest alpha score among all the ten subscales of the T-MAC. Additionally, the Connectedness to Teachers subscale has the lowest alpha score with the value of .50 in comparison with other cultures (See Table 21).

The Cronbach's alpha score for Connectedness to Teachers ( $\alpha = .50$ ) subscale can be increased to  $\alpha = .65$  by deleting item 50 (I usually like my teachers) (See Tale 21). Although deleting item-50 will increase reliability significantly for Connectedness to Teachers subscale, it would not be enough to reach to the acceptable level of alpha value .70. Moreover, item 50 may not measure the same construct with the other items in the Connectedness to Teachers subscale. The Cronbach's alpha presents how well the items are correlated to each other in a unidimensional scale (Connectedness to Teachers scale) that measures the same construct, but it does not tell if the items are unidimensional. Therefore, the more advance test, Factor Analysis, need to be run to understand the loadings of the items in the Connectedness to Teachers subscale and if the items are unidimensional, in another word, if they measure the same construct or not.

Then, it will be determined if item- 50 needs to be removed from the T-MAC scale completely or not.

Table 21

*Reliability Analysis for Connectedness to Teachers and Peers Subscales of the T-MAC*

Scale	Item	M	SD	N	Corrected Item-Total Correlation	$\alpha$ if Item Deleted
<b>Peers</b>						
	7. My classmates often bother me	3.55	1.08	210	.37	.50
	17. I like almost all my peers at school	3.31	1.11	210	.40	.48
	27. I enjoy studying with my classmates	3.74	1.11	210	.21	.57
	37. I get along with my classmates	3.92	.93	210	.55	.43
	47. My classmates like me	4.05	.89	210	.50	.46
	57. I rarely argue or fight with the other kids in school	2.87	1.38	210	.01	.69
<b>Teachers</b>						
	8. I care about what my teachers think about me	4.37	.93	231	.40	.43
	18. I cannot get along with some of my teachers	3.48	1.36	231	.24	.47
	28. I want my teachers to respect me	4.51	.75	231	.12	.51
	38. I try to get along with my teachers	3.32	.85	231	.49	.41
	48. I try very hard to gain the trust of my teachers	3.98	1.09	231	.51	.37
	50. I usually like my teachers	4.29	2.78	231	.21	.65

It must be noted however, that deleting items may increase reliability yet decrease validity because in some cases an item being deleted is a better predictor of an underlying construct than the other items in the scale, or it alone correlates with a dimension of that construct such that it may not correlate with the other items highly but adds to the construct validity nevertheless. So, these analyses and assessments of improvements in internal consistency resulting from the removal of a specific item should not be inferred to mean that it is viewed as always a useful change to make.

## Validity Evidence

The Table 16 above shows correlation results between the mean scores of the Turkish version of the Measure of Adolescent Connectedness (T-MAC) Connectedness to Parents, Peers, Teachers, Schools, and Self-in-the-Present subscales and the Rosenberg Self-Esteem Scale (RSES), Inventory of Parent and Peer Attachment (IPPA), School Attachment Scale (SAS), and Social Anxiety Scale for Adolescents (SASA) subscales. The results for the convergent and discriminant validity evidence will be explained in detail in the following section.

**Convergent validity evidence.** Evidence of a statistically significant, positive correlation between the T-MAC subscales (Connectedness to Parents, Peers, Teachers, Schools, and Self-in-the-Present) and the corresponding scales were observed as following: T-MAC Connectedness to Parents subscale and Parent Attachment subscale of the IPPA showed strong size correlation ( $r = .64, p < .001$ ); T-MAC Connectedness to Peers subscale and Peers Attachment subscale of the IPPA showed medium size correlation ( $r = .40, p < .001$ ); T-MAC Connectedness to Teachers subscale and Attachment to Teachers subscale of SAS showed medium size correlation ( $r = .48, p < .001$ ); T-MAC Connectedness to Schools subscale and Attachment to School subscale of SAS showed strong size correlation ( $r = .63, p < .001$ ); and T-MAC Connectedness to Self-in-the-Present subscale and RSES showed strong size correlation ( $r = .51, p < .001$ ) (See Table17).

As Rubin and Babbie (2001) suggested that the correlation level of the scales that show the convergent validity evidence is strong (above  $r = .50$ ). Therefore, the Connectedness to Parents, School, and Self-in-the-Present subscales present sufficient convergent validity evidence. Moreover, these subscales are the best predictors in their correlations with corresponding scales.

The Connectedness to Teachers subscale with the correlation value of .48, on the other hand, is not the best predictor for its correlation with the Teachers Attachment subscale of the SAS because the Connectedness to Peers subscale of the T-MAC has the same level of correlation .48 and the Connectedness to School subscale of the T-MAC has even stronger correlation value as of .52 with Teachers Attachment subscale of the SAS. In addition, the Connectedness to Peers subscale with correlation value of .40 is not a best predictor for its correlation with the Peers Attachment subscale of the IPPA because this subscale has stronger correlation with other subscales including Connectedness to School ( $r = .52, p < .001$ ) subscale of the T-MAC and Teachers ( $r = .48, p < .001$ ) and School Attachment ( $r = .46, p < .001$ ); subscales of the SAS.

This suggests a “method variance” in which the construct and its assessment (connectedness) leads the scales to correlate higher than the domains which they assess. Similarly, Connectedness to Teachers and School subscales of the T-MAC correlates stronger than Connectedness to Teachers subscale of the T-MAC and Teachers Attachment subscale of the SAS. Also, Connectedness to Peers and Connectedness to School subscales of the T-MAC correlates stronger than Connectedness to Peers subscale of the T-MAC and Peers Attachment subscale of the IPPA. This suggests a lack of discriminant validity.

As Karcher (2011) stated that the Connectedness to Teachers subscale reflects adolescents’ relationship concerns they have with their teachers, the level of enjoyment when interacting with their teachers, and the level of affective involvement that they have with their teachers. Therefore, it is expected that the Connectedness to Teachers subscale correlates with the subscales of Connectedness to School and Peers of the T-MAC which can be seen on the Table 16 above with the strong size correlation of .52 between teachers, peers, and school

connectedness subscales. As such, the results provided support for T-MAC Connectedness to Parents, Schools, and Self-in-the-Present subscales, with the RSES, IPPA, and SAS demonstrating convergent validity evidence.

**Discriminant validity evidence.** The Table 16 above provides evidence of correlation between the mean scores of the Connectedness to Parents and Peers subscales of the T-MAC and SASA. Because the Connectedness to Parents and Peers subscales of the T-MAC and SASA have different theoretical frameworks and measure completely different constructs they should not correlate with each other. Evidence of statistically not significant, negative weak size correlation between these instruments was observed as following: T-MAC Connectedness to Parents and SASA ( $r = -.03$ ,  $p = .618$ ) and T-MAC Connectedness to Peers and SASA ( $r = -.07$ ,  $p = .271$ ).

As Rubin and Babbie (2001) stated that the correlation level of the scales that show the discriminant validity evidence is small ( $< .10$ ) for both two scales. Moreover, Connectedness to Parents and Peers subscales are the best predictors along with the Self-in-the-Present subscale rather than the other subscales of the T-MAC in their correlations with the SASA. The results provided support for T-MAC Connectedness to Parents and Peers subscales with the SASA demonstrating discriminant validity evidence overall.

### **Gender and Developmental Differences**

As mentioned above the Connectedness to Teachers and Peers subscales will be the focus in this section. Male students and middle school students have higher level of connectedness to teachers and peers than female and high school students in this present study (See Table 4). The reliability analysis for Connectedness to Peers and Teachers subscales of the T-MAC for

subsamples including male, female, middle and high school students will be discussed in detail below.

**Connectedness to Peers.** The reliability analysis for Connectedness to Peers subscale of the T-MAC for subsamples including male, female, middle and high school students will be explained in detail below.



Table 22

*Reliability Analysis for Connectedness to Peers Subscale of the T-MAC for Males, Females, Middle and High Schools*

Scale	Item	M	SD	N	Corrected Item-Total Correlation	$\alpha$ if Item Deleted
Male						
	7. My classmates often bother me	3.60	1.01	106	.39	.60
	17. I like almost all my peers at school	3.18	1.14	106	.46	.57
	27. I enjoy studying with my classmates	3.89	1.05	106	.41	.59
	37. I get along with my classmates	3.91	.91	106	.62	.53
	47. My classmates like me	4.15	.92	106	.60	.53
	57. I rarely argue or fight with the other kids in school	2.67	1.43	106	.01	.77
Female						
	7. My classmates often bother me	3.50	1.14	104	.35	.39
	17. I like almost all my peers at school	3.44	1.07	104	.35	.39
	27. I enjoy studying with my classmates	3.59	1.15	104	.04	.56
	37. I get along with my classmates	3.94	.95	104	.48	.34
	47. My classmates like me	3.95	.84	104	.40	.39
	57. I rarely argue or fight with the other kids in school	3.07	1.30	104	.03	.58
Middle School						
	7. My classmates often bother me	3.53	1.12	89	.32	.57
	17. I like almost all my peers at school	3.53	1.08	89	.55	.47
	27. I enjoy studying with my classmates	3.76	1.15	89	.38	.54
	37. I get along with my classmates	4.01	.95	89	.50	.50
	47. My classmates like me	4.14	.86	89	.48	.51
	57. I rarely argue or fight with the other kids in school	2.76	1.39	89	-.01	.73
High School						
	7. My classmates often bother me	3.57	1.05	121	.41	.45
	17. I like almost all my peers at school	3.14	1.11	121	.31	.50
	27. I enjoy studying with my classmates	3.73	1.08	121	.09	.59
	37. I get along with my classmates	3.86	.91	121	.60	.38
	47. My classmates like me	3.98	.90	121	.51	.42
	57. I rarely argue or fight with the other kids in school	2.95	1.37	121	.03	.65

The internal consistency for the items of Connectedness to Peers subscale for the subsamples are as follows: males ( $\alpha = .65$ ), females ( $\alpha = .50$ ), middle school students ( $\alpha = .60$ ),

and high school students ( $\alpha = .55$ ). The internal consistency value is highest for male and lowest for female participants. In addition to this, internal consistency is higher for male and middle school students than female and high school students for peer connectedness subscale as well as the total sample ( $\alpha = .57$ ).

*Male students.* Cronbach's alpha for the Connectedness to Peers Subscale of the T-MAC for male sample was found as ( $\alpha = .65$ ) which presents a "moderate" level of internal consistency between the items of this subscale. *Corrected item-total correlation* for this six-item scale yielded correlations (ranged between .01 and .62) between each item and the total subscale score. The correlation value of item 57 is smaller than .30 which is accepted as a cut-off point indicating adequate correlations between an item and the total subscale score (Field, 2005). The values of *Cronbach's alpha if item deleted* ranged between .52 and .77. This means that deleting some items make the alpha score greater than the subscale's overall Cronbach's alpha score of .65 (Field, 2005). As it is seen on the Table 22 above if the deletion of an item increases Cronbach's alpha score, this means that the deletion of that specific item (item-57) improves the reliability of the Connectedness to Peers subscale for male sample in this present study (See Table 22).

*Female students.* Cronbach's alpha for the Connectedness to Peers Subscale of the T-MAC for female sample was found as ( $\alpha = .50$ ) which presents a "moderate" level of internal consistency between the items of this subscale. *Corrected item-total correlation* for this six-item scale yielded correlations (ranged between .03 and .48) between each item and the total subscale score. The correlation values of items 27 and 57 are smaller than .30 which is accepted as a cut-off point indicating adequate correlations between an item and the total subscale score (Field, 2005). The values of *Cronbach's alpha if item deleted* ranged between .33 and .58. This means

that deleting some items make the alpha score greater than the subscale's overall Cronbach's alpha score of .50 (Field, 2005). As it is seen on the Table 22 above if the deletion of an item increases Cronbach's alpha score, this means that the deletion of that specific item (item- 27 and 57) improves the reliability of the Connectedness to Peers subscale for male sample in this present study (See Table 22).

*Middle school students.* Cronbach's alpha for the Connectedness to Peers Subscale of the T-MAC for middle school sample was found as ( $\alpha = .60$ ) which presents a "moderate" level of internal consistency between the items of this subscale. *Corrected item-total correlation* for this six-item scale yielded correlations (ranged between -.01 and .55) between each item and the total subscale score. The correlation value of item 57 is smaller than .30 which is accepted as a cut-off point indicating adequate correlations between an item and the total subscale score (Field, 2005). The values of *Cronbach's alpha if item deleted* ranged between .47 and .73. This means that deleting some items make the alpha score greater than the subscale's overall Cronbach's alpha score of .60 (Field, 2005). As it is seen on the Table 22 above if the deletion of an item increases Cronbach's alpha score, this means that the deletion of that specific item (item-57) improves the reliability of the Connectedness to Peers subscale for middle school sample in this present study (See Table 22).

*High school students.* Cronbach's alpha for the Connectedness to Peers Subscale of the T-MAC for high school sample was found as ( $\alpha = .55$ ) which presents a "moderate" level of internal consistency between the items of this subscale. *Corrected item-total correlation* for this six-item scale yielded correlations (ranged between -.03 and .60) between each item and the total subscale score. The correlation values of items 27 and 57 are smaller than .30 which is accepted as a cut-off point indicating adequate correlations between an item and the total subscale score

(Field, 2005). The values of *Cronbach's alpha if item deleted* ranged between .47 and .73. This means that deleting some items make the alpha score greater than the subscale's overall Cronbach's alpha score of .55 (Field, 2005). As it is seen on the Table 22 above if the deletion of an item increases Cronbach's alpha, this means that the deletion of that specific item (item-27 and 57) improves the reliability of the Connectedness to Peers subscale for high school sample in this present study (See Table 22).

Table 23

*Items correlations for Connectedness to Peers Subscale of the T-MAC for Males, Females, Middle and High Schools*

Demographics		Item 7	Item 17	Item 27	Item 37	Item 47	Item 57
Male	Item 7	1.00	.25	.22	.40	.40	.08
	Item17	.25	1.00	.35	.50	.50	-.01
	Item27	.22	.35	1.00	.46	.48	-.05
	Item37	.40	.50	.46	1.00	.62	.03
	Item47	.40	.50	.48	.62	1.00	-.04
	Item57	.08	-.01	-.05	.03	-.04	1.00
Female	Item 7	1.00	.24	.03	.40	.42	-.01
	Item17	.24	1.00	.03	.43	.28	.07
	Item27	.03	.03	1.00	-.03	-.01	.08
	Item37	.40	.44	.04	1.00	.61	.01
	Item47	.42	.28	-.01	.61	1.00	-.01
	Item57	-.01	.07	.08	.01	-.01	1.00
Middle School	Item 7	1.00	.32	.28	.21	.31	-.05
	Item17	.32	1.00	.33	.51	.48	.06
	Item27	.28	.33	1.00	.25	.37	.01
	Item37	.22	.52	.25	1.00	.54	.06
	Item47	.31	.48	.37	.54	1.00	-.12
	Item57	-.05	.06	.01	.06	-.12	1.00
High School	Item 7	1.00	.18	-.01	.55	.49	.01
	Item17	.18	1.00	.05	.41	.30	.06
	Item27	-.01	.05	1.00	.15	.16	-.01
	Item37	.55	.42	.15	1.00	.65	.01
	Item47	.49	.30	.16	.65	1.00	-.03
	Item57	.01	.06	-.01	.00	-.03	1.00

As consistent with the results for total sample, item-57 (I rarely argue or fight with the other kids in school) does not correlate well with the other five items of the Connectedness to

Peers subscale for all the subsamples as well (See Table 23). Moreover, deleting item-57 will increase reliability significantly for this subscale and it would almost reach to the acceptable level of alpha value .70, excluding female students. As mentioned above, this item has also been reported as problematic in the validation studies of the MAC in other cultures and its original validation study as well. This item is structured with two negative words and that is why it is mostly misunderstood or misinterpreted by the participants without showing any difference for gender and developmental level. Therefore, it needs to be determined if there is a need for modifications for the wording and meaning for this item or if it needs to be removed from the T-MAC completely. Additionally, item 27 (I enjoy studying with my classmates) also does not correlate well with the other five items of the Connectedness to Peers subscale for female and high school students (See Table 23). However, deleting item-27 will not increase reliability significantly for this subscale because it would not reach the acceptable level of alpha value .70 for these subsamples. The differences between the responds to item 27 might be explained with the cultural and social norms in Turkey as following:

From the gender perspective, females encounter more social and family pressure than males in Turkish culture. Females are more restricted to stay at home more often than males. Parents are more protective of their daughters and may limit their social lives. Males have more opportunities to go out and spend more time with their friends outside of the classroom. Furthermore, this cultural norm may result in a difference between males and females' responses to item 27.

From the developmental perspective, the biggest concern of high school students is to have a good score at the National Entrance Exam in Turkey. The students must pass this exam to be able to attend a university. This exam is held once a year; therefore, not only students but also

their parents are very cautious with their concentration and study habits. Also, competition may be a confounder during high school years. This may be a good reason to explain why high school students responded differently to item 27 than middle school students in this present study.

**Connectedness to Teachers.** The reliability analysis for Connectedness to Teachers subscale of the T-MAC for subsamples including Males, Females, Middle and High School students will be explained in detail below.

Table 24

*Reliability Analysis for Connectedness to Teachers Subscale of the T-MAC for Males, Females, Middle and High Schools*

Scale	Item	M	SD	N	Corrected Item-Total Correlation	$\alpha$ if Item Deleted
Male						
	8. I care about what my teachers think about me	4.44	.92	123	.44	.39
	18. I cannot get along with some of my teachers	3.54	1.38	123	.30	.41
	28. I want my teachers to respect me	4.56	.75	123	.15	.47
	38. I try to get along with my teachers	4.34	.92	123	.49	.38
	48. I try very hard to gain the trust of my teachers	4.04	1.18	123	.47	.35
	50. I usually like my teachers	4.50	3.72	123	.20	.71
Female						
	8. I care about what my teachers think about me	4.28	.95	108	.35	.54
	18. I cannot get along with some of my teachers	3.41	1.35	108	.15	.67
	28. I want my teachers to respect me	4.47	.74	108	.06	.64
	38. I try to get along with my teachers	4.29	.75	108	.53	.49
	48. I try very hard to gain the trust of my teachers	3.92	.97	108	.64	.41
	50. I usually like my teachers	4.04	.81	108	.41	.53
Middle School						
	8. I care about what my teachers think about me	4.38	.95	97	.50	.62
	18. I cannot get along with some of my teachers	3.63	1.39	97	.27	.74
	28. I want my teachers to respect me	4.43	.83	97	.13	.73
	38. I try to get along with my teachers	4.39	.85	97	.61	.59
	48. I try very hard to gain the trust of my teachers	4.27	.93	97	.64	.58
	50. I usually like my teachers	4.29	.79	97	.52	.63
High School						
	8. I care about what my teachers think about me	4.36	.92	134	.36	.37
	18. I cannot get along with some of my teachers	3.37	1.34	134	.24	.40
	28. I want my teachers to respect me	4.58	.67	134	.14	.44
	38. I try to get along with my teachers	4.27	.84	134	.45	.36

Table 24 *Continued.*

Item	M	SD	N	Corrected Item-Total Correlation	$\alpha$ if Item Deleted
48. I try very hard to gain the trust of my teachers	3.77	1.14	134	.47	.31
50. I usually like my teachers	4.28	3.59	134	.20	.66

The internal consistency for the items of Connectedness to Teachers subscale for the subsamples are as following: male ( $\alpha = .48$ ), female ( $\alpha = .60$ ), middle school ( $\alpha = .69$ ), and high school ( $\alpha = .45$ ). The internal consistency value is highest for the middle school students and lowest for high school students for teacher connectedness. Additionally, internal consistency is higher for female and middle school students than male and high school students for Connectedness to Teachers subscale as well as the total sample ( $\alpha = .50$ ).

*Male students.* Cronbach's alpha for the Connectedness to Teachers Subscale of the T-MAC for male sample was found as ( $\alpha = .48$ ) which presents a "moderate" level of internal consistency between the items of this subscale. *Corrected item-total correlation* for this six-item scale yielded correlations (ranged between .15 and .49) between each item and the total subscale score. The correlation values of items 28 and 50 are smaller than .30 which is accepted as a cut-off point indicating adequate correlations between an item and the total subscale score (Field, 2005). The values of *Cronbach's alpha if item deleted* ranged between .39 and .71. This means that deleting some items make the alpha score greater than the subscale's overall Cronbach's alpha score of .48 (Field, 2005). As it is seen on the Table 24 above if the deletion of an item increases Cronbach's alpha, this means that the deletion of that specific item (item-50) improves the reliability of the Connectedness to Teachers subscale for male sample in this present study (See Table 24).



*Female students.* Cronbach's alpha for the Connectedness to Teachers Subscale of the T-MAC for female sample was found as ( $\alpha = .60$ ) which presents a "moderate" level of internal consistency between the items of this subscale. *Corrected item-total correlation* for this six-item scale yielded correlations (ranged between .06 and .64) between each item and the total subscale score. The correlation values of items 18 and 28 are smaller than .30 which is accepted as a cut-off point indicating adequate correlations between an item and the total subscale score (Field, 2005). The values of *Cronbach's alpha if item deleted* ranged between .40 and .67. This means that deleting some items make the alpha score greater than the subscale's overall Cronbach's alpha score of .60 (Field, 2005). As it is seen on the Table 24 above if the deletion of an item increases Cronbach's alpha, this means that the deletion of that specific item (item-18 and 28) improves the reliability of the Connectedness to Teachers subscale for female sample in this present study (See Table 24).

*Middle school students.* Cronbach's alpha for the Connectedness to Teachers Subscale of the T-MAC for middle school sample was found as ( $\alpha = .69$ ) which presents a "moderate" level of internal consistency between the items of this subscale. *Corrected item-total correlation* for this six-item scale yielded correlations (ranged between .13 and .64) between each item and the total subscale score. The correlation values of items 18 and 28 are smaller than .30 which is accepted as a cut-off point indicating adequate correlations between an item and the total subscale score (Field, 2005). The values of *Cronbach's alpha if item deleted* ranged between .57 and .73. This means that deleting some items make the alpha score greater than the subscale's overall Cronbach's alpha score of .69 (Field, 2005). As it is seen on the Table 24 above if the deletion of an item increases Cronbach's alpha, this means that the deletion of that specific item

(item-18 and 28) improves the reliability of the Connectedness to Teachers subscale for middle school sample in this present study (See Table 24).

*High school students.* Cronbach's alpha for the Connectedness to Teachers Subscale of the T-MAC for high school sample was found as ( $\alpha = .45$ ) which presents a "moderate" level of internal consistency between the items of this subscale. *Corrected item-total correlation* for this six-item scale yielded correlations (ranged between .14 and .47) between each item and the total subscale score. The correlation values of items 18, 28, and 50 are smaller than .30 which is accepted as a cut-off point indicating adequate correlations between an item and the total subscale score (Field, 2005). The values of *Cronbach's alpha if item deleted* ranged between .31 and .66. This means that deleting some items make the alpha score greater than the subscale's overall Cronbach's alpha score of .45 (Field, 2005). As it is seen on the Table 24 above if the deletion of an item increases Cronbach's alpha, this means that the deletion of that specific item (item-50) improves the reliability of the Connectedness to Teachers subscale for high school sample in this present study (See Table 24).

Table 25

*Items correlations for Connectedness to Teachers Subscale of the T-MAC for Males, Females, Middle and High Schools*

Demographics		Item 8	Item 18	Item 28	Item 38	Item 48	Item 50
Male	Item 8	1.00	.29	.17	.67	.61	.12
	Item 18	.29	1.00	-.03	.36	.32	.15
	Item 28	.16	-.03	1.00	.20	.16	.01
	Item 38	.67	.36	.20	1.00	.64	.14
	Item 48	.61	.32	.16	.64	1.00	.18
	Item 50	.12	.15	.01	.14	.18	1.00
Female	Item 8	1.00	.07	.19	.31	.38	.21
	Item 18	.07	1.00	-.13	.16	.27	.10
	Item 28	.19	-.13	1.00	.12	.14	-.04
	Item 38	.31	.16	.12	1.00	.54	.47
	Item 48	.38	.27	.14	.54	1.00	.54
	Item 50	.21	.10	-.04	.47	.54	1.00
Middle School	Item 8	1.00	.24	.21	.47	.47	.29
	Item 18	.24	1.00	-.06	.23	.29	.24
	Item 28	.21	-.06	1.00	.12	.15	.12
	Item 38	.47	.23	.13	1.00	.65	.55
	Item 48	.47	.29	.15	.65	1.00	.53
	Item 50	.29	.24	.12	.55	.53	1.00
High School	Item 8	1.00	.15	.16	.55	.56	.11
	Item 18	.15	1.00	-.07	.31	.30	.13
	Item 28	.16	-.07	1.00	.22	.21	.09
	Item 38	.55	.31	.22	1.00	.59	.13
	Item 48	.56	.30	.21	.59	1.00	.19
	Item 50	.11	.13	.08	.13	.19	1.00

The reliability analysis for subsamples for the Connectedness to Teachers subscale do not show overall consistency with the total sample in this present study. Only item 18 (I want my teachers to respect me) fails to correlate well with the other five items in the subsamples in this subscale that shows consistency with the total sample (See Table 25). However, deleting item-18 will not increase reliability significantly for this subscale and it would not reach to the acceptable level of alpha value .70 except middle school students. The other two items that do not correlate well with the other items of the subscale are items 18 and 50 for different subsamples. From gender perspective, item-50 (I like my teachers) does not correlate well with the other items of

the subscale for male students (See Table 25). Additionally, deleting item-50 will increase reliability significantly for this subscale and it would reach the acceptable level of alpha value .70. On the other hand, this item correlates well with the other five items for the female sample in the Connectedness to Teachers subscale. From the developmental differences perspective, items 18 (I cannot get along with some of my teachers) and 28 (I want my teachers to respect me) do not correlate well with the other items in the Connectedness to Teachers subscale for both middle and high school students. However, it only increases reliability significantly for this subscale for middle school students by deleting these items and it would reach to the acceptable level of alpha value .70. It is important to indicate that item 50 also does not correlate well with the other items in this subscale for high school students. Although deleting this item will increase reliability significantly it would not reach to the acceptable level of alpha value .70. The differences between the responds to item 27 might be explained with the cultural and social norms in Turkey as following:

From the gender perspective, males want to be viewed as more independent than females in Turkish culture. Males overall are more associated with toughness, leadership, and masculine. There is a power-distance issue in Turkey that teachers always have their guards up and have an authoritative role. Although male students care what their teachers think of them, want their teachers to respect them, try to get along with their teachers, and want to gain their teachers' trust they responded on item 50 differently than females because they may not want to be viewed as weak since the item is about liking their teachers.

From the developmental perspective, students mostly show less favorable love for their teachers and they usually do not get along well with them when they get older. High school students want to be more independent and their identities are being built for adulthood.

Therefore, they may have more conflicts with authoritative figures in their daily lives such as their parents and teachers. The high school students go through a very critical period of puberty, so it might be another reason that high school students responded to item 50 differently compared to middle school students.

The validity analysis for five subscales of the T-MAC (Connectedness to School, Parents, Peers, Teachers, and Self-in-the-Present) for subsamples including male, female, middle and high school students will be explained in detail below.

**Connectedness to School.** The validity analysis for Connectedness to School subscale of the T-MAC across gender and developmental level will be explained in detail below.

*Gender.* The connectedness to School subscale of the T-MAC is the best predictor in its correlation with the School Attachment subscale of the SAS for both male and female subsamples. There is a statistically significant positive strong correlation between the Connectedness to School subscale of the T-MAC and the School Attachment subscale of the SAS for male ( $r = .65, p < .001$ ) and female ( $r = .60, p < .001$ ) subsamples. Like the measure used with adolescents in the US (Karcher & Sass, 2010) validity evidence shows comparable results (within .15 difference) across gender for Connectedness to School subscale of the T-MAC.

*Developmental level.* The connectedness to School subscale of the T-MAC is the best predictor in its correlation with the School Attachment subscale of the SAS for both middle and high school student samples. There is a statistically significant positive strong correlation between the Connectedness to School subscale of the T-MAC and the School Attachment subscale of the SAS for middle school students sample ( $r = .72, p < .001$ ) and high school students ( $r = .54, p < .001$ ) subsamples. Unlike the measure used with adolescents in the US

(Karcher & Sass, 2010) validity evidence does not show comparable results (within .15 difference) across developmental level for Connectedness to School subscale of the T-MAC.

**Connectedness to Teachers.** The validity analysis for Connectedness to Teachers subscale of the T-MAC across gender and developmental level will be explained in detail below.

*Gender.* There is a statistically significant positive strong correlation between the Connectedness to Teachers subscale of T-MAC and Teacher Attachment subscale of the SAS for female subsample ( $r = .56, p < .001$ ). Although the Connectedness to Teachers subscale of the T-MAC is the best predictor in its correlation with the Teacher Attachment subscale of the SAS for female sample it is not for male subsample ( $r = .46, p < .001$ ). The Connectedness to School ( $r = .63, p < .001$ ) and Peers ( $r = .48, p < .001$ ) subscales of the T-MAC also have statistically significant positive and even stronger correlations with the Teacher Attachment subscale of the SAS than the Connectedness to Teachers subscale of the T-MAC for males. It suggests lack of discriminant validity evidence for this subscale for male subsample. In addition, like the measure used with adolescents in the US (Karcher & Sass, 2010) validity evidence shows comparable results (within .15 difference) across gender for Connectedness to Teachers subscale of the T-MAC.

*Developmental level.* There is a statistically significant positive strong correlation between the Connectedness to Teachers subscale of T-MAC and Teacher Attachment subscale of the SAS for middle school students subsample ( $r = .70, p < .001$ ). Although the Connectedness to Teachers subscale of the T-MAC is the best predictor in its correlation with the Teacher Attachment subscale of the SAS for middle school students sample, it is not for high school students sample ( $r = .37, p < .001$ ). The Connectedness to School ( $r = .49, p < .001$ ) and Connectedness to Peers ( $r = .39, p < .001$ ) subscales of the T-MAC also have statistically

significant positive and even stronger correlations with the Teacher Attachment subscale of the SAS than the Connectedness to Teacher subscale of the T-MAC for high school students sample. It suggests lack of discriminant validity evidence for this subscale for high school students sample. In addition, unlike the measure used with adolescents in the US (Karcher & Sass, 2010) validity evidence does not show comparable results (within .15 difference) across developmental level for Connectedness to Teachers subscale of the T-MAC.

As Karcher (2011) stated that the Connectedness to Teachers subscale reflects adolescents' relationship concerns they have with their teachers, the level of enjoyment when interacting with their teachers, and the level of affective involvement that they have with their teachers. Therefore, it is expected that the Connectedness to Teachers subscale correlates with the subscales of Connectedness to School and Peers of the T-MAC which can be seen on the Table 16 above with the correlation of .52 between teachers, peers, and school connectedness subscales. As such, the results provided support for T-MAC Connectedness to Teachers with the SAS demonstrating convergent validity evidence overall.

**Connectedness to Self-in-the-Present.** The validity analysis for Connectedness to Self-in-the-Present subscale of the T-MAC for subsamples including male, female, middle and high school students will be explained in detail below.

*Gender.* The connectedness to Self-in-the-Present subscale of the T-MAC is the best predictor in its correlation with the Self-Esteem subscale of the RSES for both male and female subsamples. There is a statistically significant positive strong correlation between the Connectedness to Self-in-the-Present subscale of T-MAC and the Self-Esteem subscale of the RSES for female subsample ( $r = .64, p < .001$ ) and a statistically significant positive medium correlation for male subsample ( $r = .42, p < .001$ ). In addition, unlike the measure used with

adolescents in the US (Karcher & Sass, 2010) validity evidence does not show comparable results (within .15 difference) across gender for Connectedness to Self-in-the-Present subscale of the T-MAC.

*Developmental level.* The connectedness to Self-in-the-Present subscale of the T-MAC is the best predictor in its correlation with the Self-Esteem subscale of the RSES for both middle and high school subsamples. There is a statistically significant positive strong correlation between the Connectedness to Self-in-the-Present subscale of T-MAC and the Self-Esteem subscale of the RSES for middle ( $r = .55, p < .001$ ) and high school ( $r = .50, p < .001$ ) subsamples. In addition, like the measure used with adolescents in the US (Karcher & Sass, 2010) validity evidence shows comparable results (within .15 difference) across developmental level for Connectedness to Self-in-the-Present subscale of the T-MAC.

**Connectedness to Parents.** The validity analysis for Connectedness to Parents subscale of the T-MAC for subsamples including male, female, middle and high school students will be explained in detail below.

*Gender.* The connectedness to Parents subscale of the T-MAC is the best predictor in its correlation with the Parents Attachment subscale of the IPPA for both male and female subsamples. There is a statistically significant positive strong correlation between the Connectedness to Parents subscale of T-MAC and the Parents Attachment subscale of the IPPA for male ( $r = .68, p < .001$ ) and for female ( $r = .60, p < .001$ ) subsamples. In addition, like the measure used with adolescents in the US (Karcher & Sass, 2010) validity evidence shows comparable results (within .15 difference) across gender for Connectedness to Parents subscale of the T-MAC.



*Developmental level.* The connectedness to Parents subscale of the T-MAC is the best predictor in its correlation with the Parents Attachment subscale of the IPPA for both middle and high school student subsamples. There is a statistically significant positive strong correlation between the Connectedness to Parents subscale of T-MAC and the Parents Attachment subscale of the IPPA for high school ( $r = .71, p < .001$ ) and for middle school student ( $r = .50, p < .001$ ) subsamples. In addition, unlike the measure used with adolescents in the US (Karcher & Sass, 2010) validity evidence does not show comparable results (within .15 difference) across developmental level for Connectedness to Parents subscale of the T-MAC.

The Connectedness to Parents is also reported as not the best predictor for its correlation with the Social Anxiety Scale for Adolescents (SASA) for all the subsamples. There is no statistically significant but rather a weak correlation between the Connectedness to Parents and the SASA for three subsamples except the high school students ( $r = -.20, p < .001$ ).

**Connectedness to Peers.** The validity analysis for Connectedness to Peers subscale of the T-MAC for subsamples including male, female, middle and high school students will be explained in detail below.

*Gender.* The Connectedness to Peers subscale of the T-MAC is the best predictor in its correlations with the Peer Attachment subscale of the Inventory of Parent and Peer Attachment (IPPA) for female ( $r = .45, p < .001$ ), but not for male subsample ( $r = .37, p < .001$ ). The Connectedness to Parents ( $r = .38, p < .001$ ) subscale of the T-MAC also has a statistically significant positive and even stronger correlation with the Peer Attachment subscale of the IPPA than the Connectedness to Peers subscale of the T-MAC for males. This suggests lack of discriminant validity evidence for this subscale for male subsample. In addition, like the measure

used with adolescents in the US (Karcher & Sass, 2010) validity evidence shows comparable results (within .15 difference) across gender for Connectedness to Peers subscale of the T-MAC.

*Developmental level.* The Connectedness to Peers subscale of the T-MAC is the best predictor in its correlations with the Peer Attachment subscale of the Inventory of Parent and Peer Attachment (IPPA) for middle school students ( $r = .39, p < .001$ ), but not for high school students subsample ( $r = .40, p < .001$ ). The Connectedness to Parents ( $r = .40, p < .001$ ) subscale of the T-MAC also has a statistically significant positive and same level correlation with the Peer Attachment subscale of the IPPA for high school students. This suggests lack of discriminant validity evidence for this subscale for high school students subsample. In addition, like the measure used with adolescents in the US (Karcher & Sass, 2010) validity evidence shows comparable results (within .15 difference) across developmental level for Connectedness to Peers subscale of the T-MAC.

As Karcher (2011) stated that the Connectedness to Peers subscale reflects adolescents' social connectedness. Because of the nature of this group they are expected to have close relationships with their teachers, school, and parents. Therefore, it is expected that the Connectedness to Peers subscale correlates well with the Connectedness to Parents subscale of the T-MAC which can be seen on the Table 17 above with the correlation of .40 between these two connectedness subscales. As such, the results provided support for T-MAC Connectedness to Peers subscale with the IPPA demonstrating convergent validity evidence overall.

The Connectedness to Peers is also reported as not the best predictor for its correlation with the Social Anxiety Scale for Adolescents (SASA) for all the subsamples. There is no statistically significant but rather a weak correlation between the Connectedness to Peers and the SASA for three subsamples except the high school students ( $r = -.23, p < .001$ ).

## Tested Hypotheses

Finally, the hypotheses tested in this present study that are shown at the Table 26 below will be explained in detail in the following section.

Table 26

Hypotheses	Expectations	Results
It is expected that the T-MAC would show statistically significant positive correlation with the Turkish School Attachment Scale that demonstrated convergent validity evidence. Furthermore, school connectedness subscale of the T-MAC is expected to demonstrate higher statistically significant positive correlation with the Turkish SAS than other subscales of the T-MAC.	Positive Significant Correlation	Partially Supported
It is expected that the T-MAC would show statistically significant positive correlation with the Turkish version of the Self-Esteem Scale that demonstrated convergent validity evidence. Also, Self-in-the-Present subscale of the T-MAC is expected to demonstrate higher statistically significant positive correlation with the Turkish SES than other subscales of the T-MAC.	Positive Significant Correlation	Supported
It is expected that the T-MAC would show statistically significant positive correlations with the Inventory of Parent and Peer Attachment that demonstrated convergent validity evidence for the Connectedness to Parents and Peers scale. Peer subscale of the T-MAC is expected to show higher statistically significant positive correlation with the peer subscale of the Inventory of Parent and Peer Attachment than the parent scale. But these two connectedness subscales are expected to both correlate more highly with the Parent and Peer Attachment surveys than the School Attachment or Self-Esteem measures, and this served as evidence of discriminant validity.	Positive Significant Correlation	Partially Supported
It is expected that the T-MAC would show weak correlation with the Social Anxiety Scale for Adolescents that demonstrated discriminant validity evidence because these two instruments measure two different constructs that is why they were not highly correlated.	Negative Correlation	Supported
The T-MAC is expected, like the measure used with adolescents in the US (Karcher & Sass, 2010), to yield reliability (and for the five with corresponding translated scales, validity) evidence that is comparable (within .15 difference) across sex and age groups.	Positive Significant Correlation	Partially Supported
It is expected that the total scale T-MAC and its ten subscales will have high internal consistency estimates.	High Internal Consistency	Partially Supported

*Hypothesis:* The first hypothesis tested expected that the T-MAC would show statistically significant positive correlation with the Turkish School Attachment Scale that demonstrated convergent validity evidence. Furthermore, school connectedness subscale of the T-MAC is expected to demonstrate higher statistically significant positive correlation with the Turkish SAS than other subscales of the T-MAC.

*Results:* As expected the T-MAC Connectedness to Schools subscale and Attachment to School subscale of SAS showed statistically significant positive strong correlation ( $r = .625$ ,  $p < .001$ ) and it demonstrated higher statistically significant positive correlation with the Turkish SAS than other subscales of the T-MAC. Therefore, this hypothesis was supported by the results of this study.

*Hypothesis:* It is expected that the T-MAC would show statistically significant positive correlation with the Turkish version of the Self-Esteem Scale that demonstrated convergent validity evidence. Also, Self-in-the-Present subscale of the T-MAC is expected to demonstrate higher statistically significant positive correlation with the Turkish SES than other subscales of the T-MAC.

*Results:* As expected the T-MAC Connectedness to Self-in-the-Present subscale and RSES showed statistically significant positive strong correlation ( $r = .512$ ,  $p < .001$ ) and it demonstrated higher statistically significant positive correlation with the Turkish SES than other subscales of the T-MAC. Therefore, this hypothesis was supported by the results of this study.

*Hypothesis:* It is expected that the T-MAC would show statistically significant positive correlations with the Inventory of Parent and Peer Attachment that demonstrated convergent validity evidence for the Connectedness to Parents and Peers scale. Peer subscale of the T-MAC is expected to show higher statistically significant positive correlation with the peer subscale of

the Inventory of Parent and Peer Attachment than the parent scale. But these two connectedness subscales are expected to both correlate more highly with the Parent and Peer Attachment surveys than the School Attachment or Self-Esteem measures, and this served as evidence of discriminant validity.

*Results:* This hypothesis was partially supported by this study because the T-MAC Connectedness to Parents subscale and Parent Attachment subscale of the IPPA showed statistically significant positive strong correlations ( $r = .640, p < .001$ ); however, the T-MAC Connectedness to Peers subscale and Peers Attachment subscale of the IPPA showed statistically significant positive medium correlations ( $r = .395, p < .001$ ). In addition, although the T-MAC Connectedness to Parents subscale correlated more highly with the Inventory of Parent and Peer Attachment than the School Attachment or Self-Esteem measures, the T-MAC Connectedness to Peers subscale correlated more highly with the Connectedness to School ( $r = .52, p < .001$ ) subscale of the T-MAC and Teachers ( $r = .48, p < .001$ ) and School Attachment ( $r = .46, p < .001$ ); subscales of the SAS than the Inventory of Parent and Peer Attachment. This suggests lack of discriminant validity evidence for the Connectedness to Peers subscale of the T-MAC.

*Hypothesis:* It is expected that the T-MAC would show weak correlation with the Social Anxiety Scale for Adolescents that demonstrated discriminant validity evidence because these two instruments measure two different constructs that is why they were not highly correlated.

*Results:* As expected evidence of statistically not significant, rather a negative weak correlation between these instruments was observed as following: T-MAC Connectedness to Parents and SASA ( $r = -.032, p = .618$ ) and T-MAC Connectedness to Peers and SASA ( $r = -.071, p = .271$ ). Therefore, this hypothesis was supported by the results of this study.

*Hypothesis:* The T-MAC is expected, like the measure used with adolescents in the US (Karcher & Sass, 2010), to yield reliability (and for the five with corresponding translated scales, validity) evidence that is comparable (within .15 difference) across sex and age groups.

*Results:* The reliability evidence showed comparable results (within .15 difference) across gender for all subscales except the Connectedness to Peers subscale. In addition, the Connectedness to Teachers, Self-in-the-Present, Self-in-the-Future, and Reading subscales did not show comparable results across developmental level of the participants. The validity evidence showed comparable results (within .15 difference) across gender for all the five subscales tested for convergent and discriminant validity evidence except the Connectedness to Self-in-the-Present subscale and does not show comparable results across developmental level for Connectedness to School, Teachers, and Parents subscales of the T-MAC.

*Hypothesis:* It is expected that the total scale T-MAC and its ten subscales will have high internal consistency estimates.

*Results:* This hypothesis was partially supported since three subscales of the T-MAC (Connectedness to Peers, Teachers, and Self-in-the-Future) did not show acceptable alpha value ( $\alpha > .70$ ) that was a criterion set by this study.

In the light of the above psychometric properties of the T-MAC, the Connectedness to School, Parents, and Self-in-the-Present subscales show a strong and highly significant internal consistency between the items. These three subscales also present statistically significant positive strong correlations with the corresponding scales (SAS, RSES, and IPPA) mentioned in the previous section; therefore, these are reliable and effective scales to measure school, parent, and self-connectedness level of adolescents in Turkey.

Moreover, Connectedness to Reading, Neighborhood, Siblings, and Friends show strong and highly significant internal consistency between the items, so these are reliable scales; however, future studies need to show validity evidence for these subscales to demonstrate if these scales are effective to measure reading, neighborhood, siblings, and friend connectedness level of adolescents respectively in Turkey. The Connectedness to Self-in-the-Future subscale shows moderate level of internal consistency between its items; therefore, it is a reliable scale, but the future studies need to demonstrate validity evidence to see if this subscale is effective to measure self-connectedness level of adolescents in Turkey. The Connectedness to Peers and Teachers subscales, on the other hand, present low level of internal consistency for their items and statistically significant positive medium size of correlation with the corresponding scales mentioned in the previous section. Therefore, the reliability might need to be increased for these two subscales by deleting the items of the scale that might increase the Coefficient alpha scores significantly.

## **Chapter Five: Summary, Limitations, Implications, and Recommendations**

### **Summary**

Increasing academic, social, emotional, behavioral, and health issues among Turkish adolescents lead researchers and educators to better understand and conceptualize adolescent connectedness because it provides better academic, behavioral, and emotional outcomes and it is a very significant protective factor for several health risk issues as well. However, there is a serious lack of assessment instruments to evaluate connectedness in Turkey. Therefore, it is very difficult for mental health professionals to reliably evaluate the level of connectedness in Turkey. The Hemingway: *Measure of Adolescent Connectedness* (MAC) (Karcher, 2001) is one of the few assessment tools to measure connectedness levels of adolescents comprehensively.

The current study used a quantitative methodology to create and determine validity evidence of the Turkish-Measure of Adolescent Connectedness (T-MAC) with group of Turkish adolescents (6 through 12 grades). Turkish researchers, administrators, and school counselors may benefit from reliability tests of this Turkish version of the MAC when measuring connectedness levels of adolescents and/or when studying and applying peer helping or mentoring programs as well. This chapter presents the research questions, a summary of the methods used in this study, the conclusions based on the results obtained, the implications of the findings, and the recommendations associated with each research question formulated in this research for further studies.

This quantitative study utilized non-experimental cross-sectional survey methodology. The Turkish translation of the MAC and four Turkish translated and validated assessments of corresponding constructs including Rosenberg Self Esteem Scale (RSES), School Attachment Scale (SAS), The Inventory of Peer and Parent Attachment (IPPA), and Social Anxiety Scale for



Adolescents (SASA) were administered to 245 Turkish adolescents (6th to 12th grades) to ascertain the psychometric properties of the T-MAC.

The purpose of the study was to estimate the reliability and validity evidence for the T-MAC's in terms of its use to differentiate abstract characteristics in terms of specific items used to measure an affect, belief or behavior (American Psychological Association, 1999). Construct validity evidence was estimated in two ways; first, to determine internal item consistency of all the subscales of T-MAC Cronbach's Coefficient alpha computed using SPSS. Also, to estimate how strongly similar and dissimilar constructs were related to determine the convergent and validity evidence for the five subscales including the Connectedness to School, Parents, Peers, Teachers, and Self-in-the-Present of the T-MAC the Pearson correlation test computed using SPSS.

## **Results**

The total number of the respondents to this study was 245 Turkish students from three high schools and two middle schools. There were 130 (53.1%) males and 115 (46.9%) females that participated in this study. The participants were grouped into seven education levels from 6th to 12th grade. Most of the participants were high school students 142 (58%); however, 7th graders which made up 46 students in this study (18.8%) showed the highest participation among all the seven groups. Only 13 participants (1 father, 7 mother, and 5 others) out of the total sample were reported that they do not live with their both parents.

The participants are more connected to their parents, future self, teachers, and friends; on the other hand, less connected to their neighborhood, peers, and reading. On the other hand, they are more attached to their peers than their teachers and school; and more attached to their mothers than their peers and fathers. Male participants have higher connectedness to friends,

school, peers, teachers, Self-in-the-Future, and reading whereas female participants show higher level of connectedness to neighborhood, Self-in-the-Present, parents, and siblings. Additionally, middle school students have higher connectedness levels than high school students for all the domains except connectedness to friends.

The alpha score for the T-MAC total scale was  $\alpha = .90$  and for the subscales: neighborhood ( $\alpha = .81$ ), friends ( $\alpha = .73$ ), Self-in-the-Present ( $\alpha = .73$ ), parents ( $\alpha = .81$ ), siblings ( $\alpha = .88$ ), school ( $\alpha = .79$ ), peers ( $\alpha = .57$ ), teachers ( $\alpha = .50$ ), Self-in-the-Future ( $\alpha = .69$ ), and for reading ( $\alpha = .91$ ).

### **Research Questions**

**The First Main Question.** This question aimed to examine internal consistency between the items for each subscale of the T-MAC. This question was answered by the analysis of internal consistency reliability of the total scale and the ten subscales. The reliability estimates show that seven subscales except Connectedness to Teachers, Peers, and Self-in-the-Future have an acceptable level of Cronbach's alpha value which is .70. The alpha scores of the Connectedness to Teachers, Peers, Friends, and Self-in-the-Present subscales are lower than the same subscales' alpha scores in its validation studies in other cultures; however, the other six subscales present consistent alpha scores with other cultures.

The Connectedness to Teachers and Peers subscales show less internal consistency between their items than the other subscales of the T-MAC. The Cronbach's alpha score for Connectedness to Peers ( $\alpha = .57$ ) subscale can be increased to  $\alpha = .69$  by deleting item 57 (I rarely argue or fight with the other kids in school). Deleting item-57 will increase reliability significantly for Connectedness to Peers subscale and it would almost reach to the acceptable level of alpha value .70. This result shows consistency with the MAC's original validation study

and studies in the cultures as well. In addition to this, the Cronbach's alpha score for Connectedness to Teachers ( $\alpha = .50$ ) subscale can be increased to  $\alpha = .65$  by deleting item 50 (I usually like my teachers). Although deleting item-50 will increase reliability significantly for Connectedness to Teachers subscale, it would not be enough to reach to the acceptable level of alpha value .70.

**The second main research question.** It aimed to examine the convergent and discriminant validities of five subscales including the Connectedness to School, Parents, Peers, Teachers, and Self-in-the-Present of the T-MAC.

**Convergent Validity Evidence:** It aimed to examine the convergent validity of five subscales including the Connectedness to School, Parents, Peers, Teachers, and Self-in-the-Present of the T-MAC. This question was answered by the Pearson correlation of the five T-MAC subscales (Connectedness to School, Teachers, Parents, Peers, and Self-in-the-Present) and corresponding scales (Attachment to School and Teachers subscales of the SAS; Attachment to Parents and Peers subscales of the IPPA; and Self-Esteem subscale of the RSES) respectively.

As Rubin and Babbie (2001) suggested that the correlation level of the scales that show the convergent validity evidence is strong (.50) for all scales. Moreover, Connectedness to Parents, Peers, Schools, and Self-in-the-Present subscales are the best predictors in their correlations with corresponding scales. The Connectedness to Teachers subscale with correlation value of .48, on the other hand, is not a best predictor for its correlation with the Teachers Attachment subscale of the SAS because the Connectedness to Peers subscale of the T-MAC has the same strong level of correlation .48 and the Connectedness to School subscale of the T-MAC has even stronger correlation value as of .56 with the Teachers Attachment subscale of the SAS. As such, the results provided support for T-MAC Connectedness to Parents, Peers, Teachers,

Schools, and Self-in-the-Present subscales, with the RSES, IPPA, and SAS demonstrating convergent validity evidence overall.

**Discriminant Validity Evidence:** It aimed to examine the discriminant validity of two subscales including the Connectedness to Parents and Peers of the T-MAC. This question was answered by the Pearson correlation of the two T-MAC subscales (Connectedness to Parents and Peers) and corresponding scale (Turkish translated Social Anxiety Scale for Adolescents).

As Rubin and Babbie (2001) suggested that the correlation level of the scales that show the discriminant validity evidence is weak (.10) for both scales. Moreover, Connectedness to Parents and Peers subscales are the best predictors along with the Self-in-the-Present subscale than the other subscales of the T-MAC in their correlations with the SASA. As such, the results provided support for T-MAC Connectedness to Parents and Peers subscales with the SASA demonstrating discriminant validity evidence overall.

The second part of the second main research question aimed to examine the validity evidence across gender and developmental differences of five subscales including the Connectedness to School, Parents, Peers, Teachers, and Self-in-the-Present of the T-MAC. To answer this question a Pearson correlation test was computed for each subsample of this present study.

From the gender perspective, the results show that there is a statistically significant positive correlation between the Connectedness to School subscale of the T-MAC and Attachment to School subscale of the SAS showed strong size correlation ( $r = .65, p < .001$ ), Connectedness to Teachers subscale of the T-MAC and Attachment to Teachers subscale of the SAS showed medium size correlation ( $r = .46, p < .001$ ), Connectedness to Peers subscale and the Peers Attachment subscale of the IPPA showed medium size correlation ( $r = .37, p < .001$ ),

Connectedness to Parents subscale and the Parent Attachment subscale of the IPPA showed strong size correlation ( $r = .68, p < .001$ ), Connectedness to Self-in-the-Present subscale of the T-MAC and the Self-Esteem subscale of the RSES showed medium size correlation ( $r = .42, p < .001$ ) for male participants. On the other hand, there is a statistically significant positive correlation between the Connectedness to School subscale of the T-MAC and Attachment to School subscale of the SAS showed strong size correlation ( $r = .60, p < .001$ ), Connectedness to Teachers subscale of the T-MAC and Attachment to Teachers subscale of the SAS showed strong size correlation ( $r = .56, p < .001$ ), Connectedness to Peers subscale of the T-MAC and the Peers Attachment subscale of the IPPA showed medium size correlation ( $r = .45, p < .001$ ), Connectedness to Parents subscale of the T-MAC and the Parent Attachment subscale of the IPPA showed strong size correlation ( $r = .58, p < .001$ ), Connectedness to Self-in-the-Present subscale and the Self-Esteem subscale of the RSES showed strong size correlation ( $r = .64, p < .001$ ) for male participants.

From developmental difference perspective, there is a statistically significant positive correlation between the Connectedness to School subscale of the T-MAC and Attachment to School subscale of the SAS showed strong size correlation ( $r = .72, p < .001$ ), Connectedness to Teachers subscale of the T-MAC and Attachment to Teachers subscale of the SAS showed strong size correlation ( $r = .70, p < .001$ ), Connectedness to Peers subscale of the T-MAC and the Peers Attachment subscale of the IPPA showed medium size correlation ( $r = .39, p < .001$ ), Connectedness to Parents subscale of the T-MAC and the Parent Attachment subscale of the IPPA showed strong size correlation ( $r = .50, p < .001$ ), Connectedness to Self-in-the-Present subscale of the T-MAC and the Self-Esteem subscale of the RSES showed strong size correlation ( $r = .55, p < .001$ ) for middle school participants. On the other hand, there is a statistically

significant positive correlation between the Connectedness to School subscale of the T-MAC and Attachment to School subscale of the SAS showed strong size correlation ( $r = .54, p < .001$ ), Connectedness to Teachers subscale of the T-MAC and Attachment to Teachers subscale of the SAS showed medium size correlation ( $r = .37, p < .001$ ), Connectedness to Peers subscale of the T-MAC and the Peers Attachment subscale of the Turkish translation of the IPPA showed medium size correlation ( $r = .40, p < .001$ ), Connectedness to Parents subscale of the T-MAC and the Parent Attachment subscale of the IPPA showed strong size correlation ( $r = .71, p < .001$ ), Connectedness to Self-in-the-Present subscale of the T-MAC and the Self-Esteem subscale of the RSES showed strong size correlation ( $r = .50, p < .001$ ) for high school participants.

### **Discussion**

Overall results present that T-MAC subscales have acceptable level of internal consistency between their items except two subscales which are Connectedness to Teachers and Peers. The most important reason behind of this insufficient reliability evidence is items 50 (I usually like my teachers) and 57 (I rarely argue or fight with the other kids in school). Item 57 has been reported as problematic in other cultures' validation studies including the original validation study of the MAC as well. The issue with this item is about the wording because of the two negative words in this item participants mostly misunderstand or misinterpret it. Although item 50 is a very clear to understand and from wording and meaning perspective it seems very well created, female and male participants responded this item very different in this present study. The results do not show a statistically significant difference based on gender for the Connectedness to Teachers subscale, but item 50 does not correlate well with other items of the scale for male participants. Deleting item 50 will increase the reliability of the Connectedness

to Teachers subscale significantly and it will reach to the acceptable internal consistency level of .70. Therefore, the future studies should focus on Factor Analysis to better understand the issue with this item and the subscale.

### **Limitations**

Like any other research, this study had some limitations that might have impacted the reliability, validity, and generalizability of the results of this present research. Foremost, the translation might have ignored cross-cultural differences in the conceptualization of the construct and/or individual items might not have had the same psychometric properties in the translated version because of poor item wording and/or meaning.

Another significant limitation was sample size in this study. The number of participants was not enough to represent the whole adolescent population in Turkey. Although the sample size met the minimum requirement and the sampling adequacy assumption was met, future studies should include larger samples. The data were collected from schools in a small county in southern Turkey as a convenience sample of those youth and their parents who consent to their participation. Therefore, it is unknown how adolescents in other parts of Turkey, like other cities and youth in rural areas, might have responded to these surveys. Furthermore, this study did not examine whether the connectedness domains (10 subscales) predicted real world phenomena such as school success, peer social competence, and family relationships (e.g., resulting from high self-esteem).

The researcher of this study did not have control over the data collection process since the data were collected in Turkey. Therefore, the potential bias on the participants' responses was another limitation of the study. The total five scales of this study included 156 items that

could be a lot of items for the participants to focus and concentrate on. The participants' mood and wellness on the time when taking the survey might have impacted their responses as well.

Another limitation was the lack of literature and assessment instrument on adolescent connectedness in Turkey. This limitation restricted the researcher of this study to look at the consistent/inconsistent results in the literature based on the reliability scores and validity evidence of the T-MAC. The another limitation was the error in the instruments which might have caused inappropriate measure of the connectedness level. In addition to this, some items (because of wording, meaning, etc.) might be limited to measure some domains (subscales). Additionally, a lack of reliable scores in the subscales may be due to the fact that the items of the subscales had not been designed to measure specifically that connectedness level of students. Therefore, the future studies should use factor analysis to minimize such limitation from the results.

The present research used the short version of the MAC in this validation study; therefore, five dimensions (subscales) were not included in this research. Because this is the first attempt of the validation process, it might be more appropriate to test the MAC with along all the subscales including Connectedness to Mother, Father, Religion, Romantic Partner, and Kids from Other Cultures. The future studies should add these subscales into their research to be able to gather more comprehensive information and results about the connectedness levels of Turkish adolescents.

### **Implications and Recommendations**

Based on the stated research questions and data analysis presented above, the following recommendations may be made. However, it is necessary to indicate that the T-MAC is still in a



state of pending validation evidence; therefore, recommendations are made cautiously based on the scores in this present study.

Turkish researchers, administrators, and school counselors may benefit from T-MAC when measuring connectedness levels of adolescents and/or when studying and applying peer helping or mentoring programs as well.

This present study takes an important step toward encouraging additional connectedness research with Turkish adolescents. Adolescent connectedness is a fundamental factor in individuals' lives. However, the Adolescent Connectedness Theory is little known by Turkish researchers and the term of adolescent connectedness is not used in the Turkish literature. This present study aimed to lead researchers and contribute the research to conceptualize this topic comprehensively in Turkey. Therefore, the long version of the MAC (all 15 domains) should be studied by future researchers to have a better understanding about the whole theory and its each domain.

Future research should pursue reliability improvement. Improving reliability of the T-MAC may also strengthen the correlations for construct validity evidence. Reliability may be improved by reducing measurement error related to item quality. To reduce measurement error related to item quality, items with weak (or negative) corrected item-total correlations should be reviewed to improve readability. The present study used only quantitative analysis, so conducting some interviews may be beneficial to improve item wording. Items that were judged to have poor wording, like item 57 (I rarely argue or fight with the other kids in school) and item 50 (I usually like my teachers), may be considered for modification changing negative wording to positive wording and meaning. In addition to this, items with poor correlation with other items in the scale like item 50 (I usually like my teachers) need to be tested by utilizing a Factor

Analysis. In applications of factor analysis (exploratory and confirmatory), using large samples tend to provide more precise and stable results. Therefore, further research should be conducted with an exploratory factor analysis with a larger sample (perhaps 10 participants for each item at least), followed by another confirmatory study, to determine more stable and congruent results with population factors. Consequently, these results involve gathering construct validation evidence for the T-MAC. Future studies should also determine cutoff scores for connectedness levels for Turkish population, as well determine the generalizability of the T-MAC.

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### **Appendix A: Demographic Questionnaire**

Please answer all of the following questions for this demographic questionnaire as they best describe you.

A. Gender:  Female  Male

B. Grade:  6  7  8  9  10  11  12

C. Who do you live with?  Mother  Father  Mother and Father   
Other: \_\_\_\_\_

**Appendix B: Demografik Anket Formu**  
**(Demographic Questionnaire)**

Lutfen asagidaki sorulari size en iyi sekilde tanımlayacak sekilde cevaplayiniz.

A. Cinsiyetiniz:  Kadın  Erkek

B. Sinifiniz:  6  7  8  9  10  11  12

C. Kiminle yasiyorsunuz?  Anne  Baba  Anne ve Baba  Diger:\_\_\_\_\_

### **Appendix C: Parental Information Form**

#### **TRANSLATION AND THE VALIDATION PROCESS OF THE HEMINGWAY-MEASURE OF ADOLESCENT CONNECTEDNESS (MAC) INTO TURKISH**

Dear parents/guardians, your child is being invited to participate in a translation and the initial validation study of The Hemingway- Measure of Adolescent Connectedness. Please take whatever time you need to discuss the study with your family and friends, or anyone else you wish to. The decision to let your child join, or not to join, is up to you.

This research will be conducted in a city located in southern Turkey by Yasir Kurt who is a PhD student in Counselor Education and Supervision at St. Mary's University in the United States. The objectives of this study are to translate The Hemingway- Measure of Adolescent Connectedness into Turkish and conduct the initial validation of the Turkish instrument. The survey is being given to current middle and high school students, 6th-12th grades.

Your child will be asked 156 questions in order to measure his/her level of connectedness. The survey will take about 40 minutes. There are no known risks if you decide to let your child to participate in this research, nor are there any costs for participating in the study. However, your child is free to terminate the survey for any reason without any consequences. The information your child provides will help the researcher to understand his/her current level of connectedness. The information will be gathered may benefit your child directly. In addition, this study will provide general benefits to students, schools, and researchers in Turkey.

This survey is anonymous. If you want your child to participate, he/she does not write his/her name or sign on the survey and informed consent form. This way, no one will be able to identify your child, nor will anyone be able to determine who your child is.

Your child's participation in this study is voluntary. Refusal to participate or withdrawal of your child's consent or discontinued participation in the study will not result in any penalty or loss of benefits or rights to which your child might otherwise be entitled.

If you have any questions or concerns about the survey or about your child being in this study, you may contact Yasir Kurt from 001-210-900-7142 or ([ykurt7@hotmail.com](mailto:ykurt7@hotmail.com)) at St.

Mary's University in the United States or Dr. Esteban R. Montilla from 210-438-6400 or ([rmontilla@stmarytx.edu](mailto:rmontilla@stmarytx.edu)) at St. Mary's University San Antonio, TX, in United States.

Returning this form allows my son or daughter to participate in the study, Kurt, Y.

(Montilla, Fac Sponsor). Translation and the Validation Process of the Hemingway-Measure of Adolescent Connectedness (MAC) Into Turkish.

Date:

**ANY QUESTIONS REGARDING YOUR RIGHT AS A RESEARCH PARTICIPANT MAY BE ADDRESSED BY THE ST. MARY'S UNIVERSITY INSTITUTIONAL REVIEW BOARD HUMAN SUBJECTS. ONE CAMINO SANTA MARIA. SAN ANTONIO, TX 78228. CHAIR, INSTITUTIONAL REVIEW BOARD. 210-436-3736 or email at [IRBCommitteeChair@stmarytx.edu](mailto:IRBCommitteeChair@stmarytx.edu). ALL RESEARCH PROJECTS CARRIED OUT BY REQUIREMENTS OF THE UNIVERSITY AND FEDERAL GOVERNMENT.**

Date:

Date of IRB approval:

IRB number

## **Appendix D: Arastirmaya Katilim Onayi (Parental Information Form)**

### **The Hemingway Ergen Baglilik Olceginin Turkceye Uyarlanmasi**

Sayin veliler, çocuđunuzu The Hemingway-Ergen Bađlılık Ölçeđinin Türkçe'ye uyarlanması arařtırmasına katılmaya davet ediyoruz. Bu arařtırma Amerika'da St. Mary's Üniversitesinde Psikolojik Danıřman Eđitimi ve Süpervisyon bölümünde doktora öğrencisi olan Yasir Kurt tarafından Türkiye'nin Akdeniz Bölgesinde bir şehirde yapılacaktır. Arařtırmanın amacı The Hemingway-Ergen Bađlılık

Ölçeđinin Türkçe'ye uyarlanması ve ilk pilot çalışmayı yapmaktır. Bu arařtırmaya ortaokul ve lise öğrencileri, 6-12. sınıflar, katılabilecektir.

Çocuđunuzun bu ankete vereceđi cevaplar, arařtırmacıya çocuđunuzun řuanki bađlılık seviyesini anlamakta yardımcı olacaktır. Bu arařtırmanın sonucu çocuđunuza direk olarak bir fayda sađlamayabilir ancak Türkiye'deki öğrenciler, okullar, ve arařtırmacılar bu çalışmanın faydasını genel olarak göreceklerdir.

Cocuđunuzun bađlılık seviyesini olcmek icin kendisine 156 soru sorulacaktır ve bunu cevaplamasi yaklasik olarak 40 dakikasini alacaktır. Bu arařtırmaya katılmanın sizin çocuđunuza herhangi bir zararı yoktur. Bu arařtırmaya katılmak için herhangi bir ücret talep edilmemektedir. Çocuđunuz istediđi zaman her nedenle olursa olsun arařtırmayı yarıda bırakabilir ve bunun çocuđunuza hiçbir şekilde yaptırımını olmayacaktır.

Bu anket gizlilik esasına dayanır. Çocuđunuzun arařtırmaya katılmasını isterseniz onun ismi yada imzası anketin üzerine yazılmayacak böylelikle hiçkimse sizin çocuđunuzun kim olduğunu tespit edemeyecektir ve kim olduđu anlaşılmayacaktır.

Bu arařtırmaya katılmak gönülluluk esasına dayanır. Eger bu çalışmaya çocuđunuzun katılmasını istemezseniz veya çocuđunuz katılır ama çalışmayı yarıda bırakırsa bunun çocuđunuza hiçbir şekilde zararı dokunmayacaktır.

Bu araştırma ve/veya anket ile alakalı sorularınız ve/veya endişeleriniz varsa bu çalışmanın arařtırmacısı Yasir Kurt'a 001-210-900-7142 nolu telefonda n yada [ykurt7@hotmail.com](mailto:ykurt7@hotmail.com) elektronik posta adresinden ulaşabilirsiniz yada Doçent Doktor Esteban R. Montilla'ya 2104386400 telefonda n veya ([rmontilla@stmarytx.edu](mailto:rmontilla@stmarytx.edu)) elektronik posta adresinden ulaşabilirsiniz.

Bu formun tarafınıza ulařtırılması benim cocuğumun Yasir Kurt (Fakulte danismani Esteban R. Montilla)'un The Hemingway-Ergen Bađlılık Ölçeğinin Türkçe'ye uyarlanması calismasına katilmasına onay verdiğimi gostermektedir.

Tarih:

Ayrıca herbir katılımcının ailesi veya yasal varisi bu araştırma hakkında soru yada endişeleri ile alakalı olarak St. Mary's Üniversitesindeki Kurumsal İnceleme Kurulu (IRB)'na 001-2104363736 nolu telefonda n yada [IRBCommitteeChair@stmarytx.edu](mailto:IRBCommitteeChair@stmarytx.edu) elektronik posta adresinden ulaşabilir.

Tarih:

StMU-Kurumsal İnceleme Kurulu (IRB) Onayı:

IRB-Dosya Onay No:

**Appendix E: Adolescent Assent Form**  
**Translation and The Validation Process Of The Hemingway-Measure Of Adolescent Connectedness (T-Mac) Into Turkish**

Your parent has given permission for you to be in a research study conducted by Yasir Kurt, is a PhD student in Counselor Education and Supervision at St Mary's University in San Antonio, TX, in the United States. We want to tell you all about this research study, so you can decide if you want to be a part of it. Your participation in this research study is voluntary. If you don't understand, please ask questions.

**Why is this study being done?**

This research study will help the researcher to assess connectedness level among Turkish adolescents. Little is known about connectedness in Turkish literature; therefore, your participation is very crucial for further researches in this subject.

**What will happen if I take part in this research study?**

If you volunteer to participate in this study, you will be asked 156 questions that will help the researcher to measure your level connectedness.

**How long will I be in the research study?**

It will take about 40 min.

**Are there any potential risks or discomforts that I can expect from this study?** There are no known risks if you decide to participate in this research. However, you are free to terminate the survey for any reason without any consequences.

**Are there any potential benefits if I participate?**

The information you provide will help the researcher to understand your current level of connectedness. The information will be gathered may benefit you directly. In addition, this study will provide general benefits to students, schools, and researchers in Turkey.

**Will I receive any payment if I participate in this study?** There is no payment for participation.

**Will information about me and my participation be kept confidential?**

You will not write your name or sign on the survey and this form. This way, no one will be able to identify you, nor will anyone be able to determine who you are.

**What are my rights if I take part in this study?**

You may withdraw your assent at any time and discontinue participation without penalty or loss of benefits to which you were otherwise entitled. You can choose whether or not you want to be in this study. If you volunteer to be in this study, you may leave the study at any time without consequences of any kind. You are not waiving any of your legal rights if you choose to be in



this research study. You may refuse to answer any questions that you do not want to answer and still remain in the study.

**Who can answer questions I might have about this study?**

The coordinator teacher will be available for your questions and concerns any time during the survey. If you wish to ask questions about your rights as a research participant or if you wish to voice any problems or concerns you may have about the study to someone other than the researcher, please contact THE ST. MARY'S UNIVERSITY INSTITUTIONAL RESEARCH BOARD at 001-210- 436-3736 or e-mail [IRBCommitteeChair@stmarytx.edu](mailto:IRBCommitteeChair@stmarytx.edu).

I voluntarily would like to be a part of this study

Date :

**PERSON OBTAINING THIS FORM**

In my judgment the participant is voluntarily and knowingly agreeing to participate in this research study.

Date:

## **Appendix F: Katilim Onay Formu (Adolescent Assent Form)**

### **The Hemingway-Ergen Baglilik Olcegi (Tebo)'nin Uyarlama Calismasi**

Aileniz, Amerika'nin Texas eyaleti San Antonio sehrinde St. Mary's Universitesin'de Psikolojik Danisman Egitmi ve Supervisyon alaninda doktora yapan Yasir Kurt'un tez calismasina katilimci olabilmeniz icin onay Verdi. Bu belgede tez hakkında butun gerekli bilgileri size sunacagiz siz de calismaya katilip katilmama kararinizi verebilirsiniz. Calismaya katilmak tamamen gonulluluk esasina dayanmaktadır. Anlamadiginiz birsey olursa lutfen sorunuz.

#### **Calismanin amaci nedir?**

Bu calisma Turk genclerinin baglilik duzeylerini olcmek icin arastirmaciya yardimci olacaktir. Turkiye'de baglilik hakkında cok azsey biliniyor ve bu arastirma bu konuya isik tutacaktır.

#### **Katilimci olmayi kabul edersem ne olacak?**

Size 156 sorudan olusan bir anket uygulanacak ve verdiginiz cevaplar sayesinde sizin cesitli degiskenlere gore baglilik duzeyiniz olculecektir.

#### **Anket ne kadar surecektir?**

Sorulari cevaplamaniz yaklasik 40 dakikanizi alacaktır.

**Calismada risk olusturacak veya beni rahatsiz edecek herhangi bir durum var mi?** There are no known risks if you decide to participate in this research. Calismaya katilmaniz dahilinde risk olusturacak herhangi bir durum soz konusu degildir. Lakin, istediginiz zaman sebep belirtmek zorunda olmadan anketi birakabilirsiniz bunun size herhangi bir sekilde yaptirimi olmayacaktır.

#### **Calismaya katilmamin bana ne faydasi var?**

The information you provide will help the researcher to understand your current level of connectedness. Verdiginiz cevaplar sayesinde sizin baglilik duzeyiniz belirlenecektir. Bunun size direk faydasi olabilir. Bunun yaninda bu calisma sonuclari ogrenciler, ogretmenler ve bu konuda calisanlar icin genel bir fayda saglayabilir.

#### **Calismaya katilirsam bana odeme yapilacak mi?**

Calismaya katildiginiz icin herhangi biro deme yapilmaz.

#### **Benim kimligim ve bilgilerim gizli kalacak mi?**

You will not write your name or sign on the survey and this form. Anket uzerine isim yazmayacaksiniz yada imza atmayacaksiniz. Bundan dolayi, hickimse sizin kimliginiz belirleyemez.

#### **Calismaya katilirsam haklarim neler olacak?**

Istediginiz zaman calismayi yarida birakabilirsiniz bunun sonucunda hicbir sekilde yaptirim yoktur. Istedediginiz hicbir soruya cevap vermek zorunda degilsiniz.

**Who can answer questions I might have about this study?**

Kordinator ogretmen anket suresi boyunca her zaman sizin sorulariniz icin hazir bulunacaktır. Ayrica, her turlu sorun ve endiseniz icin St. Mary's Universitesi etik kuruluna istediginiz zaman 001-210- 436-3736 numarali telefondan veya [IRBCommitteeChair@stmarytx.edu](mailto:IRBCommitteeChair@stmarytx.edu) elektronik posta adresinden adresinden ulasabilirsiniz.

Gonullu olarak bu calismaya katilmak istiyorum.

Tarih:

**Kordinator Ogretmen**

Katilimcinin gonullu olarak bu calismaya katilmayi kabul etmis oldugunu dogrularim.

Tarih:

### **Appendix G: Solicitation Letter**

Yasir Kurt, is a PhD student in Counselor Education and Supervision at St Mary's University in San Antonio, TX, in the United States. He would like to seek your assistance to conduct his research in middle and high schools located in southern Turkey. The purpose of his study is to translate of The Hemingway-Measure of Adolescent Connectedness into Turkish and conduct the initial validation of the Turkish instrument with a group of Turkish adolescents studying either in a middle or high school (6th-12th grades). Little is known about connectedness in Turkish literature; therefore, your participation is very crucial for further researches in this subject.

- The participants must be middle or high school students (6th-12th grades)
- Participating in the research is entirely voluntary.
- In addition, participants will be assured of complete confidentiality. Their identity will never be associated with their responses. This survey is anonymous.
- The research involves 156 questions. The survey approximately takes 40 min.
- Participants can terminate the survey for any reason without any consequences.

If you have any questions or concerns about the survey or this study, you may contact Yasir Kurt from 001- 210-900-7142 or ([ykurt7@hotmail.com](mailto:ykurt7@hotmail.com)) at St. Mary's University, San Antonio-TX, in the United States or Dr. Esteban R. Montilla from 210-438-6400 or ([rmontilla@stmarytx.edu](mailto:rmontilla@stmarytx.edu)) at St. Mary's University San Antonio, TX, in United States.

## Appendix H: İzin Mektubu (Solicitation Letter)

Yasir Kurt, Amerika'nin Texas eyaletinin San Antonio sehrinde bulunan St. Mary's Universitesinde Psikolojik Danisman Egitimi ve Supervizyon bolumunde doktora ogrencisidir. The Hemingway- Ergen Baglilik Olceginin Turkce'ye uyarlanmasi calismasini Turkiye'nin Akdeniz Bolgesinde bir sehirde bulunan ortaokul ve liselerde yurutebilmek icin sizin yardimlariniz cok onem arz etmektedir. Bu arastirmanin amaci The Hemingway- Ergen Baglilik Olceginin Turkce'ye uyarlanmasi ve ilk gecerlilik calismasinin Turk ogrencilerle yapilmasidir. Bu arastirmaya katilmaniz cok buyuk onem tasimaktadir cunku bu konu hakkında Turkiye'de cok az bilimsel arastirma bulunmaktadir.

- Katilimci olabilmek icin ortaokul yada lise'de ogrenci olunmasi gerekmektedir.
- Bu arastirmaya katilmak tamamen gonulluluk esasina dayanir.
- Bu arastirma gizlilik esasina dayanir ve katilimcilerden ankete veye bilgilendirme formlarina isim yazmamalari istenir. Bu sekilde katilimcilerin isimleri hicbir sekilde vermis olduklari cevaplarla iliskilendirilemez.
- Ankette 156 soru vardir ve sorulari cevaplamak yaklasik olarak 40 dakika alir.
- Katilimciler istedikleri zaman herhangi bir neden bildirmeden anketi sonlandirabilirler.

Bundan dolayi hicbir sekilde yaptirim uygulanamaz.

Bu arastirma ve/veya anket ile alakali sorulariniz ve/veya endiseleriniz varsa bu calismanin arstirmacisi Yasir Kurt'a 001-210-900-7142 nolu telefondan yada [ykurt7@hotmail.com](mailto:ykurt7@hotmail.com) elektronik posta adresinden ulasabilirsiniz yada Docent Doktor Esteban R. Montilla'ya 2104386400 telefondan veya ([rmontilla@stmarytx.edu](mailto:rmontilla@stmarytx.edu)) elektronik posta adresinden ulasabilirsiniz.

## Appendix I. The Hemingway-Measure of Adolescent Connectedness (Short Version)

1. Not at all true      2. Not really true      3. Sort of true      4. True      5. Very true

- 1- I enjoy spending time in my neighborhood
- 2- Spending time with my friends is not very important for me
- 3- I can tell you five things people like about me
- 4- My family enjoys spending time together
- 5- I enjoy spending time with my siblings
- 6- I study hard at school
- 7- My classmates often bother me
- 8- I care about what my teachers think about me
- 9- I will have a good future
- 10- I enjoy reading books by myself
- 11- I spend a lot of time with the kids in my neighborhood
- 12- I have very close friends that I can trust fully
- 13- There is nothing that makes me special or different
- 14- My parent's trust in me is important
- 15- I feel close to my siblings
- 16- I enjoy going to school
- 17- I like almost all my peers at school
- 18- I cannot get along with some of my teachers
- 19- Being successful at school will help my future
- 20- I enjoy reading
- 21- I get along with the kids in my neighborhood
- 22- Spending time with friends plays a big part in my life
- 23- I can tell you three things other kids like about me
- 24- I enjoy spending time with my family
- 25- I enjoy spending time with my siblings
- 26- I get bored while I am at school
- 27- I enjoy studying with my classmates
- 28- I want my teachers to respect me
- 29- I participate in activities outside the school to help with my future
- 30- I never read books in my spare time
- 31- I spend time in my neighborhood playing or doing other things
- 32- My friends and I can talk about personal issues freely
- 33- I like who I am
- 34- My parents and I do not agree on many issues
- 35- I try to spend as much time as possible with my siblings
- 36- I am successful at school
- 37- I get along with my classmates
- 38- I try to get along with my teachers
- 39- I work hard to prepare for my future
- 40- I usually read books in my spare time
- 41- I spend a lot time with the kids in my neighborhood
- 42- I spend time with my friends as much as I can

- 43- I have hobbies, abilities and skills
- 44- I get along with my parents
- 45- I avoid being around my siblings
- 46- I feel happy at school
- 47- My classmates like me
- 48- I try very hard to gain the trust of my teachers
- 49- I always think about my future
- 50- I usually like my teachers
- 51- My neighborhood is boring
- 52- I spend a lot of time with my friends talking about things
- 53- I have unique interests and skills that make me interesting
- 54- I care deeply about my parents
- 55- Whatever I do now will not affect my future
- 56- Being successful at school is very important for me
- 57- I rarely argue or fight with the other kids in school

## Appendix J. The Hemingway-Ergen Baglilik Olcegi

1. Kesinlikle Dogru Degil 2. Dogru Degil 3. Kismen Dogru 4. Dogru 5. Kesinlikle Dogru

1. Ben yaşadığım mahallede dolaşmayı/takılmayı severim.
2. Arkadaşlarımla vakit geçirmek benim için çok önemli değil.
3. Benimle ilgili başkalarının hoşuna giden 5 şey söyleyebilirim.
4. Ailem birlikte iyi vakit geçirir.
5. Kardeşlerimle iyi vakit geçiririm.
6. Derslerime çok çalışırım.
7. Sınıf arkadaşlarım beni sürekli rahatsız ederler.
8. Öğretmenlerimin benim hakkımda ne düşündüğü önemlidir.
9. İyi bir geleceğim olacak.
10. Tek başıma kitap okuyarak zaman geçirmeyi severim.
11. Yaşadığım mahalledeki çocuklarla çok vakit geçiririm.
12. Çok güvendiğim yakın arkadaşlarım vardır.
13. Beni farklı yada özel yapan pek fazla bir şey yok.
14. Anne ve babamın bana güvenmesi önemlidir.
15. Kardeşlerimle iyi bir ilişkim vardır.
16. Okula gitmeyi severim.
17. Okuldaki yaşitlarımın hemen hemen hepsini severim.
18. Bazı öğretmenlerimle iyi anlaşamam.
19. Okulda başarılı olmak bana gelecekte faydalı olacak.
20. Kitap okumayı severim.
21. Bizim mahalledeki çocuklarla iyi anlaşırım.
22. Arkadaşlarımla vakit geçirmek yaşamımda büyük yer tutar.
23. Benimle ilgili diğer çocukların sevdiği 3 şey söyleyebilirim.
24. Anne ve babamla vakit geçirmeyi severim.
25. Kardeşlerimle vakit geçirmeyi severim.
26. Okuldayken çok canım sıkılır.
27. Sınıf arkadaşlarımla ders çalışmayı severim.
28. Öğretmenlerimin bana saygı duymasını isterim.
29. Okul dışında beni geleceğe hazırlayacak şeyler yaparım.
30. Boş zamanlarımda hiç kitap okumam.
31. Zamanımın çoğunu yaşadığım mahallede oyun oynayarak ya da birşeyler yaparak geçiririm.
32. Arkadaşlarım ve ben kişisel konularda birbirimizle rahatça konuşuruz.
33. Kendimi olduğum gibi seviyorum.
34. Anne ve babamla çoğu konuda anlaşamayız.
35. Fırsat oldukça kardeşlerimle vakit geçirmeye çalışırım.
36. Okulda başarılı bir öğrenciyim.
37. Sınıfımdaki öğrencilerle iyi geçinirim.
38. Öğretmenlerimle iyi geçinmeye çalışırım.
39. Geleceğimi hazırlamak için bir çok şey yaparım.
40. Boş zamanlarımda genellikle kitap okurum.
41. Bizim mahalledeki çocuklarla çok vakit geçiririm.
42. Arkadaşlarımla elimden geldiğince vakit geçiririm.



43. Özel hobilerim, becerilerim veya yeteneklerim var.
44. Anne ve babamla iyi anlaşırız.
45. Kardeşlerimle bir arada olmaktan kaçınıyorum.
46. Okuldayken kendimi iyi hissederim.
47. Sınıf arkadaşlarım beni severler.
48. Öğretmenlerimin güvenini kazanmak için çok çabalarım.
49. Geleceğim hakkında sık sık düşünürüm.
50. Genellikle öğretmenlerimi severim.
51. Bizim mahalle çok sıkıcı.
52. Arkadaşlarımla sohbet ederek çok zaman geçiririz.
53. Beni ilginç yapan özel ilgi veya becerilerim var.
54. Anne ve babam benim için çok önemlidir.
55. Şimdi yaptıklarım geleceğimi etkilemeyecek.
56. Okulda başarılı olmak benim için önemlidir.
57. Okuldaki çocuklarla nadiren tartışır yada kavga ederim.

## Appendix K. Rosenberg Self-Esteem Scale-RSES

1. Strongly disagree    2. Disagree    3. Agree    4. Strongly agree

1. On the whole, I am satisfied with myself.
2. At times I think I am no good at all.
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I certainly feel useless at times.
7. I feel that I'm a person of worth, at least on an equal plane with others.
8. I wish I could have more respect for myself.
9. All in all, I am inclined to feel that I am a failure.
10. I take a positive attitude toward myself.

## Appendix L. Rosenberg Benlik Saygisi Olcegi-Turkish Rosenberg

1. Çok Yanlıs      2. Yanlıs      3. Doğru      4. Çok Doğru

1. Kendimi en az diğer insanlar kadar değerli buluyorum.
2. Bazı olumlu özelliklerim olduğunu düşünüyorum.
3. Genelde kendimi başarısız bir kişi olarak görme eğilimindeyim.
4. Ben de diğer insanların birçoğunun yapabildiği kadar birşeyler yapabilirim.
5. Kendimde gurur duyacak fazla birşey bulamıyorum.
6. Kendime karşı olumlu bir tutum içindeyim.
7. Genel olarak kendimden memnunum.
8. Kendime karşı daha fazla saygı duyabilmeyi isterdim.
9. Bazen kesinlikle kendimin bir işe yaramadığını düşünüyorum.
10. Bazen kendimin hiç de yeterli bir insan olmadığımı düşünüyorum.

### Appendix M. School Attachment Scale-SAS

1. Not at all true      2. Not true      3. Rarely true      4. True      5. Always true

1. I am proud to be at this school.
2. I am happy to be at this school.
3. I feel safe in my school.
4. I would like to go to school too much
5. I like my school.
6. I am proud of with my friends.
7. I have a lot of friends whom I like too much in this school.
8. I care about a lot of friends in this school.
9. I have friends who care about me at this school.
10. I like my friends at this school.
11. Our teachers support our friends too much.
12. I like my teachers.
13. Our teachers take care of me when I get low performance in class.
14. Our teachers or other adults at this school treats me like a person who matters.
15. Our teachers know a student who is working hard or not.

## Appendix N. Okula Baęlanma leęi Turkish SAS

1. Kesinlikle hayir 2. Hayir 3. Olabilir 4. Evet 5. Kesinlikle evet

1. Bu okulda olmaktan gurur duyuyorum.
2. Bu okulda olmaktan mutluyum.
3. Okulumda kendimi gvende hissediyorum.
4. Okulumu seviyorum.
5. Okulumdaki arkadaşlarımla gurur duyuyorum.
6. Sınıfımda sevdiğim birçok arkadaşım var.
7. Bu okulda önem verdiğim arkadaşlarım var.
8. Bu okulda beni önemseyen arkadaşlarım var.
9. Bu okuldaki arkadaşlarımı seviyorum.
10. Öğretmenlerimiz, öğrencilerine çok destek olurlar.
11. Öğretmenlerimi seviyorum.
12. Derslerimde düşük performans gösterseydim öğretmenlerim bununla ilgilenirdi.
13. Öğretmenlerimiz bir öğrencinin çok çalışıp çalışmadığını bilir.

## **Appendix O. The Inventory of Peer and Parent Attachment-IPPA**

1. Almost never or never true 2. Not very often true 3. Sometimes true 4. Often true 5. Almost always or always true

### **Part I-Mother**

1. My mother respects my feeling.
2. I feel my mother does a good job as my mother.
3. I wish I had a different mother.
4. My mother accepts me as I am.
5. I like to get my mother's point of view on things I'm concerned about.
6. I feel it's no use letting my feelings show around my mother.
7. My mother can tell when I'm upset about something.
8. Talking over my problems with my mother makes me feel ashamed or foolish.
9. My mother expects too much from me.
10. I get upset easily around my mother.
11. I get upset a lot more than my mother knows about.
12. When we discuss things, my mother cares about my point of view.
13. My mother trusts my judgment.
14. My mother has her own problems, so I don't bother her with mine.
15. My mother helps me to understand myself better.
16. I tell my mother about my problems and troubles.
17. I feel angry with my mother.
18. I don't get much attention from my mother.
19. My mother helps me to talk about my difficulties.
20. My mother understands me.
21. When I am angry about something, my mother tries to be understanding.
22. I trust my mother.
23. My mother doesn't understand what I'm going through these days.
24. I can count on my mother when I need to get something off my chest.
25. If my mother knows something is bothering me, she asks me about.

### **Part II-Father**

1. My father respects my feeling.
2. I feel my father does a good job as my father.
3. I wish I had a different father.
4. My father accepts me as I am.
5. I like to get my father's point of view on things I'm concerned about.
6. I feel it's no use letting my feelings show around my father.
7. My father can tell when I'm upset about something.
8. Talking over my problems with my father makes me feel ashamed or foolish.
9. My father expects too much from me.
10. I get upset easily around my father.

11. I get upset a lot more than my father knows about.
12. When we discuss things, my father cares about my point of view.
13. My father trusts my judgment.
14. My father has her own problems, so I don't bother her with mine.
15. My father helps me to understand myself better.
16. I tell my father about my problems and troubles.
17. I feel angry with my father.
18. I don't get much attention from my father.
19. My father helps me to talk about my difficulties.
20. My father understands me.
21. When I am angry about something, my father tries to be understanding.
22. I trust my father.
23. My father doesn't understand what I'm going through these days.
24. I can count on my father when I need to get something off my chest.
25. If my father knows something is bothering me, she asks me about.

### Part III-Friends

1. I like to get my friend's point of view on things I'm concerned about.
2. My friends can tell when I'm upset about something.
3. When we discuss things, my friends care about my point of view.
4. Talking over my problems with friends makes me feel ashamed or foolish.
5. I wish I had different friends.
6. My friends understand me.
7. My friends encourage me to talk about my difficulties.
8. My friends accept me as I am.
9. I feel the need to be in touch with my friends more often.
10. My friends don't understand what I'm going through these days.
11. I feel alone or apart when I am with my friends.
12. My friends listen to what I have to say.
13. I feel my friends are good friends.
14. My friends are fairly easy to talk to.
15. When I am angry about something, my friends try to be understanding.
16. My friends help me to understand myself better.
17. My friends care about how I am feeling
18. I feel angry with my friends.
19. I can count on my friends when I need to get something off my chest.
20. I trust my friends.
21. My friends respect my feelings.
22. I get upset a lot more than my friends know about.
23. It seems as if my friends irritated with me for no reason.
24. I can tell my friends about my problems and troubles.
25. If my friends know something is bothering me, they ask me about it.

## Appendix P. Ebeveyn ve Arkadas Baglilik Olcegi (Turkish IPPA)

1.Hic bir zaman dogru degil 2.Nadiren dogru 3.Bazen dogru 4.Siklikla dogru 5.Her zaman dogru

### BÖLÜM I

#### ANNENİZ İLE İLİŞKİNİZ

1. Annem benim duygularıma saygı duyar.
2. Annemin, annelik görevini iyi yaptığını düşünüyorum.
3. Keşke farklı bir annem olsaydı.
4. İlgilendiğim konularda annemin görüşünü almayı isterim
5. Bir şeye üzüldüğümde annem bunu anlar.
6. Annemle sorunlarım hakkında konuşmak beni utandırır.
7. Annemin bildiğinden çok daha fazla mutsuzum.
8. Bir şeyleri tartışırken annem benim düşüncelerime önem verir.
9. Annemin zaten kendi sorunları var, bu yüzden kendi sorunlarımla onu rahatsız etmem.
10. Annem kendimi daha iyi anlamama yardım eder.
11. Problemlerimi ve sıkıntılarımı anneme anlatırım.
12. Annemden fazla ilgi görmem.
13. Annem sorunlarımı ona anlatmamda bana yardımcı olur.
14. Annem beni anlar.
15. Bir şeye kızdığımda annem anlayışlı olmaya çalışır.
16. Anneme güvenirim.
17. İçimi dökmeye ihtiyaç duyduğumda, anneme güvenebilirim.
18. Annem bir şeyin canımı sıktığını bilirse, bunu bana sorar.

### BÖLÜM II

#### BABANIZ İLE İLİŞKİNİZ

1. Babam benim duygularıma saygı duyar.
2. Babamın, babalık görevini iyi yaptığını düşünüyorum.
3. Keşke farklı bir babam olsaydı.
4. İlgilendiğim konularda babamın görüşünü almayı isterim
5. Bir şeye üzüldüğümde babam bunu anlar.
6. Babamla sorunlarım hakkında konuşmak beni utandırır.
7. Babamın bildiğinden çok daha fazla mutsuzum.
8. Bir şeyleri tartışırken babam benim düşüncelerime önem verir.
9. Babamın zaten kendi sorunları var, bu yüzden kendi sorunlarımla onu rahatsız etmem.
10. Babam kendimi daha iyi anlamama yardım eder.
11. Problemlerimi ve sıkıntılarımı babama anlatırım.



12. Babam sorunlarımı ona anlatmamda bana yardımcı olur.
13. Babam beni anlar.
14. Bir şeye kızdığımında babam anlayışlı olmaya çalışır.
15. Babama güvenirim.
16. Babam bugünlerde nasıl bir dönemden geçtiğimi anlamıyor.
17. İçimi dökmeye ihtiyaç duyduğumda, babama güvenebilirim.
18. Babam bir şeyin canımı sıktığını bilirse, bunu bana sorar.

### BÖLÜM III

#### YAKIN ARKADAŞLARINIZ İLE İLİŞKİNİZ

1. Endişelendiğim konularda arkadaşımın görüşünü almak isterim.
2. Bir şeyler hakkında konuşurken arkadaşlarım benim düşüncelerime önem verir.
3. Arkadaşlarımla sorunlarım hakkında konuşmak beni utandırır.
4. Arkadaşlarım bugünlerde nasıl bir dönemden geçtiğimi anlamıyorlar.
5. Arkadaşlarımın yanında kendimi yalnız hissedirim.
6. Arkadaşlarım, hoşlarına gitmese bile, söylediklerimi dinlerler.
7. Arkadaşlarımın iyi dostlar olduğunu hissediyorum.
8. Arkadaşlarımla anlaşmak oldukça kolaydır.
9. Bir şeye kızdığımında arkadaşlarım anlayışlı olmaya çalışırlar.
10. Onlarla olan arkadaşlığım kendimi daha iyi anlamama yardım eder.
11. Arkadaşlarım duygularıma önem verirler.
12. Arkadaşlarıma kızgın olduğumu hissediyorum.
13. İçimi dökmeye ihtiyaç duyduğumda arkadaşlarıma güvenebilirim.
14. Arkadaşlarıma güvenirim.
15. Arkadaşlarımın bildiğinden çok daha fazla mutsuzum.
16. Sebepsiz yere arkadaşlarım benden rahatsız oluyormuş gibi gelir.
17. Problemlerimi ve sıkıntılarımı arkadaşlarıma anlatabilirim.
18. Arkadaşlarım bir şeyin canımı sıktığını bilirlerse, bunu bana sorarlar.

## Appendix Q. Social Anxiety Scale for Adolescents-SASA

1. Not at all      2. Rarely      3. Sometimes      4. Often      5. All the time

1. I worry about doing something new in front of others
2. I like to play with other kids
3. I worry about being teased
4. I feel shy around people I do not know
5. I only talk to people I know really well
6. I feel that peers talk about me behind my back
7. I like reading
8. I worry about what others think of me
9. I am afraid that others will not like me
10. I get nervous when I talk to peers I do not know very well
11. I like doing sport
12. I worry about what others say about me
13. I get nervous when I meet new people
14. I worry that others do not like me
15. I am quiet when I am with a group of people
16. I like doing something by my own
17. I feel that others make fun of me
18. If I get into an argument, I worry that the other person will not like me
19. I am afraid to invite others to do things with me because they might say no
20. I feel nervous when I am around certain people
21. I feel shy even with peers I know very well
22. It is hard for me to ask others to do things with me

**Appendix R. Ergenler Icin Sosyal Anksiyete Olcegi (Turkish SASA)**

1. Hic bir zaman 2. Cok az 3. Bazen 4. Cogu zaman 5. Daima

1. Başkalarının önünde yeni bir şeyler yapmaya çekinirim.
2. Arkadaşlarımla bir şeyler yapmaktan hoşlanırım.
3. Bana sataşılmasından tedirgin olurum.
4. Tanımadığım insanların yanında utanırım.
5. Sadece çok iyi tanıdığım insanlarla konuşurum
6. Yaşıtlarımın arkamdan benim hakkımda konuştuklarını düşünürüm.
7. Kitap okumayı severim.
8. Başkalarının benim için ne düşündüğünden endişelenirim.
9. Başkalarının benden hoşlanmayacağından korkarım.
10. Cok iyi tanımadığım yaşıtlarımla konuşurken heyecanlanırım.
11. Spor yapmaktan hoşlanırım.
12. Başkalarının benim hakkımda ne söyleyeceğinden endişelenirim.
13. Yeni insanlarla tanışırken tedirgin olurum.
14. Başkalarının benden hoşlanmayacağından endişelenirim .
15. Bir grup insanla beraberken durgunumdur.
16. Kendi başıma bir şeyler yapmak hoşuma gider.
17. Başkalarının benimle dalga geçtiğini düşünürüm.
18. Birisiyle tartışmaya girersem onun benden hoşlanmayacağından endişe ederim.
19. Hayır derler diye başkalarına benimle birşeyler yapmayı teklif etmeye çekinirim.
20. Bazı insanların yanındayken tedirgin olurum.
21. İyi tanıdığım yaşıtlarımın yanındayken bile utanırım.
22. Başkalarından benimle bir şeyler yapmalarını istemek bana çok zor gelir.

## YASIR KURT, MA

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### EDUCATION

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**St. Mary's University, San Antonio, TX**  
**2017**

**Expected graduation: August**

*PhD Candidate, Counselor Education and Supervision*

- National and international conference presenter on international students' experiences while residing in the US, unique needs of international students in supervisory relationships, and their college admission process
- Dissertation: Translation and the Validation Process of the Hemingway: *Measure of Adolescent Connectedness* (MAC) Into Turkish

**September 2016 - July 2017**

**The University of Texas at San Antonio, San Antonio, TX**

**December 2012**

*Master of Arts, Counseling | Community Counseling GPA: 3:87*

- Specifically trained in career counseling for about 100 hours
- Completed nearly 3000 hours of clinical counseling under supervision
- Completed nearly 750 hours of career counseling including 300 hours of direct service at Career Services at Texas State University

### CAREER COUNSELING EXPERIENCE

---

**Kurt Educational Consultant, San Antonio, TX**

**August 2014-December 2016**

*Career Counselor*

- Offered free career counseling services to about 700 students
- Established partnership with 10 universities including St. Mary's University
- Recruited students for language, undergraduate, and graduate education including 2 students for St. Mary's University
- Assisted Turkish students in the areas of self-assessment, college search, and admission processes
- Created templates for application materials considering international students' needs
- Provided resume and statement of purpose critiques and information about successful school and major searches for about 100 hours
- Produced a step-by-step college and major search guidelines about U.S. education for Turkish students
- Organized mock interview sessions with 7 volunteer doctoral researchers to prepare Turkish students for admission process
- Helped and guided about 50 students to apply for an appropriate student visa

**Center for Refugee Services, San Antonio, TX****June 2012 - August 2014***Counselor-Intern*

- Acted as an advocate to empower about 20 refugee college students with job-search skills to obtain career-related experience while in school; and gain part-time or full-time employment in the U.S. after graduation
- Encouraged students to research and learn about employment types, rules and regulations, hiring processes and paperwork, and resources
- Developed and delivered weekly presentations and workshops for about 3 months on leadership and career exploration with a group of counselor interns to train refugee students on the successful job-search strategies and face-to-face interviews
- Assisted refugee students to search best fit colleges for their needs, skills, and majors and to prepare necessary college application materials such as resume and statement of purpose
- Helped refugee students to search and apply for educational scholarships and funds (made more than 100 FAFSA applications)

**Texas State University, San Antonio, TX****January 2012-December 2012***Career Counselor-Intern*

- Trained in assessment tests, job interview and search techniques, and college and job application materials (resume, e-portfolio, cover letter, and statement of purpose) for about 30 hours
- Provided personal and career counseling to over 100 students mainly undecided freshmen, seniors, and graduates
- Made appropriate referrals to traditional counseling services
- Assisted students with several topics including self-assessment, career-exploration, decision making, job search strategies, interviewing, and networking
- Provided assessments including MBTI, Strong Interest Inventory, values and skills exercises

**TEACHING/SUPERVISION/ RESEARCH EXPERIENCE****St. Mary's University, San Antonio, TX****September 2014-May 2016***Research Assistant, Assisted Dr. E. Romulo Montilla*

- Lead two research groups that are developing assessment instruments to measure individuals' trust and intimacy levels
- Prepared manuscripts for conferences
- Presented the first finished project, Intimacy, at the international conference

**St. Mary's University, San Antonio, TX****January 2015 – May 2015***Clinical Supervisor, Dr. Julie Strentzsch-Supervisor*

- Provided weekly individual and group clinical supervision to 2 Master level supervisees
- Ensured supervisees' ethical and professional practice
- Provided prompt feedback about supervisees' progress
- Assisted supervisees with the areas that they need to growth
- Evaluated supervisees' skills, performance, and progress regularly using evaluation forms and rubrics
- Provided weekly reports to supervisor Dr. Julie Strentzsch about students' progress

**St. Mary's University, San Antonio, TX**

**September 2014-December 2014**

*Teaching Assistant, Dr. Julie Strentzsch-Supervisor*

- Instructed a three-credit human development and life span course designed to educate master's students on critical development stages and their implications on mental health
- Developed and selected appropriate learning activities to ensure student engagement and understanding
- Produced class materials such as handouts and presentations after carefully evaluating and making adjustments to previously used content and format
- Created and prepared weekly quizzes, midterm, and exams and graded them.
- Provided prompt feedback to students regarding their course and exams related questions

**Mevlana Elementary School, Gazi Antep, Turkey**

**March 2008-June 2008**

*Teacher (5th grade)*

- Developed and implemented comprehensive lesson plans and instructed all major subject areas including reading, grammar, science, and social studies for 5th graders
- Applied appropriate teaching strategies for individual developmental levels of students
- Identified, selected, and modified resources to meet students` diverse needs
- Administered frequent quizzes and exams to assess areas in need of improvement
- Counseled students when adjustment and academic problems arose
- Worked to increase parental involvement through regular communication and monthly news letters
- Planned and facilitated bi-monthly family sessions, addressing more in-depth topics such as social and developmental issues of students

**Fevzi Cakmak Elementary School, Gazi Antep, Turkey**

**January 2008-March 2008**

*Teacher (1st grade)*

- Instructed all major subject areas including reading, writing, science, and social studies for 1st graders
- Organized and facilitated age-appropriate recreational activities
- Provided one-on-one, as well as large and small group instruction
- Identified and offered students with learning disabilities to rehabilitation counseling services
- Worked to increase parental involvement through regular communication and monthly news letters
- Planned and facilitated bi-monthly family sessions, addressing more in-depth topics such as social and developmental issues of students

**PRESENTATIONS**

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Christian Association for Psychological Studies (CAPS- Mar, 2016), Pasadena, CA: ***The Five Dimensions of Intimacy Within Human Relationships***

Association for Counselor Education and Supervision (ACES - Oct, 2015), Philadelphia, PA: ***Teaching ACA Ethics and State Regulations to International Students***

American Counseling Association (ACA- Mar, 2015), Orlando, FL: *The Internalization of Counseling: Challenges and Rewards of Admitting International Students*

International Association for Counseling (IAC – May, 2014), British Columbia, Canada: *Effective Ways of Advising International Students in Counseling: Contribution to International Counseling*

International Conference on New Trends in Education and Their Implications (ICNET, Nov 2010), Antalya, Turkey: *The Opinions of Primary School Teachers About School Guidance Services at Primary Schools*

### COMMUNITY SERVICE

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**Graduate Assistant**, St. Mary's University, San Antonio, TX **September 2014-May 2016**

- Developed assessment instruments to measure individuals' trust and intimacy levels

### UNDERGRADUATE INTERNSHIPS

---

**Intern**, Selcuklu Elementary School, Konya, Turkey **January 2007-June 2007**

**Intern**, Kazim Karabekir Elementary School, Konya, Turkey **September 2006-Jan2007**

**Intern**, Ataturk Elementary School, Agri, Turkey **January 2004-June 2004**

### FELLOWSHIPS AND ASISSTANTSHIPS

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**Fellowship** - Turkey Ministry of National Education **December 2009 – June 2017**

**Scholarship** - Turkish Government **September 2003 – June 2007**

**Assistantship** - St. Mary's University, San Antonio, TX **September 2014 – May 2016**

### PROFESSIONAL AFFILIATIONS

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**Member**, American Counseling Association (ACA) **March 2013 – January 2016**

**Member**, Association for Counselor Education and Supervision (ACES) **March 2014 –March 2015**