

**Related Self and Sense of Belonging as Protective Factors against Suicidal Tendency
in Turkish Adolescents during Transition to University**

by

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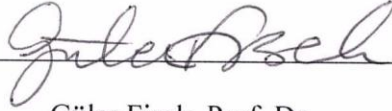
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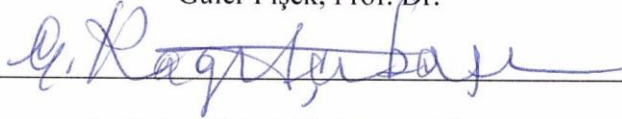


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ABSTRACT

This study investigates protective factors for suicide and depressive symptoms in Turkish adolescents during their first year of college, a period of transition to university. Informed by major theories on self-construal (Kâğıtçıbaşı, 2007), suicide (Durkheim, 1951; Joiner (2005) and basic psychological needs (e.g. Kâğıtçıbaşı, 2007; Ryan & Deci, 2000) we proposed that the construal of self as related and the individual sense of belonging play a critical protective role against suicidal tendency (ideation and attempt history) and depression, with the sense belonging constituting a mediating factor in relatedness-mental health link. Also, the protective effect of the sense of belonging was hypothesized to be stronger for individuals with higher perceived stress. Cross-sectional survey data was collected from 321 freshman students from two major universities in Istanbul. Results confirmed the protective contribution of the sense of belonging and related self-construal against suicidal tendency and depression, with belongingness constituting a mediating factor. Autonomous self-construal was not associated with suicidal tendency and depression. The severity of stress-levels during the past year did not moderate the association between the sense of belonging and mental health outcomes. Instead, the sense of belonging mediated the relation between stress and suicidal ideation and stress and depression. This study revealed promising results about the protective role of construal of self as related in association with suicide and depressive symptoms. These results are interpreted in light of the sociocultural composure of the urban university context. Future research and gained insights into protective pathways in different sociocultural contexts separately for suicidal ideation and suicide attempts are crucial in informing effective and socioculturally tailored suicide prevention strategies.

Keywords: suicide, depression, protective factor, related self, autonomous self, sense of belonging, stress

ÖZET

Bu çalışma üniversiteye geçiş sürecindeki Türk gençlerinde intihar ve depresyon belirtilerini önleyici etkenleri araştırmaktadır. Kâğıtçıbaşı (2007), Durkheim (1951), Joiner (2005) 'in kuramları ve temel psikolojik ihtiyaçlar hakkındaki teorilerden (Kâğıtçıbaşı, 2007; Maslow, 1943; Murray, 1938; Ryan & Deci, 2000) yola çıkarak ilişkisel benlik yapısının ve bireysel ait olma duygusunun intihar eğilimi ve depresyon üzerinde kritik bir önleyici rolü olduğunu öne sürüyoruz. Özellikle, ilişkisel benlik yapısının son bir yıldaki intihar eğilimi (intihar düşüncesi ve girişimi) ve depresyon belirtileri ile ilişkisini ve bu ilişkiye gençlerin genel anlamdaki aidiyet duygularının aracılık edip etmediğini araştırdık. Aidiyet duygusunun önleyici etkisinin yüksek miktarda stres altında olduğunu hisseden bireylerde daha güçlü olabileceği hipotezini test ettik. Bu çalışmada ayrıca özerk benlik yapısının intihar eğilimi ve depresyon üzerindeki etkisini de ele aldık. Bu amaçla İstanbul'daki bir özel ve bir devlet üniversitesindeki toplam 321 birinci sınıf öğrencisinden enlemesine veri toplandı. Sonuçlar aidiyet duygusu ve ilişkisel benlik yapısının intihar eğilimi (intihar düşüncesi ve girişimi) ve depresyon üzerindeki önleyici etkisini destekler nitelikteydi. Özerk benlik yapısı ile intihar eğilimi ve depresyon arasında ilişki bulunamadı. Bu sonuçlar ilişkisel benliğin, intihar düşüncesi (istek), intihar girişimi (davranış) ve depresyonu önleyici bir etmen olduğunu destekler yöndedir. Ayrıca, beklendiği gibi, aidiyet duygusunun ilişkisel benlik ile intihar düşüncesi ve ilişkisel benlik ile depresyon arasındaki ilişkide aracı etmen olduğu saptandı. Son bir yıldaki stres düzeyinin şiddetinin aidiyet duygusu ile intihar eğilimi ve aidiyet duygusu ile depresyon arasındaki ilişkide düzenleyici bir rolü saptanmadı. Beklenenden farklı olarak, aidiyet duygusunun stres ile intihar girişimi ve stres ile depresyon arasındaki ilişkiye aracılık ettiği anlaşıldı. Bu çalışma intihar ve depresyon belirtileri üzerindeki önleyici sosyokültürel etkenler hakkında destekleyici sonuçlar ortaya koydu. Bu sonuçlar kentsel üniversite ortamının sosyokül-

türel dinginliđi göz önünde bulundurularak yorumlanmıřtır. Etkili ve sosyokültürel yapıya uygun intiharı önleme stratejileri geliřtirmede gelecekte yapılacak çalıřmalar ile farklı sosyokültürel ortamlarda intihar eğilimini ve intihar girişimini engelleme yolları ile ilgili ayrı ayrı edinilecek bilgiler önem teşkil etmektedir.

Anahtar Sözcükler: intihar, depresyon, önleyici etken, ilişkililik, ayrıklık, aidiyet duygusu, stres

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Chapter 1

INTRODUCTION

A major health risk for adolescents in recent years is suicide. It is the second leading cause of death after unintentional injuries among adolescents between the ages of 18 and 30 in the USA (Centers for Disease Control and Prevention, 2010). In 2012 almost 6 out of 100,000 adolescents between the ages of 15 and 24 died by suicide in Turkey (Turkish Statistical Institute, 2012). Despite this relatively low rate in Turkey the increasing trend as in many countries (Coşkun, Zoroğlu, & Ghaziuddin, 2012; Hawton & van Heeringen, 2009) is of alarming concern. National strategies on suicide prevention based on theoretically and empirically established risk factors are continuously developed in order to curtail this major health issue. Researchers emphasize the need for novel perspectives, taking into account the protective aspects and culture-sensitive factors in order to improve intervention and prevention approaches (Bruffaerts et al., 2011; Pitman & Osborn, 2011). Further research using novel perspectives is warranted in order to steadily improve the strategies used for suicide prevention. Based on theories on the interpersonal nature of suicide (Durkheim et al., 1951; 2005) and the theory on the Turkish culture as being especially promotive of related and autonomous-related self-construals (Kâğıtçıbaşı, 2007), the current study investigates related and autonomous self-construals, as well as sense of belonging as protective factors for suicide among Turkish adolescents. Adolescence is a vulnerable time period akin to the effects of various stresses due to a myriad of psychosocial and biological changes. As such it is a critical period in development, and preventive efforts may be of utmost importance. We aimed to examine the transition to university as a specific challenge and a stressor for Turkish adolescents and investigate whether the construal of self as related and autonomous is associated with suicidal behavior and adolescent's well-being. Furthermore we propose that sense of belonging could

help explain the association between related self-construal and mental health of adolescents at this difficult time of transition. The conceptual model of the current study is displayed in Figure 1.

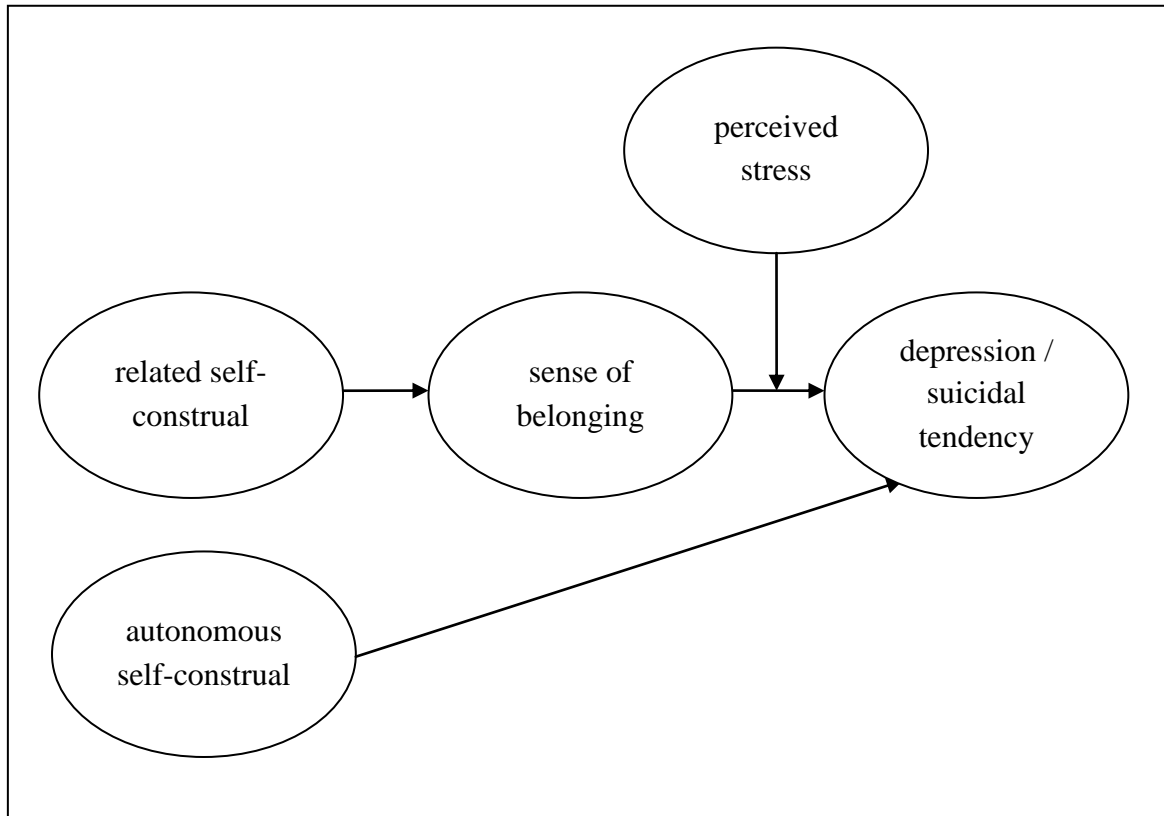


Figure 1. Conceptual model

Chapter 2

LITERATURE REVIEW

2.1 Adolescence

The period of adolescence has received comparably less attention by developmental theories and research in contrast to early childhood development (Crain, 2005). It is a dynamic period with a substantial potential for change and a high sensitivity for external influences (Cicchetti & Toth, 1996; Galambos, Barker, & Krahn, 2006). Societal changes toward increased competition for jobs and scarce resources, and subsequent increase in the demands and expectations from adolescents make an investigation of this period especially relevant.

Arnett (2000; 2004; 2007) analyzed the recent societal changes in industrialized societies and proposed the term “emerging adulthood” for describing the period of transition adolescents typically go through between the ages of 18 and 25 in industrialized societies. According to his observations, as a consequence of the changes of the industrialized society adolescents marry later, become parents later and stay in education for a longer time. They face a longer period of transition to adulthood with higher uncertainty and with successive tasks that are difficult to cope with. For adolescents transitioning to university life and crossing over to ‘emerging adulthood,’ the challenge is not only facing up to difficult tasks (e.g. finishing school, entering university, entering a new job) but also experiencing most of these challenges for the first time. During this transition, specific coping strategies may be called for to deal with this novel challenge, but coping strategies may not have been developed and/or practiced enough yet (Arnett, 2000, Arnett, 2004, Arnett, 2007). Thus, this period is a highly stressful period of time.

2.1.1 Developmental Tasks and Stressors

Going through the developmental period of adolescence, individuals usually work on a variety of developmental tasks and specific stressors. The developmental tasks and experience of stressors nevertheless do not necessarily need to be regarded as risk factors. The idea of developmental tasks as an opportunity for positive development goes long way back in the history of psychology. One of the first and most popular theories coining the term “developmental task” was put forward by Havighurst (1972; original work published 1948). Developmental tasks are the criteria of adaptation that are specific to a developmental period and are influenced by sociocultural expectations (Roisman, Masten, Coatsworth, & Tellegen, 2004). Developmental tasks not only cause the developing individuals to face a challenge, but also offer them an opportunity for personal growth and success. The perspective of adolescence as a period of opportunities and challenges has shaped research during the last decades (Cicchetti & Toth, 1996) and nowadays still prevails among researchers (e.g. Galambos & Krahn, 2008).

An important developmental task of adolescence is identity exploration. Erik H. Eriksson (1950) was one of the first developmental psychologists proposing a life-span developmental theory (Lerner, 2013). He proposed that the development of the self proceeds through the acquisition of ego capabilities, developing in eight stages. Those capabilities are necessary for meeting societal demands and thus for a healthy development of the self. For adolescents according to Erikson the crucial psychosocial question posed is ‘who am I?’ stimulated by physical changes due to puberty as well as demands from the society – for instance taking the first definite decisions towards career pathways (Lerner, 2013). In a longitudinal study following up 177 adolescents from the age of 20 to the age of 30, Roisman (2004) showed that the successful management of friendship, academic and conduct developmental tasks at the age of 20 predicted domain-specific success on

those domains ten years later. The results of this study indicated the opportunity for positive development by successfully completing developmental tasks.

An important stressor during adolescence is the transition from high school to college (Arnett, 2004; Evans, Forney, Guido, Patton, & Renn, 2009). There are increasing objective and subjective demands to have a college education with an aim to get a job and to have a high income (Arnett, 2004). In fact, the number of students who continue education after high-school is high in Turkey, as the financial returns to a year of university education is much higher than in other forms of education (Tansel & Bircan, 2008). According to the address based population registration system (ABPRS) of the Turkish Statistical Institute in 2012 approximately 2.8% of females and 2.2% of males between the ages 18-21 were in university education.

College education is generally preceded by a period of decision making, changes and challenges including major considerations, applications to different universities, decisions regarding the city of future residence and financial reorganizations. In Turkey the period between high school and college is especially demanding as university admissions are limited to a small proportion of the young population in Turkey who score relatively high in a nationwide central entrance examination. The nation-wide entrance examination for universities is a highly competitive exam, that each year a large number of students take but only a relatively small percentage of the examined students are subsequently placed at a university program. In 2013, almost 2 million students took the exam, of which 45.6% (877,784 students) were placed in a university program subsequently (T.C. Ölçme Seçme ve Yerleştirme Merkezi ÖSYM; 2013).

There is no published research on the effects of this exam and the extensive preparation period before this exam on adolescents' well-being or risk for ill-being; nevertheless, by the demands posed on students and numbers on the examination and preparation

period, it can be inferred that the temporal, monetary and achievement demands put a high level of stress on the students.

Using private tutoring after school in order to prepare for the examination is a common practice in Turkey. In 2010 1178860 students visited the private tutoring centers of Turkey (Özel Dershaneler Birliği Derneği, 2010) and it is assumed that a large proportion of high school graduates preparing for the university entrance examination attend them (Tansel & Bircan, 2006). The price of private tutoring is difficult to determine and vary substantially among institutions (Tansel & Bircan, 2008). Based on self-report of the parents, prices vary from 500 TL to 3000 TL per year and can go up to 8000 TL per year on the big metropolis Istanbul and Ankara. Official numbers reported by the union of private tutoring (Özel Dershaneler Birliği Derneği, Özdebir) report an average price for a year of private tutoring in 2010 of 1300-1500 TL (Özel Dershaneler Birliği Derneği, 2010). Tansel and Bircan (2006) emphasized that those prices are expensive for Turkey and beyond the reach of a household with an average income. There is a high competition in the private tutoring centers, not only due to the importance of the university entrance exam but also due to the competition between the different private tutoring centers, which offer scholarships for especially successful students in order to attract high performing students (Tansel & Bircan, 2006).

The following entrance into college life is mostly accompanied by an adaptation process to the new physical, social and academic environment (Arnett, 2004). Students enter a new school setting with remarkable differences in the physical, social and academic structure. Many students even move to a new city and/or move out from their parent's home for the first time. They need to make new friends, get to know new teachers and adapt to the higher demands of self-discipline and commitment. Furthermore college edu-

cation may lead to higher stakes, especially in private universities, implying a high pressure for success (Arnett, 2004).

Other challenges adolescents typically face but which are not necessarily related to the transition from high school to college can be categorized as education, work, money, housing, crime, health, deaths, romantic relationships and other relationships (Williamson et al., 2003). Zimmer-Gembeck and Skinner (2008) summarized that the most commonly reported stressors are related to school, including for example bullying by peers, problems with teachers and academic difficulties, and interpersonal relationships, including conflicts with parents, siblings and peers. Engin, Gurkan, Dulgerler and Arabacı (2009) showed that school problems and family relationship issues were risk factors of college student's suicidal thoughts in Turkey. Thus those factors are likely to be a significant source of stress for adolescents in Turkey.

2.2 Suicide

Suicide is the second leading cause of death after unintentional injuries among adolescents between age 18 and 30 in the USA (Centers for Disease Control and Prevention, 2010). Among US students of grades 9 till 12, 7.8% reported a suicide attempt during the past 12 months and 15.8% of the students had seriously considered attempting suicide during that period (Eaton et al., 2012). American college students showed similar numbers, with 7.4% reporting seriously having considered suicide within the last 12 months, and 1.5% reporting a suicidal attempt within that period (American College Health Association., 2013). Those numbers make clear that suicide is a major health issue in a modern society, where the death rate due to illnesses that were highly fatal in the past (e.g. malignant neoplasm, heart disease, HIV, diabetes mellitus) are declining through major progresses in treatment methods (Centers for Disease Control and Prevention, 2010).

Prospective studies show that suicidal ideation itself needs to be considered as a serious health condition. Suicidal ideation among North-American adolescents at age 15 has been shown to be a strong predictor of suicidal attempts 15 years later (Reinherz, Tanner, Berger, Beardslee, & Fitzmaurice, 2006). Participants who showed a suicidal ideation at age 15 were 12 times more likely to having attempted suicide at age 30 (Reinherz et al., 2006). Furthermore suicidal ideation and previous suicide attempts are a high risk for subsequent suicide attempts in an adolescent clinical (Brent et al., 2009) and high-school sample (Miranda et al., 2008). Multiple attempts appear to be a stronger predictor for further attempts than suicidal ideation or single attempts in high-school adolescents (Miranda et al., 2008). In a Finnish sample suicide was the most frequent cause of death among male and female suicide attempters (Ostamo & Lönnqvist, 2001). Among the adolescents of this sample (age 15-24) almost 8% died of suicide within the next 5 years after the index suicide attempt.

2.2.1 Adolescence and Suicide

Even though rates of depression generally decline during adolescence and early adulthood (Galambos et al., 2006), adolescence appears to be a sensitive period for the development of psychopathology (Casey et al., 2010; Kessler et al., 2005; Schulenberg, Sameroff, & Cicchetti, 2004). According to Schulenberg et al. (2004) the relatively low theoretical and empirical interest in this period may lead to the assumption, that the transition to adulthood plays a relatively small role in the development of psychopathology and mental health – but the opposite is the case. Kessler et al. (2005) showed in a nationally representative sample of the USA that half of all lifetime DSM-IV disorders started by age 14 years and three fourths by age 24 years. Casey et al. (2010) argue that intensified emotional experiences are one of the typical psychological changes during adolescence, which

may be the basis of this heightened risk of the development of psychopathology and suicidal behavior.

Suicidal ideation and attempts are declining from high school to college years in Turkey (Eskin, 2013), but no statistics available for the suicide risk at the first year of college specifically. Beside the risks that are inherent in this period of transition there is evidence that successful management of the tasks may lead to positive outcomes, such as reduced depression (Galambos et al., 2006), lower suicidal ideation and attempts (Eskin, 2013) and higher self-esteem (Galambos et al., 2006).

2.2.2 Prevalence Variation across Different Cultures and Contexts

The prevalence of suicidal ideation and behaviors varies substantially among different cultures and also among different sociocultural contexts within those cultures (Bertolote et al., 2005). On a cross-cultural level it was found that suicide rates are lower in countries with socioeconomic indices typical of more traditional societies, characterized by a strong emphasis on religious beliefs, national identity, authoritarian education, and male dominance in the economic and political life (Lenzi, Colucci, & Minas, 2012). Among adolescents (age 15 to 16) within different European countries a variation of the life-time prevalence of a suicide attempt ranged from 4.1 in 100,000 in Armenia to 23.5 in 100,000 in Hungary (Kokkevi, Rotsika, Arapaki, & Richardson, 2012).

With respect to the Turkish culture a comparably low suicide rate can be seen among the general population and also among youth when compared to other, especially Western societies. The general average suicide rate per 100,000 inhabitants in Turkey was 4.29 compared to 12.1 in the USA in 2010 (American Foundation for Suicide Prevention, 2014). Among adolescents the rate was almost 6 between the ages of 15 and 24 in Turkey 2012 (Turkish Statistical Institute, 2012), whereas in the USA the rate was 10.54 among this age group in 2010 (American Foundation for Suicide Prevention, 2014).

Suicide rates show remarkable gender differences. A direct comparison of the adolescent (age 15 to 24) suicide rates in Turkey and the USA between 1992 and 2004 revealed: the relatively lower rate of Turkey compared to the USA (Coşkun et al., 2012), mainly due to a much higher suicide rate of young men in the USA (men = 4.58 and women = 5.22 in Turkey; men = 18.84 and women = 3.36 in the USA). Among the general population in Turkey, men also had a higher suicide rate (6.13) than women (2.43) in 2012 (Turkish Statistical Institute, 2012). Gender distribution among young people in contrast showed a reverse picture: young women (particularly Southeastern Turkey) had slightly higher suicide rates than men in Turkey (ratio of males to females = 0.92) whereas young men had higher suicide rates compared to young women in the USA (ratio of males to females = 5.87; Coşkun et al., 2012). Recently the gender distribution of suicides among young people in Turkey changed: now men have consistently higher suicide rates than women among all age groups (Turkish Statistical Institute, 2012). Interesting is though, that suicide rates for men continuously increased with age (20-24 years: 7.84, 75+ years: 15.22) whereas for women the trend is not as clear (rates ranging between 1.70 and 5.58) and the highest rate was seen during adolescence (15-19 years: 5.58, 20-24 years: 4.08, 75+ years: 4.07; Turkish Statistical Institute, 2012). The analysis on age specific suicide rates between 1992-2010 (Coşkun et al., 2012; Turkish Statistical Institute, 2012) and the observed gender differences (Coşkun et al., 2012; Turkish Statistical Institute, 2012) lead to the conclusion that the young population in Turkey and young women in particular, may be a group at high risk for suicide.

The data on adolescents as well as data on the whole population of Turkey indicate a general increase in suicidal behaviors over the past years: Suicide rates among 15-24 year old adolescents increased in Turkey between 1992 and 2004, whereas they decreased in the USA (Coşkun et al., 2012). Among the general population the suicide rate was 2.67

in 2000 and increased to 3.62 in 2011 and to 4.29 in 2012 (Turkish Statistical Institute, 2007, Turkish Statistical Institute, 2012).

Contextual factors that appear to play a role in suicidal behaviors across and within cultures are urban/rural environments, socioeconomic status, educational level and religiosity. When urban and rural contexts are compared, results of the studies appear to be largely varying depending on the country that is studied. Even within the same country there appear to be differences depending on the regions studied (Blum, Sudhinaraset & Emerson; 2012; Lu et al., 2013; Searles et al., 2014; Singh & Siahpush, 2002; Yip, Callanan & Yuen, 2000). In Turkey an examination of the descriptive suicide rates over regions showed that the big metropolis Istanbul and Ankara have rates close to the average of the country (3.88 and 4.32, respectively), whereas the highest rates can be seen among the smaller cities Uşak, Kastamonu, Iğdır, Aydın and Muş (8.50, 8.06, 7.38, 7.28, 7.25, respectively; Turkish Statistical Institute, 2012). Suicide rates furthermore appear to be higher among the less educated, unemployed (Christoffersen, Poulsen & Nielsen, 2003) and persons with low socioeconomic status (Neeleman & Lewis, 1999). In Turkey, among the people who committed suicide, more than 50% had just primary school education or lower. High school education was a percentage of 16.4% and a higher education 7.7% (Turkish Statistical Institute, 2012). With respect to the role of religion in suicide rates, a major factor of study has been the condemnation of suicide in all major religions including Islam. Religiosity has been found to have a negative direct effect on suicidal tendency for different religions including Islam (Greening & Stoppelbein, 2002; Lester, 1992; see Lizardi & Gearing, 2010 for a review; Sisask et al., 2010; Stack & Kposowa, 2011). However, whether this influence is due to condemnation or the social integrity that results from religiosity has yet been an empirical question with equivocal evidence to date (Fischer et al., 2010)

The most frequent reason reported for suicide among youths were family conflict, other relationship problems, illness and education failure (Coşkun et al., 2012), whereas for the general population illness, family problems and economic problems were the most common causes (Turkish Statistical Institute, 2012); however it has to be considered that in most cases (53.1%) the reasons for suicide were unknown (Turkish Statistical Institute, 2012).

The variation in suicide rates across different socio-cultural contexts lead researchers to the assumption that cultural factors may be affecting suicidal ideation and behaviors themselves or they may be affecting causal, risk or protective factors for suicide. Not only cross-cultural differences but also differences and trends at the individual and family levels across time within the same culture also provide insights into the associations between socioculturally specific factors and suicidal ideation and behavior. Studies on these cultural factors will be presented in the section ‘culture and suicide’.

2.2.3 Interpersonal Theory of Suicide

The interpersonal theory of suicide (Joiner, 2005) is one of the most recent theories explaining suicide. Its core assumption is briefly stated as “people die by suicide because they can and because they want to” (van Orden et al., 2010, p. 7), meaning that suicide is a result of a developed desire of suicide and an acquired capability to enact lethal self-injury. These components can exist independently from each other, an acquired capability to enact lethal self-injury may exist without a desire of suicide and a desire of suicide may exist without a capability of lethal self-injury. Only if both conditions are met there will be a serious attempt or death by suicide (Joiner, van Orden, Witte, & Rudd, 2009). According to the interpersonal theory of suicide (Joiner et al., 2009), a desire of suicide, namely suicidal thoughts and ideation are caused by two major components, thwarted belongingness and perceived burdensomeness.

According to the interpersonal theory of suicide, thwarted belongingness is a dynamic affective and cognitive state, in which the “need to belong is unmet” (van Orden et al., 2010, p. 7). The state of thwarted belongingness consists of two major components: loneliness and absence of reciprocal care. The authors specify indicators for the measurement of thwarted belongingness, for example self-reported loneliness, marriage, number of children, friends, living alone, few social supports, and non-intact family as indicators of loneliness (van Orden et al., 2010).

The hypothesis of protective factors for suicide is based on the assumption that there are basic psychological needs that await gratification. Several authors have hypothesized basic psychological needs (Kâğıtçıbaşı, 2007; Maslow, 1943; Murray, 1938; Ryan & Deci, 2000), with Henry Murray (1938)’s theory building the base of the interpersonal theory of suicide. Murray (1938) assumes 20 needs, which lead to well-being and health when fulfilled. According to Joiner (2005) two of those psychological needs are critical for suicide. The first one is the need for affiliation (Murray, 1938), which Joiner (2005) called “belongingness”. The second is the need for autonomy (Murray, 1938), which can, according to Joiner (2005) extend to a degree of perceived burdensomeness when it is thwarted. The autonomous-related self theory (Kâğıtçıbaşı, 2007) and the self-determination theory (Ryan & Deci, 2000) support this perspective of basic human needs, by stating that the needs for relatedness and autonomy “appear to be essential for facilitating optimal functioning of the natural propensities for growth and integration, as well as for the constructive social development and personal well-being” (Ryan & Deci, 2000, p. 68).

The conceptualization of the interpersonal theory of suicide that rest on theories on the importance of (thwarted/satisfied) basic human needs in (diminished/increased) psychological well-being, puts forth that individuals with higher levels of thwarted belong-

ingness are more likely to have increased suicidal tendency (Joiner reference here). A derivative of this conceptualization is tested in the present study, a higher individual sense of belonging would serve as a protective factor for suicide. In contrast to the interpersonal theory of suicide, which regards thwarted belongingness as a psychological state preceding suicide (van Orden et al., 2010) we conceptualize the sense of belonging as a trait-like psychological characteristic, which is steadily shaped during the development of the self in the social context and thus prone to socio-cultural influences. Thus, our premise is that the sense of belonging as such serves as a protective factor against the impact of stressful events and therefore reduces the likelihood of the development of depression and suicidal tendency.

2.3 Sense of Belonging and Suicide

According to the interpersonal theory of suicide (Joiner, 2005) thwarted belongingness is one of the core components on the causal pathway to suicidal tendency. Following this theoretical perspective, a sense of belonging may be one of the protective factors against suicide, contributing to the reasons binding individuals to life. The sense of belonging as a protective factor has been studied in relatively few studies (Bailey & McLaren, 2005; Choenarom, Williams, & Hagerty, 2005; Hagerty & Williams, 1999; Hill, 2009; Kissane & McLaren, 2006; McLaren & Challis, 2009; McLaren, Gomez, Bailey, & van der Horst, 2007; Sargent, Williams, Hagerty, Lynch-Sauer, & Hoyle, 2002; Vanderhorst & McLaren, 2005) while substantial empirical evidence exist for risk factors indicative of an absence of belonging (van Orden et al., 2010). In review of the literature van Orden et al. (2010) pointed out that social isolation, unemployment and family conflict are among the most substantiated risk factors for suicide in the literature. All of these factors were indicated as closely related to a consequential loss of social connection with friends, col-

leagues or family members, which in turn highly associate with decreased levels of perceived belongingness.

Among college students, the sense of belonging was empirically associated with social and psychological functioning, such as social support, conflict, loneliness, anxiety, depression, suicidal thoughts and suicidal attempts (Hagerty, Williams, Coyne, & Early, 1996). Furthermore the buffering effect of a higher sense of belonging against depressive symptoms was demonstrated in a sample of young predominantly male naval recruits (Sargent et al., 2002). In an American sample of adolescents, family connectedness and perceived school connectedness was shown to be associated with lower levels of emotional distress, suicidal thoughts and behaviors and violence (Resnick et al., 1997). Among American college students, less positive tangible social support and negative social exchanges predicted higher suicidal ideation and behavior (Hirsch & Barton, 2011), thus emphasizing the importance of functional social integration during this period of transition.

Important aspects in the association between the absence of belongingness and suicidal ideation and behaviors appear to be the chronicity and severity of the feeling. Research indicates that a chronic, trait-like loneliness leads to higher levels of physiological stress response (Cacioppo et al., 2000), negative emotions and interpersonal states (Cacioppo et al., 2006). Severe forms of absence of belongingness as social isolation have been shown to be robust risk factors for suicide (van Orden et al., 2010).

The sense of belonging has also been investigated as a protective factor in a number of studies on healthy adults, older adults and other specific populations at high risk for suicide. For instance, a higher sense of belonging was associated to less suicidal ideation and behaviors in samples of male Australian farmers (McLaren & Challis, 2009), retired American men and women (Bailey & McLaren, 2005; Kissane & McLaren, 2006) and

retired older Australian men and women (McLaren et al., 2007; Vanderhorst & McLaren, 2005). Hill (2009) investigated the association between the sense of belonging and suicide in an American Indian sample, a group showing a relatively high suicide rate compared to the national rate. Results demonstrated a negative association between the sense of belonging and suicidal ideation, suggesting the protective or buffering effect of belongingness against the impact of other risk factors. In another study comparing two adult samples, one with a history of depression and the other control group without a history of depression, Choenarom et al. (2005) showed a significant association between the sense of belonging and current depressive symptoms for those with a history of depression, but failed to find a similar significant association between the sense of belonging and depression for the control group of healthy adults. This result points to the protective value of the sense of belonging for groups at special risk.

The first hypothesis of the current study is therefore phrased as follows:

H1a. A higher sense of belonging is associated with less depressive symptoms

H1b. A higher sense of belonging is associated with less suicidal tendency
(suicidal ideation and suicidal attempt)

2.4 Culture and Suicide

The most cited and influential theory on the socio-cultural influences on suicide was proposed by Durkheim (1951). Social connectedness and regulation, and the lack thereof in modernizing societies were theorized to be related to an increase in suicide rates. Durkheim (1951) assumed that modern Western societies fail to provide appropriate opportunities to form a social identity and connectedness while promoting unrealistic expectations of individual freedom and autonomy. This theory has been the most referred theory in comparing suicide rates across different countries, but has led to few empirical investigations when it comes to studying within culture variations in values and person

level indicators of connectedness, such as self-construal with respect to relatedness and autonomy and sense of belongingness. Several studies examined and found varying levels of support for individualism as a risk factor for suicide and collectivism as a protective factor within the same culture, namely Turkey (Eskin, 2003), Australia (Scott, Ciarrochi, & Deane, 2004), and French immigrants (van Leeuwen, Rodgers, Régner, & Chabrol, 2010).

2.4.1 Individualism-Collectivism and Suicide

One of the important concept in describing cultures and the impact of culture on mental health outcomes is Hofstede (1984)'s individualism-collectivism dimension. One side of this dimension is called individualism and describes "societies in which the ties between individuals are loose: everyone is expected to look after him- or herself and his or her immediate family" (Hofstede, Hofstede & Minkov, 2010, p.92). The other side of the dimension is called collectivism and can be defined as "societies in which people from birth onward are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty" (Hofstede et al., 2010, p.92). Societies may be positioned on this dimension according to people's self image, which may be defined in terms of 'I' or 'we' (Hofstede et al., 2010). Individualism emphasizes self-reliance, personal uniqueness, independence and personal goals; collectivism on the contrary, emphasizes interdependence, relatedness and group goals (Triandis, 1995).

Suicide has been associated with individualism-collectivism on a national as well as on an individual level in a few studies. In a cross-national comparison of mainly Western developed nations suicide among youth was associated with individualistic values like personal freedom, control and choice especially among men (Eckersley & Dear, 2002). The findings were discussed in the context of Durkheim's sociological theory of suicide

(Eckersley & Dear, 2002). Rudmin, Ferrada-Noli and Skolbekken (2003) examined cultural values as predictors of suicide rates among 33 nations. Nations were differentiated regarding their individualism, as conceptualized by Hofstede (1984), based on the work-related values determined by Hofstede (1984). Results indicated that individualism was a strong positive correlate for suicide incidences. However, this association appeared to be predominant for men. For women at young ages, individualism was negatively associated with suicide rates (Rudmin et al., 2003).

A recent cross-cultural investigation using data from 87 nations of the relation between suicide rates and measures of individualization showed a curvilinear relationship between individualization and suicide rates, indicating the highest suicide rate for countries with medium levels of individualization and the top of individualism corresponding to medium suicide rates (Lenzi et al., 2012). In contrast to previous findings the authors reveal a consistent tendency toward a negative relation between individualism and suicide rates in posttraditional societies (Lenzi et al., 2012).

The association between individualism and suicide was further investigated at the individual level. In a study investigating French high school students with a mostly European (38%), North African, Asian and American immigrant background individualism was found to be a risk factor for suicidal ideation among boys and girls, in addition to stressful life events and depressive symptoms (van Leeuwen et al., 2010). Scott, Ciarrochi and Deane (2004) found that in a sample of Australian first-year students, strong individualistic values and beliefs predicted suicidal ideation and were furthermore associated with lower emotion managing skills, lower help-seeking intentions and higher hopelessness. A recent study investigated the association between individualistic value orientations and suicidal behaviors and attitudes in Turkey (Eskin, 2013). In a high school and college student sample from the city of Aydin in the southwest of Turkey those individuals who were

classified as being individualist showed significantly more frequent suicidal ideation and attempts than collectivists. Furthermore individualists showed a more permissive attitude towards suicide that describes a positive regard for suicide as a solution under certain conditions, compared to collectivists and compared to students who were classified as both, individualist and collectivist. Furthermore individualists believed to a lower extent that suicidal problems should be communicated to others compared to collectivists and students categorized as both. Accepting and helping reactions to an imaginary suicidal friend were highest among those students who were classified as both, individualist and collectivist, and lowest among students with an individualist value orientation (Eskin, 2013).

2.4.2 Family-Change Theory

A novel perspective on the influence of culture is put forward by Kâğıtçıbaşı (2007). According to Kâğıtçıbaşı (2007) the concept of self varies across cultures and influences a broad variety of psychological functioning, such as moral thinking, social justice, self-enhancement, cognition (e.g. attribution, self-perception, memory) and emotions (e.g. pride, anger), primary vs. secondary control (influencing existing realities vs. accommodating to existing realities) and achievement. The self is defined as “a construct that encapsulates the notion of the person and to some extent personality; it is a social product in the sense that it emerges out of social interaction and is socially situated at any point in time” (Kâğıtçıbaşı, 2007, p. 92). Self-construal are mainly a result of socialization and therefore differ due to different socialization processes. According to Kâğıtçıbaşı’s family change theory (2007) cultures differ with respect to their socialization strategies and subsequently individuals have different self-construal. Societal socioeconomic development shapes socialization processes, thus in turn effect individuals’ construal of self. Different parenting patterns are functional given different socioeconomic and cultural contexts. In a culture of separateness (also called individualistic culture in the terminology of

Hofstede's 1984 distinction of individualism-collectivism) a relatively permissive parenting with an autonomy/self-reliance orientation in parenting is the most functional pattern. In this context, people live in an urban/industrial setting with high affluence and are embedded in a nuclear family structure. Under these conditions the autonomy-oriented parenting is adaptive, as parents are no longer financially dependent on their children, in contrast children are costly and the financial independence of the children gains importance for their parents. This value of independence is implemented through parenting patterns and results in a separate self, which appears to be functional within the context. In a culture of relatedness (called collectivistic culture in the terminology of Hofstede's distinction of individualism-collectivism) however an authoritarian parenting pattern with obedience/dependence orientation appears to be adaptive. In this context people live in rural/agrarian conditions with low affluence embedded in functionally extended family structures. Under those conditions parents are financially dependent on their children, as reflected in an increased economic value of children and a son preference, which lead to a function of dependence orientation in their parenting patterns. This socialization pattern consequently results in the development of a related self. A pattern like this is present in Turkish rural areas (Mayer, Trommsdorff, Kâğıtçıbaşı, & Mishra, 2012).

According to the family change theory a third cultural pattern exists, leading to a family model of psychological/emotional interdependence. This pattern arises when living conditions of a culture of relatedness change towards higher affluence due to urbanization and industrialization. People live in functionally complex and nuclear family structures with kin ties. Under those conditions, where the financial dependence of parents on their children decreases but emotional interdependence values still remain strong, an authoritative parenting pattern with control and autonomy orientation happen to be most functional. This socialization pattern consequently results in the development of the autonomous-

related self. This family model of psychological/emotional interdependence is present for instance in Turkish urban regions (Mayer et al., 2012).

According to the autonomous-related self theory a self-construal may be differentiated on two independent dimensions: agency and interpersonal distance (Kâğıtçıbaşı, 2005b). Agency can be defined as self-reliance, and has the two poles autonomy and heteronomy. Autonomy means ‘self-governed’ or ‘self-ruled’, whereas heteronomy means being ruled by someone else. Interpersonal distance varies from separateness to relatedness. Interpersonal distance describes the degree of connectedness and therefore refers to self-other relations. Autonomy and relatedness are both assumed to promote well-being by satisfying two respective basic human needs (Kâğıtçıbaşı, 2005b). Kâğıtçıbaşı (2005b) assumes that what is called “individualism” in the conceptualization of Hofstede (1984) is actually a pattern of high agency and high interpersonal distance, the autonomous-separate self. “Collectivism” however describes a pattern of low agency and low interpersonal distance, a heteronomous-related self. As the dimensions of agency and interpersonal distance are assumed to be independent, two more patterns arise: the autonomous-related self (high agency and low interpersonal distance) and the heteronomous-separate self (low agency and high interpersonal distance). The third pattern (autonomous-related self) is optimal for well-being according to Kâğıtçıbaşı (2005b), as it meets both natural human needs of relatedness and autonomy at the same time. The fourth pattern of low autonomy and high interpersonal distance is hypothesized to describe a psychopathological pattern that is found quite rarely (Kâğıtçıbaşı, 2005b). Differences in self-construal can not only be found across cultures, there is also a remarkable inner cultural variation: autonomous-related self-construals for example are found to be frequent in Turkish urban areas, whereas in rural areas heteronomous-related self-construals are more frequent (Mayer et al., 2012).

Autonomy is associated with values of personal freedom, control and choice (Kâğıtçıbaşı, 2005b) and is one of the basic needs that await gratification. Obviously these values have been associated with individualism as well and were shown to be associated with higher suicidal ideation (Scott et al., 2004; van Leeuwen et al., 2010). These two views seem conflicting in the first view, as individualistic value orientations seem to be considered as risk and protective factors at the same time. When the conceptualizations of individualism are inspected in detail, the seemingly contradicting perspectives may be integrated. In line with Kâğıtçıbaşı (2005b)'s assumption of relatedness and autonomy as basic human needs and the interpersonal theory of suicide (Joiner, 2005), lower interpersonal distance or relatedness may be assumed to be a protective factor. Also autonomy may be regarded as beneficial for personal well-being as it is indicative of a basic need just as relatedness and we are able to separate it conceptually from the dimension of interpersonal distance. Accordingly it may be argued that the empirically established risk factor of "individualism" (Eckersley & Dear, 2002; Rudmin et al., 2003; Scott et al., 2004; van Leeuwen et al., 2010) traces back to its attribute of separateness rather than its attribute of autonomy. This differentiation may also account for the heterogeneity of the results regarding men and women (Rudmin et al., 2003). Indeed, the conflicting finding of Lenzi et al. (2012) showing a consistent tendency towards a negative association between suicide rates and individualism in second-modern societies is discussed to be due to a reflexive modern form of individualization, which is characterized by a prosocial orientation and social participation. In that sense, in modern societies a concomitant trend towards higher relatedness is observable, which has been hypothesized as the reason for a trend toward negative association between individualism and suicide in these yet few societies. This interpretation is further in line with Kâğıtçıbaşı's (2007) assumption of a global convergence towards the autonomous-related self, supported by research indicating an

increasing importance of human relational values rather than individualistic competitive values in the posttechnological society (Ekstrand & Ekstrand, 1987; Inglehart, 2003), which may serve as a protective factor for suicide. Thus it can be argued that the individualistic value orientation may be a risk factor only due to its characteristic of separateness which is reflected in a self-construal of related self (Kagitcibasi, 2005b) at the individual psychological level. The risk factor of separateness may be especially expressed at times of high levels of stress; at these times the protective effect of a high relatedness may be critical.

2.4.3 Self-Construals and Suicide

On the individual level relatedness and autonomy have been conceptualized in different ways when being related to well-being outcomes. Some authors refer to relatedness and autonomy as basic need satisfaction (Hill & Pettit, 2013; Reis, Sheldon, Gable, Roscoe, & Ryan, 2000; Sheldon, Ryan, & Reis, 1996). Others refer to relatedness and autonomy in the family context; some investigate relatedness and autonomy in family interactions (Allen, Hauser, Bell, & O'Connor, 1994), conceptualize autonomy as individuation from parents (Garber & Little, 2001), or define autonomy and relatedness as a characteristic of a family system (Aydın & Öztütüncü, 2001).

A recent study has shown that relatedness and autonomy as basic human need satisfaction show a significant association with decreased suicidal ideation among American college students (Hill & Pettit, 2013). A longitudinal investigation of autonomy and relatedness in American adolescent-family interactions revealed that autonomy and relatedness were strongly associated with ego development and higher self-esteem two years later, even when controlling for the number and quality of conversations of each family member (Allen et al., 1994). In an adolescent American sample for those adolescents who had mothers without depression, higher autonomy was related to less externalizing and inter-

nalizing problems (Garber & Little, 2001). The satisfaction of the basic needs of relatedness, autonomy and competence were shown to be associated with well-being on an interindividual trait-basis as well as in intraindividual day-to-day fluctuations in American students (Reis et al., 2000; Sheldon et al., 1996). Investigating the life-stories of immigrant women from Turkey, South Asia and Morocco living in the Netherlands showed that the themes of missing autonomy (not being able to make strategic life choices) and a lack of relatedness (lack of affection, sense of isolation) played a key role in the development of suicidal behavior (van Bergen, van Balkom, Smit, & Saharso, 2012). Aydın and Öztütüncü (2001) investigated the relation between family cohesion, perceived parental control, depression and negative thoughts in an adolescent Turkish sample. They found that depression and negative thoughts were negatively related to family cohesion, but not related to perceived parental control. In other words, lower family cohesion that may indicate lower relatedness, but not higher parental control that may relate to lower autonomy, was shown to play a role in the development of depression and negative thoughts in Turkish adolescents. These findings seem to be inconsistent for the effect of autonomy on suicidal behavior, but consistent for the effect of relatedness. These findings appear to indicate that the role of autonomy in suicidal behavior may be more varied depending on differences in contexts and individual characteristics – for immigrant women, the autonomy played a significant protective role whereas for Turkish adolescents this was not the case.

On a national level the positive effect of self-construals of relatedness and autonomy on suicide rates is supported when the variations of suicide rates among regions and educational levels in Turkey are considered. Turkey's culture has been found to exhibit a special cultural pattern promoting the autonomous-related self (Mayer, 2013), which is assumed to support well-being in an optimal way (Kâğıtçıbaşı, 2007). As a matter of fact, Turkey's suicide rate with approximately 4 in 100000 is relatively low in comparison to

Western societies (Coşkun et al., 2012; Kokkevi et al., 2012; Turkish Statistical Institute, 2012). The sociocultural explanation for low rates may lie in the long lasting cultural traditions of Turkey that support high relatedness in general. Nevertheless, as would be expected for any culture, inner-cultural variations in the frequency of self-construals are observed in Turkey: in urban areas the autonomous-related self is dominant, whereas in rural areas the heteronomous-related self is more frequent (Mayer et al., 2012). Suicide rates appear to be higher in rural areas compared to the rates in urban centers, as well as higher for those who are uneducated compared to the educated (Turkish Statistical Institute, 2012). Those inner-cultural variations could reflect the impact of lower autonomy despite higher relatedness among rural areas and less educated in the Turkish population. Thus, it may be speculated that the high relatedness contributes to the internationally relatively low suicide rates, whereas the lack of autonomy serves as a risk factor in some parts of the country, which display higher suicide rates.

No study, to our knowledge, has investigated the role of relatedness and autonomy as self-construals in association with suicidal tendency and depression so far. Empirical evidence on the satisfaction of autonomy and relatedness needs at the individual level (Allen et al., 1994; Aydın & Öztütüncü, 2001; Garber & Little, 2001; Hill & Pettit, 2013; Reis et al., 2000; Sheldon et al., 1996; van Bergen et al., 2012) and the association of cultural orientations of individualism and collectivism at the cultural level, provides the impetus for the current study. In line with the assumptions of Durkheim's (1951) theory on socio-cultural influences on suicide, the family-change theory (Kâğıtçıbaşı, 2007), the interpersonal theory of suicide (Joiner, 2005) and theories on basic human needs (Kâğıtçıbaşı, 2007; Murray, 1938; Ryan & Deci, 2000) relatedness has been established as a protective factor in a variety of populations and against varying indicators like suicidal tendency (van Bergen et al., 2012), depression (Aydın & Öztütüncü, 2001) and other men-

tal health outcomes (Allen et al., 1994; Reis et al., 2000; Sheldon et al., 1996). Due to the theoretical basis and empirical findings, we propose a protective value of relatedness as a self-construal against depression and suicidal tendency among the population of Turkish first year college students.

The second hypothesis of the current study is therefore:

H2a. Related self-construal is associated with less depressive symptoms

H2b. Related self-construal is associated with less suicidal tendency

Autonomy and mental health outcomes have been associated theoretically (Kâğıtçıbaşı, 2007; Ryan & Deci, 2000) with inconsistent evidence regarding the association and direction of the link (Aydın & Öztütüncü, 2001; Garber & Little, 2001; Hill & Pettit, 2013; van Bergen et al., 2012), on the contrary to the link between relatedness and mental health outcomes. The cross-national investigation of Lenzi et al. (2012) is also suggestive of a more complex association between autonomy and suicide rates: A curvilinear association was not only found for individualism (see 2.4.1) but also for autonomy – indicating that the countries with highest autonomy indices showed medium suicide rates and the highest suicide rates at medium levels of autonomy. No specific hypothesis about the nature and direction of the association between autonomous self-construal and suicidal tendency and depression can be drawn for the specific population of urban first-year college students. Relying on theory that proposes autonomy as a basic human need (Kâğıtçıbaşı, 2007; Ryan & Deci, 2000), the association will be addressed by the third hypothesis:

H3a. Autonomy is associated with less depressive symptoms

H3b. Autonomy is associated with less suicidal tendency

The major methodological limitation of a cross-sectional design is the impossibility to establish cause and effect (Engelhardt, Kohler, & Prskawetz, 2009). The establish-

ment of cause and effect of hypothesized protective factors is nevertheless essential in order to make valid recommendations for prevention strategies. In order to make a stronger statement about the role of related self-construal in protecting against suicidal tendency, the current study examines the association between relatedness as a self construal and relatedness as reasons for living. We propose that related self-construal lead to more interpersonal reasons for living.

The fourth hypothesis therefore states:

H4. Related self-construal is associated with more interpersonal reasons for living

According to Durkheim's (1951) theory of suicide, socio-cultural constitutions play an important role in suicide, as they may fail to provide appropriate sites or sources of social identity and attachment and leave the individual deprived of social connectedness. In that sense socio-cultural influences on self-construal may be protective for suicide, as they increase the level of connectedness and thus the sense of belonging in the individual. A recent investigation of relatedness and autonomy as basic human need satisfaction showed, that relatedness as well as autonomy decrease suicidal ideation among college students through their increasing effect on thwarted belongingness and perceived burdensomeness (Hill & Pettit, 2013). In line with the theoretical and empirical findings we therefore propose that the sense of belonging is a constituting factor in the association between related self-construal and decreased suicidal tendency and depression.

The fifth and the sixth hypotheses of the current study therefore state:

H5. Related self-construal is associated with a higher sense of belonging

H6a. The relation between related self-construal and depression is mediated through the sense of belonging

H6b. The relation between related self-construal and suicidal tendency is mediated through the sense of belonging

The context plays an important role when investigating the influence of sociocultural factors on health outcomes. It has been shown that contextual factors - such as socioeconomic status - have an important influence on suicide rates when cross-cultural investigations are carried out. In addition to SES, religiosity is a strong indicator of sociocultural context. Prior research has found a consistent protective effect of religiosity on suicidality (Greening & Stoppelbein, 2002; Lester, 1992; see Lizardi & Gearing, 2010 for a review; Sisask et al., 2010; Stack & Kposowa, 2011). Contextual factors indeed may modify or override the effect of protective factors that are at the psychological level such as the ones studied in the current study - belongingness and self-scontruals (Neeleman & Lewis, 1999). The current study examines protective factors in a relatively homogenous sociocultural context and the direct and moderating influence of socioeconomic status is not the main focus of research. These factors however will be examined and accounted for in the analysis of relationships among self-construal, belongingness and well-being (suicide and depression) if a significant direct influence on depression and suicide risk is present.

2.5 Stress and Suicide

Protective factors are the factors that decrease the probability of adverse outcomes in the presence of high levels of risk. Stress has been shown to be an influential moderator in the relation of cognitive risk and protective factors such as negative inferential style and emotional clarity and depression (Stange, Alloy, Flynn, & Abramson, 2013). Therefore we propose the sense of belonging as a buffer against stress, protecting against negative outcomes in the face of stressors. This conceptualization is in line with Cohen and Will's (1985) buffering hypothesis, indicating that social support may buffer against the negative

consequences of stress through various mechanisms, including the provision of resources to cope, esteem support or fulfilling the need for affiliation. In the same way the sense of belonging may buffer against the negative effects of stress by fulfilling the need for affiliation.

There are only a few studies examining protective factors against suicide using this rigorous conceptualization; usually the presence of a negative association between belongingness and lower levels of suicidal behaviors have been thought as indicating the protective value (Bailey & McLaren, 2005; Choenarom et al., 2005; Hagerty & Williams, 1999; Hill, 2009; Kissane & McLaren, 2006; McLaren & Challis, 2009; McLaren et al., 2007; Rowe, Walker, Britton, & Hirsch, 2013; Sargent et al., 2002; Vanderhorst & McLaren, 2005). An exemplar study in examining the buffering hypothesis in the development of suicidal behavior was carried out by Rowe et al. (2013). They showed that the satisfaction of basic psychological needs, namely relatedness, autonomy and competence buffered against the effect of negative life events and decreased their effect on suicidal behavior. Another study considered belongingness as a protective factor in the presence of stressors; Choenarom et al. (2005) examined the associations between the sense of belonging, stress and depressive symptoms in a sample of men and women with a history of depression. They hypothesized a moderating effect of the sense of belonging on the association between stress and depression. Even though they found that a lower sense of belonging and increased perceived stress had significant direct effects on the severity of depression, no moderating effect was present. Rather the effect of stress on depressive symptoms was mediated by the sense of belonging, indicating that a higher level of stress leads to a lower sense of belonging, which influences the level of depressive symptoms.

In our analysis focusing on the protective effect of the sense of belonging on suicide, it is therefore hypothesized that this association is only visible under high levels of

perceived stress, supported by the buffering hypothesis (Cohen & Wills, 1985), the finding that relatedness buffered against stressful life events (Rowe et al., 2013) and the finding, that the sense of belonging was only detectable in a sample of adults who had a history of depression (Choenarom et al., 2005).

The seventh hypothesis of the current study states:

- H7a.** The association between the sense of belonging and depression is stronger for those adolescents who experienced a high subjective level of stress during their transition to university
- H7b.** The association between the sense of belonging and suicidal tendency is stronger for those adolescents who experienced a high subjective level of stress during their transition to university

2.6 Summary

Turkey's special cultural configuration may serve as a protective factor for suicide in adolescents in the sense that the culture of autonomy and relatedness sets the context which promotes a sense of belonging which serves as a protective factor for suicide. The present study aimed at examining adolescent's suicidal tendency at a period of high stress to uncover associations with relatedness as a self-construal and belongingness as a psychological and cognitive state. The conceptual model of the study is displayed in Figure 1.

The current study addresses the following hypotheses and research question:

- H1a.** A higher sense of belonging is associated with less depressive symptoms
- H1b.** A higher sense of belonging is associated with less suicidal tendency (suicidal ideation and suicidal attempt)
- H2a.** Related self-construal is associated with less depressive symptoms
- H2b.** Related self-construal is associated with less suicidal tendency
- H3a.** Autonomous self-construal is associated with less depressive symptoms

- H3b.** Autonomous self-construal is associated with less suicidal tendency
- H4.** Related self-construal is associated with more interpersonal reasons for living
- H5.** Related self-construal is associated with a higher sense of belonging
- H6a.** The relation between related self-construal and depression is mediated through the sense of belonging
- H6b.** The relation between related self-construal and suicidal tendency is mediated through the sense of belonging
- H7a.** The association between the sense of belonging and depression is stronger for those adolescents who experienced a high subjective level of stress during their transition to university
- H7b.** The association between the sense of belonging and suicidal tendency is stronger for those adolescents who experienced a high subjective level of stress during their transition to university

Chapter 3

METHOD

The research question of the current study was addressed by a cross-sectional survey design. This section describes the sample and procedure of the study followed by an overview of measures and data analytic strategy.

3.1 Sample

The sample of the current study consisted of 321 students of two universities in Istanbul, Turkey, ages ranging from 18 to 25 ($M = 19.26$, $SD = 0.95$) from a private university (Koç Üniversitesi; $n = 151$), the other a public university (Boğaziçi Üniversitesi; $n = 170$). Students were recruited from freshmen classes and received extra credit for their participation. An alternative to receiving an extra credit was offered to the students who did not want or choose to participate in the study. Data was collected during the fall semester 2013 and the beginning of spring semester 2014. The sample was slightly female dominated with 208 women (64.8%) and 113 men (35.2%). Students came from 27 different majors, with the most frequent majors being business (24.6%) and economics (17.4%).

Almost half of the students characterized their families to belong to the average income group (41.7%) or the above average income group (38.9%). The distribution of family income groups of students in the private and public university is displayed in Table 1. As expected, there were significant differences in the income levels between the two universities ($\chi^2(4, N = 321) = 68.27, p = .00$). Among the students from the public university just 1.2% of the students reported their families to belong to the highest income group, compared with 15.2% of the students in the private university. Almost half of the students in the public university reported belonging to the average income group (53.5%) whereas almost half of the students in the private university reported belonging to the above average income group (53.6%). The self reported relatively high income level of the students

is in line with the distribution of the socioeconomic status based on the father's education level and occupation. Of the valid responses (N=271) almost half of the students (48.7%) reported that their father belonged to the highest socioeconomic status (SES) group (see Table 1 for other SES groups). The distribution of the work status of the mother was distributed relatively equal with 62.8% reporting their mothers' to be currently working and 47.2% reporting their mothers' to be currently without work. The parental education level is also displayed in Table 1. Parental education level was generally high: 59.5% of the fathers and 47.1% of the mothers having a university degree or higher. Students reported having lived most of their lives in urban environments with half of them (50.5%) indicating to having spent most time in a metropolis, 39.3% in a city and just 8.4% reporting to having spent most of their lifetime in small town and 1.9% in a village.

The majority of the students at the private university were scholarship holders, with just 23.8% of the students reporting to be without scholarship (covering the tuition fee). Of the scholarship holders 29.1% had full scholarships, 13.9 had half scholarships and 33.1% a quarter scholarship.

Table 1.

Distribution of family income groups and SES of students in the private and public university and parental education levels (N=321)

	Private University	Public University	Total
Family income group			
Low income	0%	5.9%	3.1%
Below average income	2.6%	13.5%	8.3%
Average income	28.5%	53.5%	41.7%
Above average income	53.6%	25.9%	38.9%
High income	15.2%	1.2%	7.8%
N	151	170	321
SES			
1	0.0%	1.5%	0.7%
2	1.5%	7.3%	4.4%
3	4.5%	13.9%	9.2%
4	6.7%	18.2%	12.5%
5	25.4%	23.4%	24.4%
6	61.9%	35.8%	48.7%
N	134	137	271
	Mothers	Fathers	
Parental education level			
Illiterate	1.6%	0%	
Literate but without diploma	0.3%	0.3%	
Primary school	14.6%	10.9%	
Middle school	6.2%	6.5%	
High school	30.2%	22.7%	
Bachelor's degree	39.9%	47.4%	
Master's degree	5.6%	9.3%	
Doctoral degree	1.6%	2.8%	
N	321	321	

Note. SES 1 (lowest) to 6 (highest) group according to the Turkish Association of Researchers, 2012

3.2 Procedures

Volunteering participants were administered questionnaires via the Qualtrics system of Koç University in a computer laboratory in a quiet room in the university. Before the administration of the questionnaires, participants were asked and respond to the electronically presented consent form (Appendix A). Participants were encouraged to ask any questions at this point. The consent form included information about psychological counseling possibilities in the two schools, and participants were reminded of these services upon the completion of the questionnaires as well. Participants were advised to seek psychological help if they experience any psychological distress. Participants provided their informed consent via checking a checkbox which linked them to the questionnaires. If participants did not agree to the voluntary participation, the survey ended automatically.

3.3 Measures

The following section describes the measures used in the current study; first the demographic questions to help describe our sample; second, the self-report measures that aim to assess self-construal, the sense of belonging, depression, suicidal tendency (suicidal ideation and attempts), stress, reasons for living, religiosity and questions related to SES.

3.3.1 Demographics

Demographic information regarding the student's family and education were asked in order to characterize the sample. Detailed information about the requested information can be seen in Appendix B.

3.3.2 Autonomous-Related Self Scale

To assess autonomous and related self-construal the scale developed by Kâğıtçıbaşı (Kâğıtçıbaşı, 2005a) was used in the current study. The 18 item self-report measure is based on Kâğıtçıbaşı's theory of the autonomous-related self (Kâğıtçıbaşı,

2007) assuming ‘agency’ and ‘interpersonal distance’ as two distinct dimensions of the self. The scale assesses autonomous and related self-construal with two subscales, consisting of 9 items for autonomous self-construal (e.g. “people who are close to me have little influence on my decisions”) and 9 items for related self-construal (e.g. “I need the support of persons to whom I feel very close”). The reliability of the scale has been established in a Turkish sample, showing internal consistency coefficients for the autonomous self of $\alpha = .77$ (Kâğıtçıbaşı, Baydar, & Cemalcılar, 2010a) and for the related self ranging of $\alpha = .75$ (Kâğıtçıbaşı et al., 2010a). Construct validity of the scale was established in two samples of young Turkish adults, the first sample consisting of university students, the second sample consisting of young adults at the same age but with less than university education (Kâğıtçıbaşı et al., 2010a). The autonomous self scale was positively associated with internal control, perceived self-efficacy, self-esteem, less family control, and a teen timetable without delay according to the teen timetable scale (Feldman & Rosenthal, 1991). The related self scale was significantly associated with higher relational-interdependent self scores of the relational-interdependent self-construal scale (Cross, 1995), a higher quality of childhood environment, and a trend towards higher family affection. Furthermore a cross-cultural validation of the scale was provided with samples of university students from Belgium, Germany, Hong Kong, Turkey, United Kingdom, USA, and immigrant Turkish individuals in Europe. Results of the confirmatory factor analyses suggested a more complex structure of the scales in the cross-cultural samples, with two sub-dimensions of relatedness (Kâğıtçıbaşı, Baydar, & Cemalcılar, 2010b). Therefore for the current study, the subscale ‘permeable self’ of relatedness was excluded, and related self-construal was measured using the original 7 items.

3.3.3 Sense of Belonging Instrument

The Sense of Belonging Instrument (SOBI-P), designed by Hagerty and Patsuky (1995) was used in order to measure the individual sense of belonging. It is a 13 item self-report measure of the general sense of belonging; items (e.g. “I often wonder if there is anyplace on earth where I really fit in”, reverse) are rated on a five point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) in the present study. Higher scores indicate a higher sense of belonging. Reliability and validity of the measure was established in an American sample of college students, patients with depression and Roman Catholic nuns. Internal consistency ranged from $\alpha = .91$ to $\alpha = .93$. Test-retest reliability over an eight-week period among the student sample was .84. The SOBI-P was adapted into Turkish and its psychometric properties in a Turkish sample were examined in the scope of Cankaya’s pilot study (Çankaya, 2013). Internal consistency of the measure in this student sample was $\alpha = .90$. Construct validity of the SOBI-P was originally established in the American sample by contrasted groups, showing significant differences in the sense of belonging; nuns had the highest scores, students and patients with depression showed the least sense of belonging (Hagerty & Patsuky, 1995). Concurrent criterion validity was established by showing significant associations of SOBI-P with social support, reciprocity and loneliness for all samples (Hagerty & Patsuky, 1995). In the Turkish sample the SOBI-P was significantly associated with the subscale of thwarted belongingness of the INQ ($r = -.73, p < .05$), lower depression scores ($r = -.66, p < .05$), higher perceived social support from friends ($r = .66, p < .05$) and family ($r = .50, p < .05$), lower loneliness ($r = -.84, p < .05$) and higher levels of suicidal tendency during the past 12 months ($r = -.48, p < .05$) and during lifetime ($r = .49, p < .05$) (Çankaya, 2013).

3.3.4 Center for Epidemiologic Studies Depression Scale

The CES- Depression Scale (Radloff, 1977) is a 20 item self-report measure of depressive symptomatology which was developed by The American National Mental Health Institute. The Turkish version of the scale was adapted by Tatar and Saltukoğlu (Tatar & Saltukoğlu, 2010). The instrument is widely used for the purpose of assessment of depressive symptoms in general populations. The items of depressive symptoms (e.g. “my appetite was poor”) are rated on a four point Likert-scale, ranging from 0 (never-rarely) to 3 (mostly-usually). Higher scores on the scale indicate higher levels of depressive symptoms, with a score of 16 or above usually used as a cut-off point for clinical levels of depression according to American standards. Although just a sum depression score is calculated, the scale consists of four dimensions: depressive symptoms, positive affect, interpersonal relations and somatic symptoms. Reliabilities of the Turkish version of the scale were established in Turkish students and adults. Internal consistency was $\alpha = .89$, Guttman split half reliability was $r = .89$ and the test-retest reliability over a two week period was $r = .69$. Criterion validity was established with a correlation of $r = .77$ with the Beck Depression Inventory (Beck, 1961; Hıslı, 1989). Discriminative validity of the scale was shown as it differentiates between patient and non-patient groups with an effectiveness of 81.7% (Tatar & Saltukoğlu, 2010).

3.3.5 Suicidal Tendency (Ideation and Attempts)

Two questions adapted from the revised Suicide Behaviors Questionnaire (SBQ-R) (Osman et al., 2001) were used to investigate suicidal tendency (ideation and attempts) during the past 12 months and during lifetime; questions were, “During the past 12 months, did you ever think of or attempted to kill yourself?” and “During your lifetime, did you ever think of or attempted to kill yourself?” Seven answer options were provided: “no”, “it was just a passing thought”, “I briefly considered it, but not seriously”, “I thought

about it and was somewhat serious”, “I had a plan for killing myself which I thought would work and seriously considered it”, “I attempted to kill myself, but I do not think I really meant to die”, “I attempted to kill myself, and I think I really hoped to die”. The first response choice indicates no suicidal ideation or attempt for the target period, the second till the fourth indicates a suicidal ideation and the last two response choices indicate a suicidal attempt within the target period. The SBQ-R was translated into Turkish by Bayam, Dilbaz, Bitlis, Holat and Tüzer (2008). The internal consistency of the whole scale was $\alpha = .73$. The first item of the scale which is going to be used in the current study correlated with the whole scale ($r = .58, p < .05$). The test-retest reliability of the whole scale among a three week period was found to be .92 (Bayam et al., 2008). In the Turkish college sample of Koç University the prevalence of suicidal ideation during the past year was found to be 5.4% and a prevalence of attempts during the past year of 0.6% (Çankaya, 2013). In this sample the lifetime prevalence of suicidal ideation was 9.6% and lifetime prevalence of suicide attempts was 4.2%.

3.3.6 Adolescent Stress Scale

Research suggests that self-report measures of stress for adolescents may be preferred if an assessment of general levels of stress is aimed, in comparison to interview based methods (Duggal et al., 2000). In order to assess the perceived stress level during the past year a list of stressful life events was established based on existing measure of Social Readjustment Rating Scale (Holmes & Rahe, 1967) and interviews with Turkish university students. Interviews with Turkish university students were conducted in order to derive further items specific to the stressors that Turkish adolescents may face during their transition from high-school to college. A total number of 70 stressful events were obtained. In the adolescent stress scale participants first rated their perceived average stress they experienced during the last year as an overall rating on a ten point Likert scale.

Second, each stressful event if experienced by the participant was rated regarding how much the participant felt affected by the event if experienced on a Likert scale ranging from -4 (very much negatively affected) to +4 (very much positively affected). A total score of the perceived stress level was obtained by summing up the scores of each event that was rated negatively. Higher scores indicate a higher level of perceived stress during the past year.

3.3.7 Reasons for Living Inventory for Adolescents

The Reasons for Living Inventory for Adolescents (RFL-A) was developed by Osman et al. (1998). It is based on the Reasons for Living Inventory (RfLI) developed by Linehan, Goodstein, Nielsen and Chiles (1983) and is as an instrument to determine the range of beliefs potentially important as reasons for not committing suicide. The instrument is frequently used as a suicide assessment instrument (Range & Knott, 1997). The RFL-A contains 32 items which are rated regarding their importance as a reason for staying alive on a six point Likert scale ranging from 1 (not at all important) to 6 (extremely important). The scale consists of five subscales: family alliance, suicide-related concerns, self-acceptance, peer-acceptance and support and future optimism. According to the original coding of the scale, a mean rating is calculated for all items. Higher scores indicate more positive reasons for living. For the purpose of the current study the items of the scale was divided into two categories: related and intrapersonal reasons for living. The subscales family alliance and peer acceptance and support are regarded as interpersonal reasons for living, whereas the subscales self-acceptance and future optimism are regarded as separate reasons for living. Reliabilities of the scales in an American adolescent sample ranged from an alpha coefficient of .91 to .94 for future optimism, from .93 to .94 for suicide-related concerns, from .93 to .95 for family alliance, from .89 to .92 for peer acceptance and support and from .93 to .95 for self-acceptance (Osman et al., 1998). Con-

current criterion validity was established as the RFL-A showed significant negative association with suicide indices in the American adolescent sample (Osman et al., 1998). Construct validity was supported by moderate significant associations with hopelessness and depression. Those correlations remained significant even after controlling for general psychological distress, indicating convergent validity of the scale. The RFL-A differentiated between psychiatric inpatient suicide attempters and high school nonsuicidal adolescents with an accuracy of 86.6% (Osman et al., 1998).

3.3.8 Religiosity

Religiosity was measured using 14 items, 10 adapted from Plante and Boccaccini (1997)'s Santa Clara Strength of Religious Faith Questionnaire, which measures the strength of religious faith. Four items were adapted from the measure used by Barry and Nelson (2005). The reliability of the Santa Clara Strength of Religious Faith Questionnaire was high, indicated by an internal consistency of $\alpha = .95$ and a split-half reliability of $r = .92$. Concurrent validity was supported by a significant negative association to god control ($r = -.83, p > .01$; Plante & Boccaccini, 1997). A composite score of all items was calculated after z-transformations of all items. Higher scores indicate higher religiosity.

3.3.9 Socioeconomic Status (SES)

For the SES of the participants an index of 6 categories based on the education and occupation of the father was calculated, referring to the recommendations of the Turkish association of researchers (Turkish Association of Researchers, 2012). The categorization of individuals according to the index can be seen in Appendix C. The categories range from 1 to 6, with 1 constituting the lowest and 6 the highest SES group in Turkey.

Chapter 4

RESULTS

The scales used in this study were evaluated regarding their psychometric properties. Analyses for internal consistency were shown for all measures of the current study. Confirmatory factor analyses using maximum likelihood estimation were conducted to test the factor structure of the measures that are adapted to Turkish for the purpose of the current study. For hypothesis testing, multinomial logistic regression analyses and hierarchical linear regression analyses were conducted for suicidal tendency and depression outcomes respectively. The following section reports the results of these psychometric and inferential statistical analyses.

4.1 Psychometric analysis

4.1.1 Confirmatory Factor Analysis

Confirmatory factor analyses were performed with IBM SPSS AMOS 21.0.0, using maximum likelihood estimation. The aim of the analysis was to test the originally proposed factor structure and adjust the measures accordingly if necessary.

4.1.1.1 SOBI-P

All participants ($n = 321$) were included in the CFA for the SOBI-P. The CFA including all 13 items provided support for the one factor model of the SOBI-P by an acceptable model fit ($\chi^2/df = 3.80$, GFI = .88; AGFI = .84; CFI = .87; NFI = .83; RMSEA = .09). However, item 9 loaded comparably low on the latent factor with a factor loading of .24. Exclusion of that item from the analysis lead to a better model fit ($\chi^2/df = 2.55$, GFI = .94; AGFI = .90; CFI = .94; NFI = .91; RMSEA = .07). The model for the CFA of the remaining 12 items is displayed in Figure 2. Circles represent latent variables and rectangles represent observed variables. Item 9 states, “I could disappear for days

and it wouldn't matter to my family." The occasion that one's disappearance for days doesn't matter to the family may be very rare in the Turkish culture and therefore may not be a good indicator of a lack of the sense of belonging. Therefore this item was excluded for further analysis. All other items showed factor loadings ranging from .39 to .74 in the 12-item model and were included in the analysis. The reliability of the new sense of belonging scale is $\alpha = .87$.

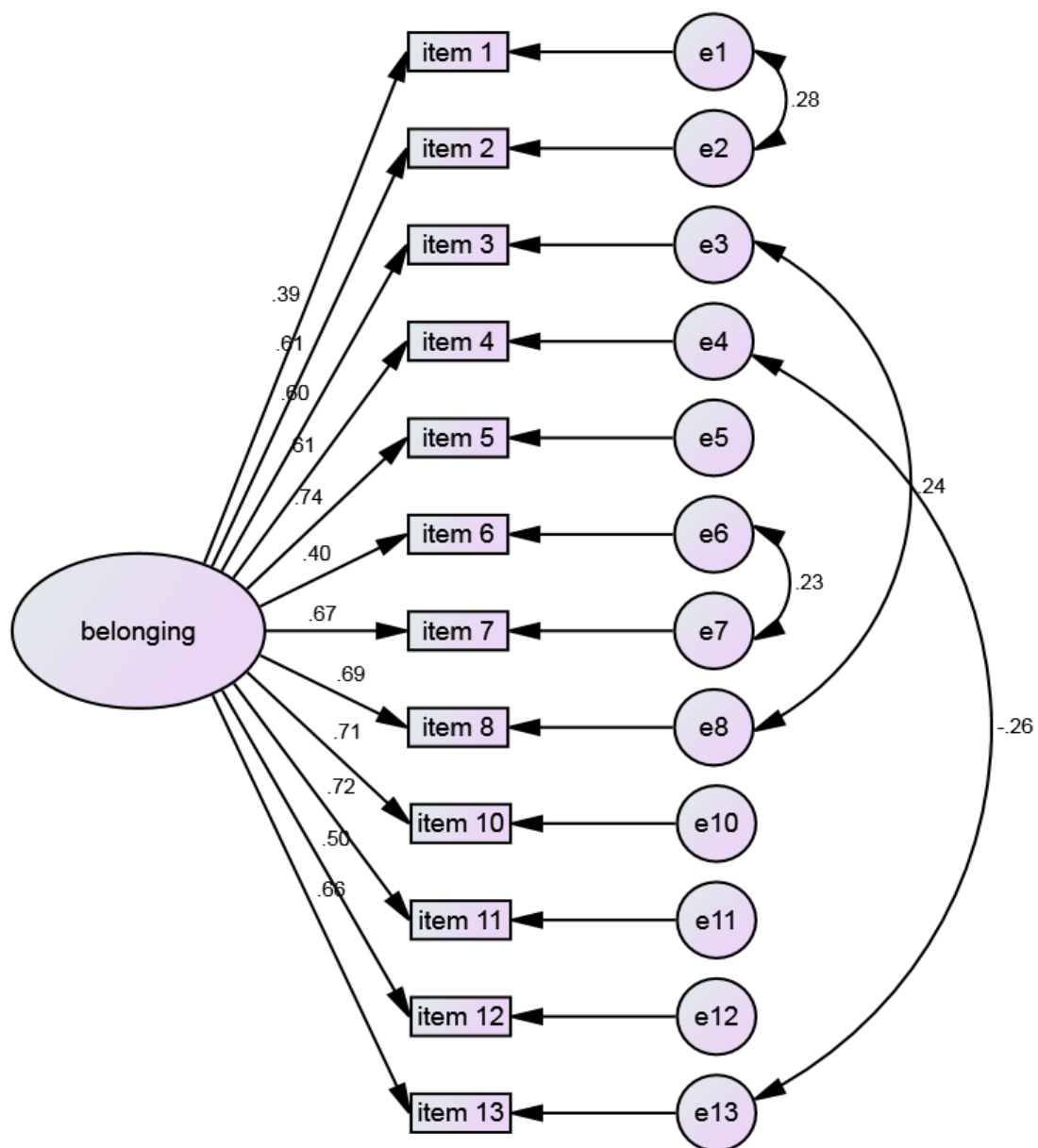


Figure 2. CFA model for the sense of belonging instrument

4.1.1.2 RFL-A

All 321 participants were included in the CFA of the RFL-A. The scale was tested for its original four factor structure with the factors family alliance, peer acceptance and support, self-acceptance and future optimism. The original model of CFA for the RFL-A is displayed in Figure 3. The four factor model showed a satisfactory fit to the data ($\chi^2/df = 2.77$, GFI = .84; AGFI = .81; CFI = .94; NFI = .91; RMSEA = .07). All items showed factor loadings between .52 and .94. Therefore all items were kept in the scale for further analysis. According to the conceptualization of interpersonal and intrapersonal reasons for living of the current study (see 3.3.7) an alternative model including two second-order factors was tested. The alternative model is displayed in Figure 4.

Table 2.

Model fit comparisons for CFA of the reasons for living inventory (N = 321)

	χ^2	df	χ^2/df	p	GFI	AGFI	CFI	NFI	RMSEA	$\Delta \chi^2$	Δdf	p
1	801.27	289	2.77	.00	.84	.81	.94	.91	.07			
2	801.33	290	2.76	.00	.84	.81	.94	.92	.07	.04	1	.84

Note. Model 1: original four factor model, Model 2: alternative second order factor model

As the model comparisons did not reveal a significant difference between the model fits of the two competing models and both models showed satisfactory model fits, they may be used with equal validity. For the purpose of the current study, the second model including two second order factors is used.

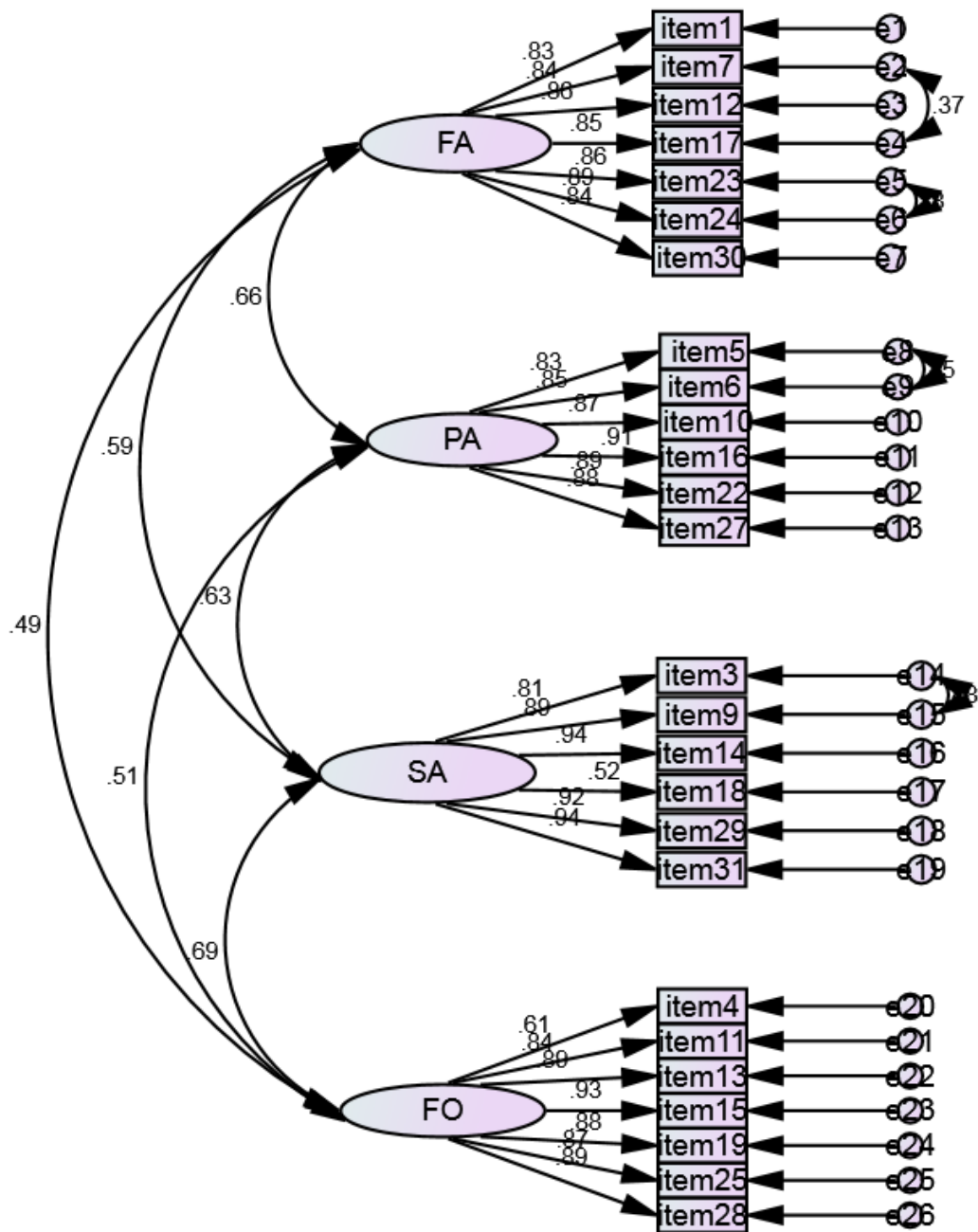


Figure 3. Original model of the CFA for the reasons for living inventory for adolescents

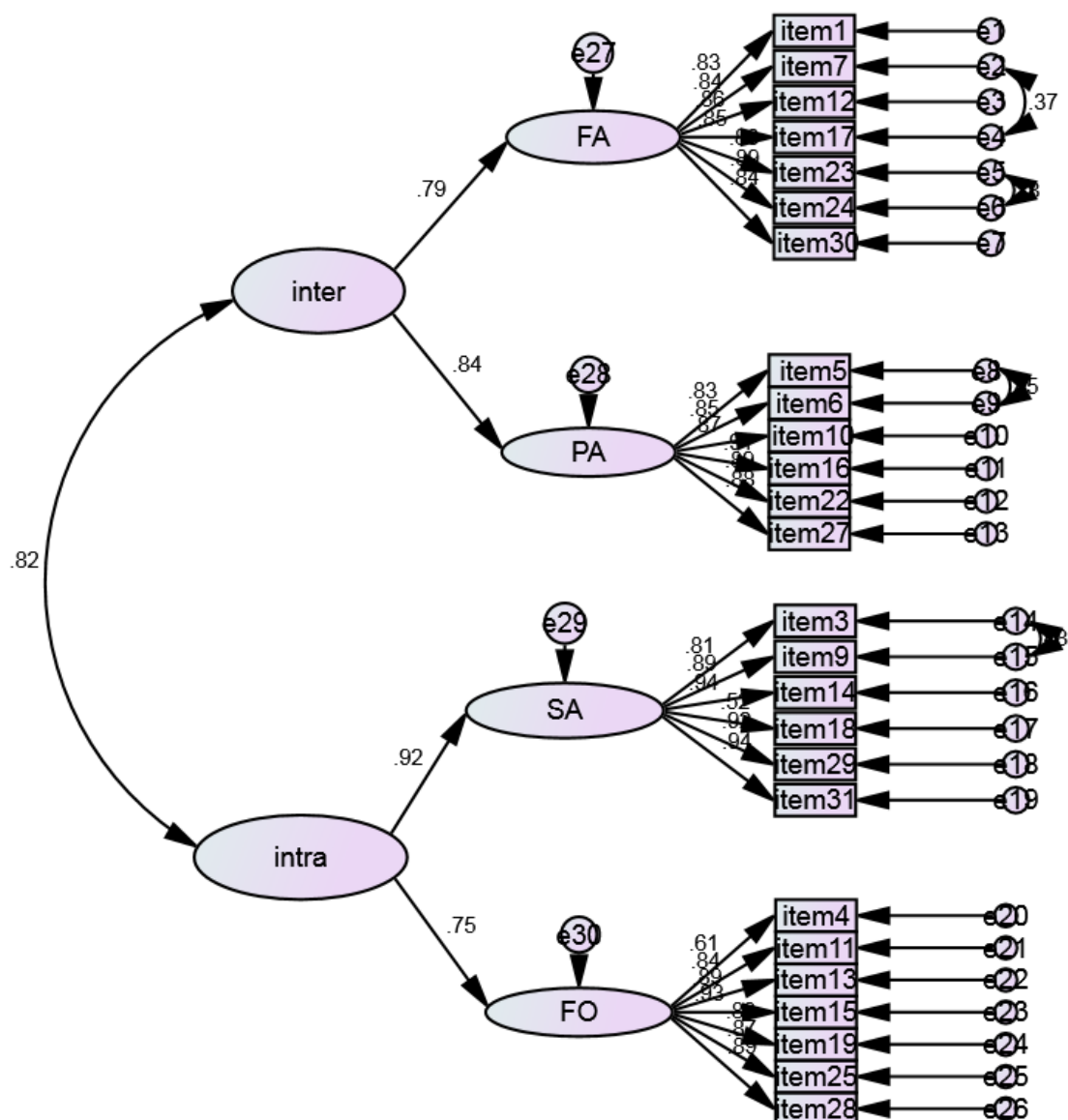


Figure 4. Alternative model of the CFA for the reasons for living inventory

4.1.2 Validity Analysis

The adolescent stress measure was developed using the social readjustment rating scale (Holmes & Rahe, 1967). In the current study the scale was adjusted to include stressors that would be highly likely to be experienced by adolescents. The scale's construct validity was analyzed via examining its correlation with a concurrent subjective

rating of the overall stress during the past year. A sum score of experienced level of ‘negative’ stress within the past year was calculated for each participant. The stressors that ‘positively’ affected participants were not included in the analyses. Higher scores indicate a higher level of ‘negative’ stress. The overall subjective stress rating was obtained by the question “Please indicate on a scale from 0 (not at all stressed) to 10 (extremely stressed) what your stress level was during the past year”. The adolescent stress measure was moderately correlated with the overall stress rating ($r(314) = .56, p < .01$) indicating a good concurrent construct validity of the adolescent stress measure.

4.1.3 Reliabilities

The reliabilities of the scales used for the current study are displayed in Table 3. All scales used in the current study showed satisfactory to very good reliabilities with Cronbach’s α ranging from .72 to .95.

Table 3.

Reliability estimates of the scales used in the current study

Scale	No. of Items	α^a
SOBI-P	12	.88
Autonomous-Related Self Scale		
Autonomous Self	9	.83
Related Self	7	.72
CES-D	20	.91
RFL-A		
Family Alliance	7	.95
Peer Acceptance and Support	6	.95
Self-Acceptance	6	.94
Future Optimism	7	.95

a Cronbach's alpha based on standardized items

4.2 Descriptive and bivariate analyses

The means and standard deviations of the relevant variables are displayed in Table 4. The sample showed a comparably high level of depression for a healthy student sample. The mean depression score of 19.3 ($SD = 10.5$) and the median of 18 is above the cut-off score of 16 indicating clinical levels of depression (Tatar & Saltukoğlu, 2010). Of the 321 participants 190 (59.2%) showed clinical levels of depression according to the CES-D. Compared to similar samples these scores are relatively high. Yazıcı (2008) for example reported mean scores of 11.7 to 16.4 in Turkish college samples on the BDI, which are below the cut-off point of 17.

Table 4.

Descriptives of predictor and outcome variables

Variable	N	M	SD	Min	Max
Depression	321	19.25	10.53	1.00	52.00
Related Self	321	3.57	0.65	1.58	4.75
Autonomous Self	321	2.83	0.61	1.22	4.56
Sense of Belonging	321	3.57	0.65	1.58	4.75
Stress	316	36.20	22.72	1.00	124.00
Religiosity	321	2.96	1.19	1.00	5.00
SES ^a	271	5.01	1.23	1.00	6.00

^a due to missing data for SES a total number of 271 participants (176 women, 95 men) were included in the analysis

In addition to high depression scores almost one third of the sample (29%) reported a suicidal ideation including passing thoughts during the past 12 months. Suicidal ideation during the past year in adolescents has been investigated in several studies and showed a relatively high prevalence of 19.3% in a meta-analysis including predominantly American, European and Australian studies (Evans, Hawton, Rodham, Psychol, & Deeks, 2005). A study on Turkish high-school students reported a prevalence of 10.5% of suicidal ideation

during the past year (Eskin, Ertekin, Dereboy, & Demirkıran, 2007). In a recently published article it is possible to infer to a prevalence of suicidal ideation in the past 12 months of 16% among Turkish and Swedish high-school and college students (Eskin, 2013).

A number of 4 students (1.2%) reported a suicidal attempt during the past year in the current study. This percentage is relatively low compared to meta-analytic results reporting a prevalence of 6.4% during the past year (Evans et al., 2005). At the same time the result is in line with previous research on Turkish adolescents, reporting rates of suicide attempts during the past year of 1.3% in a high-school sample (Eskin et al., 2007) and 4.3% among Turkish and Swedish college students (Eskin, 2013).

On a scale of 1 to 10 students rated their subjective stress level during the past year above average compared to other years with a mean of 7.1 ($SD = 2.2$). The events whose impact the students rated as extremely negative mostly related to education and relationships. The events that were experienced and rated as most stressful (-4) by more than 10% of the sample ($n = 30$) are listed in Table 5.

Table 5.

List of events that were experienced and rated as most stressful by more than 30 students

No.	Frequency (rated -4)	Event
1.	46	Future concerns [Gelecek endişesi]
2.	44	Waiting for the results of an exam [Sınav sonucunu beklemek]
3.	42	Obligation to attend classes [Derslere devam zorunluluğu]
4.	35	Not passing the English qualification exam [İngilizce yeterlik sınavında başarısız olmak]
5.	34	Problems in the relationship with romantic partner [Flört, nişanlı, sözlü, erkek/kız arkadaş ile ilişkide zorluklar]
6.	30	Separation from girl-/boyfriend [Erkek/Kız arkadaşından ayrılmak]
7.	30	Worries about acceptance for university and major [Hangi üniversite veya bölüme kabul edileceği kaygısı]

The frequencies and means of the relevant variables for men and women during the past year are displayed in Table 6. Statistics for the test of independence with gender are also displayed. It can be seen that women showed significantly higher related self-construal than men ($F(1,319) = 8.47, p < .01$). Women also indicated marginally higher levels of perceived stress during the past year than men ($F(1,314) = 3.66, p < .10$). No gender differences were seen for any other variable of the current study.

Table 6.

Characteristics and comparison of men and women on the relevant variables of the study

Variable	Men (N = 113)	Women (N = 208)	Statistics
Suicidal tendency			$\chi^2(2) = .41$
No suicidal ideation	79 (69.9%)	145 (69.7%)	
Suicidal ideation	32 (28.3%)	61 (29.3%)	
Suicidal attempt	2 (1.8%)	2 (1 %)	
Depression	19.01 (10.95)	19.38 (10.31)	$F(1,319) = .09$
Related self	3.81 (0.57)	4.00 (0.56)	$F(1,319) = 8.47^{**}$
Autonomous self	2.88 (0.60)	2.81 (0.61)	$F(1,319) = 1.17$
Sense of belonging	3.56 (0.70)	3.58 (0.62)	$F(1,319) = .12$
Reasons for living ratio	1.00 (0.41)	1.00 (0.24)	$F(1,319) = .00$
Stress	32.89 (24.01)	38.00 (21.84)	$F(1,314) = 3.66^{(*)}$
Religiosity	-0.08 (0.92)	0.04 (0.81)	$F(1,319) = 1.50$
SES ^a			$\chi^2(5) = .6.94$
1	0 (0.0%)	2 (1.1%)	
2	3 (3.2%)	9 (5.1%)	
3	5 (5.3%)	20 (11.4%)	
4	9 (9.5%)	25 (14.2%)	
5	27 (28.4%)	39 (22.2%)	
6	51 (53.7%)	81 (46.0%)	

Note. The values are frequencies and means with percentages and standard deviations in parentheses. * $p < .05$, ** $p < .01$, ^(*) $p < .10$

^a due to missing data for SES a total number of 271 participants (176 women, 95 men) were included in the analysis

The frequencies and means of variables of interest for participants without suicidal ideation, with suicidal ideation and with suicidal attempts during the past year are displayed in Table 7. The statistics for independence of the variables are also displayed. Participants with different levels of suicidal tendency significantly differed on the related self-construal scores, the sense of belonging scores, stress and religiosity scores, but not on gender or the ratio of related to intrapersonal reasons for living. A marginally significant effect was found for the autonomous self-construal.

Table 7.

Characteristics and comparison of non-suicidal students, students with suicidal ideation and with suicidal attempts during the past year

Variable	Non-suicidal (N = 224)	Suicidal ideation (N = 93)	Suicidal attempt (N = 4)	Statistics
Depression	16.56 (9.30) ^{b(c)}	25.40 (10.63) ^b	27.25 (11.03) ^(c)	$F(2,319) = 28.53^{**}$
Related Self	3.99 (.56) ^b	3.83 (.55) ^b	2.96 (.54) ^b	$F(2,319) = 8.89^{**}$
Autonomous Self	2.80 (.59)	2.90 (.63)	3.22 (.65)	$F(2,319) = 2.99^{(*)}$
Sense of Belonging	3.73 (.58) ^{b(c)}	3.22 (.65) ^b	3.02 (.60) ^(c)	$F(2,319) = 25.08^{**}$
Reasons for Living Ratio	1.01 (.26)	0.98 (.41)	.89 (.05)	$F(2,319) = .47$
Stress	32.17 (20.33) ^b	46.18 (25.34) ^b	32.00 (19.41)	$F(2,314) = 13.27^{**}$
Religiosity	.12 (.84) ^b	-.26 (.83) ^b	-.62 (.81)	$F(2,319) = 8.18^{**}$
SES ^a				$\chi^2(10) = .42$
1	2 (1.1%)	0 (0.0%)	0 (0.0%)	
2	8 (4.2%)	3 (3.8%)	1 (25.0%)	
3	16 (8.5%)	9 (11.5%)	0 (0.0%)	
4	28 (14.8%)	5 (6.4%)	1 (25.0%)	
5	44 (23.3%)	21 (26.6%)	1 (25.0%)	
6	91 (48.1%)	40 (51.3%)	1 (25.0%)	

Note. The values are frequencies and means with percentages and standard deviations in parentheses.

* $p < .05$, ** $p < .01$, ^(*) $p < .10$

a due to missing data for SES a total number of 271 participants (176 women, 95 men) were included in the analysis

b,c numbers with the same indices are significantly different from each other according to Bonferroni post-hoc tests

As the variables of interest in the current study were not normally distributed, Spearman rank correlations were used to investigate the bivariate associations between the variables. The Spearman rank correlation yields robust estimates when a distribution is skewed (Siegel & Castellan, 1988). Due to a misunderstanding of the 9-point Likert scale of the stress measure, ranging from negative ratings (-4) to positive ratings (+4), 5 participants needed to be excluded from the analyses including the stress parameter. Those participants exclusively used the positive side of the valence and affectedness scale, such that no score of the negative impact could be calculated. Analyses not including the stress measure were conducted with all participants.

Correlations among the variables of interest are presented in Table 8. The two outcome variables, depression and suicidal tendency were moderately positively correlated ($r(319) = .40, p < .01$); a result that reflects the expected association between suicidal tendency and depression. Previous studies investigating depression and suicidal ideation among college students, adolescents and youths also found a significant association between the two variables (Anderson, 2011; Balázs et al., 2013; Kisch, Leino, & Silverman, 2005) with odds ratios ranging from 3 to 9. Nevertheless one study on Turkish college students failed to show an association between depression and suicidal ideation (Engin et al., 2009). The two types of self-construal were moderately negatively associated ($r(319) = -.47, p < .01$). With respect to associations of self-construals with outcome variables, the related self-construal was significantly negatively associated with suicidal tendency ($r(319) = -.16, p < .01$) but not with depression ($r(319) = .10, p = .06$). The negative association with suicidal tendency was expected but the non-existent association with depression was unexpected, as a negative relation was hypothesized. The autonomous self-construal was significantly positively associated with suicidal tendency ($r(319) = .11, p < .05$) but not with depression ($r(319) = -.03, p = .61$). The inconsistency in the direc-

tion of the association between the two outcomes and autonomy is worthy of note because a similar direction for both outcomes would have been expected. The related self-construal was significantly positively correlated with the sense of belonging ($r(319) = .21, p < .01$) whereas the autonomous self-construal showed no significant association with the sense of belonging ($r(319) = -.10, p = .08$), both in line with expected results. The sense of belonging showed a high negative correlation with depression ($r(319) = -.61, p < .01$) and a moderate negative association with suicidal tendency ($r(319) = -.37, p < .01$), consistent with the expected protective effect of the sense of belonging on the well-being outcomes. The reasons for living ratio was significantly negatively correlated with suicidal tendency ($r(314) = -.16, p < .01$) indicating that those students who reported more interpersonal reasons for living compared to intrapersonal reasons for living had less suicidal tendency. This result is in line with the hypothesis of the study, that interpersonal reasons for living are a protective factor. A similar association would have been expected for the depression outcome, but the bivariate analysis did not reveal any significant association. The significant correlations of the reasons for living ratio with the related and autonomous self support the validity of the measure. Stress showed a significant high positive correlation with depression ($r(314) = .64, p < .01$) and suicidal tendency ($r(314) = .25, p < .01$) and a significant negative association with the sense of belonging ($r(314) = -.43, p < .01$) but no association with related self-construal ($r(314) = .05, p = .49$) or autonomous self-construal ($r(314) = -.04, p = .50$). Religiosity was significantly negatively associated with suicidal tendency ($r(319) = -.22, p < .01$) but not with depression ($r(319) = .02, p = .68$), a result that was expected based on the literature. Due to this empirical association and evidence in the literature, religiosity was controlled for in testing hypotheses. Due to conceptual relevance, in the hypothesis regarding the associations of related self-construal and well-being

outcomes, due to conceptual relevance and empirical associations with outcomes, autonomous self-construal in addition to religiosity was controlled for.

Table 8.

Correlations among the variables of the study

Variable	2	3	4	5	6	7	8	9
1. Depression	.38**	-.10	-.03	-.61**	.02	.64**	-.03	-.07
2. Suicidal tendency		-.16**	.11*	-.37**	-.16**	.25**	-.22**	.02
3. Related self-construal			-.47**	.21**	.23**	.04	.08	.06
4. Autonomous self-construal				-.10	-.32**	-.04	-.16**	-.03
5. Sense of belonging					.07	-.43**	.16**	.03
6. Reasons for living ratio						.04	.11*	.10
7. Stress							.00	-.01
8. Religiosity								-.23**
9. SES								

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

4.3 Hypothesis testing

In the hypothesis tests religiosity will be included as a control variable, as it showed a significant associations with the suicide outcome as well as the sense of belonging in the bivariate analysis. Furthermore autonomous self-construal will be included at a control variable due to its conceptual relevance in relation to related self-construal. The hypotheses of the current study were tested using multiple hierarchical regression analysis for the interval scale dependent variables (depression, sense of belonging, reasons for living ratio) and using multinomial regression analysis for the ordinal scale dependent variable (suicidal tendency). Multicollinearity statistics are displayed in the summary tables. The Durbin-Watson test was used to test for autocorrelation of the residuals with a cut-off point of 1 (Durbin & Watson, 1950, Durbin & Watson, 1951). In conducting multiple hierarchical regression the assumption of normality of the error-terms was tested. Even though the assumption was not supported for all analyses, regression analyses were conducted as the analysis is robust against those violations in large samples (Fox, 1991, p. 40).

4.3.1 Main Effect of the Sense of Belonging on Depression and Suicidal Tendency

Hypothesis 1 suggests negative relation between the sense of belonging and the two mental health outcomes depression and suicidal tendency. This hypothesis was tested separately with hierarchical regression analysis for depression (H1a) and multinomial logistic regression analysis for suicidal tendency (H1b). The mental health outcomes were regressed on the sense of belonging after controlling for religiosity. Results of the analysis are presented in Table 9.

Table 9.

Regression analysis of the sense of belonging on depression and suicidal tendency, controlling for religiosity

Predictor	B (β)	R ²	ΔR^2	ΔF	df 1,2	VIF
Criterion: Depression^a						
Step 1:		.01	.01	1.01	1, 319	
Religiosity	-.72 (-.06)					1.00
Step 2:		.40	.39	205.51**	1, 318	
Religiosity	.54 (.04)					1.03
Sense of belonging	-10.26** (-.63)					1.03
<hr/>						
Predictor	B (SE)	OR	Wald	df	Pseudo R ²	
Criterion: Suicidal tendency^b					.21	
Religiosity						
(Ideation)	-.33** (.11)	.72	8.11	1		
(Attempt)	-.77 (.51)	.46	2.31	1		
Sense of belonging						
(Ideation)	-1.23** (.22)	.29	32.13	1		
(Attempt)	-1.61* (.77)	.20	4.42	1		

Note. The values are unstandardized coefficients with standardized coefficients/standard errors in parentheses.

a. results of hierarchical linear regression analyses (Durbin-Watson = 2.07)

b. results of multinominal regression analyses – reference category: no suicidal ideation or attempt, the criterion in parantheses for each predictor variable

$N = 321$

* $p < .05$, ** $p < .01$, (*) $p < .10$

The sense of belonging significantly predicted lower scores of depression and significantly decreased the likelihood of suicidal attempts and suicidal ideation after controlling for religiosity. Therefore hypothesis 1 was confirmed for depression (H1a) and suicidal tendency (H1b).

4.3.2 Main Effect of Self-Construals on Depression and Suicidal Tendency

Hypothesis 2 suggests a negative relation between related self-construal and mental health outcomes depression (H2a) and suicidal tendency (H2b). Hypothesis 3 suggests a negative association between autonomous self-construal and depression (H3a) and suicidal tendency (H3b). As self-construals are constituted by autonomy and relatedness conceptually, hypothesis regarding self-construals were tested in the same model. The second and third hypotheses were again tested with multiple hierarchical regression analysis for depression (H2a and H3a) and multinomial logistic regression analysis for suicidal tendency (H2b and H3b). Each outcome was regressed on related self-construal after controlling for religiosity. Results of the analysis are presented in Table 10.

Table 10.

Regression analyses of related self-construal on depression and suicidal tendency, controlling for religiosity and autonomous self-construal

Predictor	B (β)	R ²	Δ R ²	Δ F	df 1,2	VIF
Criterion: Depression^a						
Step 1:		.00	.00	.61	1, 319	
Religiosity	-.39 (-.04)					1.00
Step 2:		.01	.01	2.27	2, 317	
Religiosity	-.39 (-.04)					1.03
Autonomous self	-1.60 (-.09)					1.35
Related self	-2.47* (-.13)					1.33
<hr/>						
Predictor	B (SE)	OR	Wald	df	Pseudo R ²	
Criterion: Suicidal tendency^b						.12
Religiosity						
Ideation	-.37** (.11)	.69	11.47	1		
Attempt	-.54 (.47)	.58	1.32	1		
Autonomous self						
Ideation	-.04 (.24)	.96	.03	1		
Attempt	.19 (1.08)	1.21	1.32	1		
Related self						
Ideation	-.47 ^(*) (.26)	.63	3.23	1		
Attempt	-.27 * (1.14)	.07	5.71	1		

Note. The values are unstandardized coefficients with standardized coefficients/standard errors in parentheses. * $p < .05$, ** $p < .01$, ^(*) $p < .10$

a. results of hierarchical linear regression analyses (Durbin-Watson = 2.07)

b. results of multinomial regression analyses – reference category: no suicidal ideation or attempt, the criterion in parentheses for each predictor variable

$N = 321$

Regression analyses revealed that related self-construal was associated with less depression after controlling for religiosity and autonomous self-construal. Furthermore related self-construal significantly decreased the likelihood of suicidal attempts and mar-

ginally decreased the likelihood of suicidal ideation. Therefore hypothesis 2 was supported by the data. Furthermore the analysis indicated that the autonomous self-construal did not significantly contribute to the prediction of depression and suicidal tendency in the current study. Therefore hypothesis 3 was not supported by the data.

4.3.3 Main Effect of Related Self-Construal on the Reasons for Living Ratio

Hypothesis 4 states that related self-construal are associated with more interpersonal reasons for living than intrapersonal reasons for living. This hypothesis was tested with a hierarchical regression analysis, regressing the interpersonal to intrapersonal reasons for living ratio on related self-construal, controlling for religiosity and autonomous self-construal. Results of the regression analysis are displayed in Table 11.

Table 11.

Regression analysis of related self-construal on the ratio of inter- to intrapersonal reasons for living, controlling for religiosity and autonomous self-construal

Predictor	B (β)	R ²	ΔR^2	ΔF	df 1,2	VIF
Step 1:		.06	.06	9.45**	2, 318	
Religiosity	.01 (.04)					1.03
Autonomous self	-.12** (-.23)					1.03
Step 2:		.08	.02	7.13**	1, 317	
Religiosity	.01 (.03)					1.03
Autonomous self	-.08* (-.15)					1.35
Related self	.13** (.24)					1.33

Note. The values are unstandardized coefficients with standardized coefficients in parentheses. * $p < .05$, ** $p < .01$, (*) $p < .10$.

Durbin-Watson = 2.01

$N = 321$

Results revealed that related self-construals significantly contributed positively to the prediction of the ratio of interpersonal to intrapersonal reasons for living after controlling for religiosity and autonomous self-construal. Also autonomous self-construals nega-

tively predicted the reasons for living ratio. Therefore hypothesis 4 was confirmed by the data.

4.3.4 Main Effect of Related Self-Constraint on the Sense of Belonging

Hypothesis 5 indicates a positive association between related self-construal and the sense of belonging. The hypothesis was tested using multiple hierarchical regression analysis controlling for religiosity and autonomous self-construal (see Table 12).

Table 12.

Regression analysis of related self-construal on the sense of belonging, controlling for religiosity and autonomous self-construal

Predictor	B (β)	R ²	Δ R ²	Δ F	df 1,2	VIF
Step 1:		.03	.03	4.71*	2, 318	
Religiosity	.12** (.15)					1.03
Autonomous self	-.06 (-.05)					1.03
Step 2:		.07	.04	12.60**	1, 317	
Religiosity	.11** (.15)					1.03
Autonomous self	.06 (.06)					1.35
Related self	.25** (.22)					1.33

Note. The values are unstandardized coefficients with standardized coefficients in parentheses. * $p < .05$, ** $p < .01$, (*) $p < .10$

Durbin-Watson = 1.97

$N = 321$

Related self-construal significantly predicted a higher sense of belonging when religiosity was controlled for. Hypothesis 5 was therefore supported by the data.

4.3.5 Mediation of the Sense of Belonging

Hypothesis 6 stated a mediation of the relation between related self-construal and the mental health outcomes depression (H6a) and suicidal tendency (H6b) by the sense of belonging. In order to test the mediation model, multiple linear regression and multiple

logistic regression analyses were conducted following the method of Preacher and Hayes (2004), which allow to estimate the indirect effect based on bootstrapping with bias-corrected confidence estimates and the inclusion of covariates (MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2008). The analysis allows an estimation of the indirect effect even in the absence of a direct effect of the predictor and outcome (Hayes, 2009).

For the mediation of the relation between the related self-construal and depression by the sense of belonging (H6a), multiple linear regressions were conducted controlling for the effect of religiosity and autonomous self-construal. First, in separate regression analyses, related self-construal was found to be associated with depression ($\beta = -.13$, $t(319) = -2.08$, $p < .05$) and was found to be positively related to the sense of belonging ($\beta = .22$, $t(319) = 3.55$, $p < .01$). Furthermore, the mediator, the sense of belonging, was negatively associated with depression ($\beta = -.64$, $t(319) = -14.15$, $p < .01$). Because both the a-path and b-path were significant, mediation analyses were tested with a 95% confidence interval of the indirect effects, using 5000 bootstrap samples (Hayes, 2009; Preacher & Hayes, 2008). Results of the mediation analysis confirmed the mediating role of the sense of belonging in the relation between related self-construal and depression ($\beta = -.14$; $CI = -.22$ to $-.07$). After controlling for the indirect path the effect of related self-construal on depression was not significant ($\beta = .01$, $t(319) = .16$, $p = .87$), indicating a full mediation. Thus, related self-construal decreases depression through its effect on the sense of belonging. Therefore hypothesis 6a was supported by the data. The mediation model for hypothesis 6a is displayed in Figure 5.

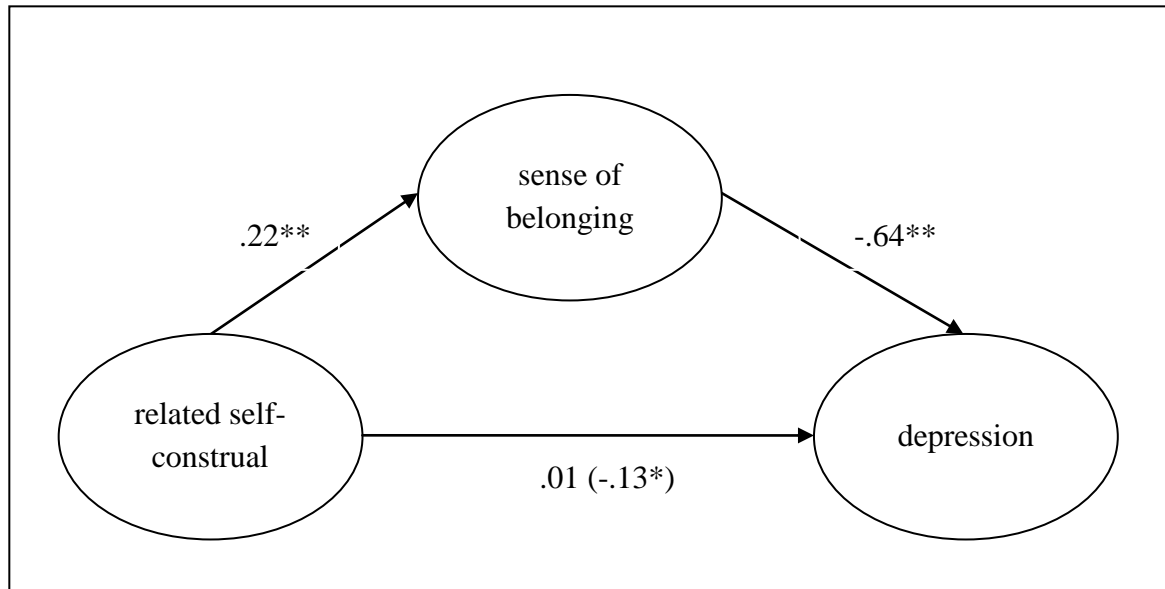


Figure 5. Indirect effect of related self-construal on depression through the sense of belonging, controlling for religiosity and autonomous self-construal

Note. Coefficients are standardized coefficients, * $p < .05$, ** $p < .01$, (*) $p < .10$; Value in parentheses indicates the direct effect of the predictor on the outcome. Adj. $R^2 = .39$, $F(4,316) = 50.28^{**}$

For suicidal ideation (H6b) multiple logistic regression analyses controlling for religiosity and autonomous self-construal were conducted. First, results indicated that related self-construal was positively associated with suicidal ideation ($\beta = -.32$, $SE = .15$, $Wald = 4.77$, $p < .05$). Second, it was found that related self-construal was significantly associated with the sense of belonging ($\beta = .22$, $t(314) = 3.55$, $p < .01$). It was also found that the mediator, the sense of belonging, was significantly associated with suicidal ideation ($\beta = -.78$, $SE = .14$, $Wald = 30.12$, $p < .01$). The bootstrapping method (5000 samples) with bias-corrected confidence estimates and a 95% confidence interval of the indirect effects supported the mediating role of the sense of belonging in the relation between related self-construal and depression ($\beta = -.18$, $CI = -.30$ to $-.08$). Results furthermore indicated that the direct effect of related self-construal on suicidal ideation was not significant when controlling for the sense of belonging ($\beta = -.18$, $SE = .16$, $Wald = 1.34$,

$p = .29$), therefore indicating a full mediation. Related self-construal decreased the likelihood of suicidal attempts through its positive effect on the sense of belonging. Hypothesis 6b was therefore supported by the data. The mediation model is displayed in Figure 6.

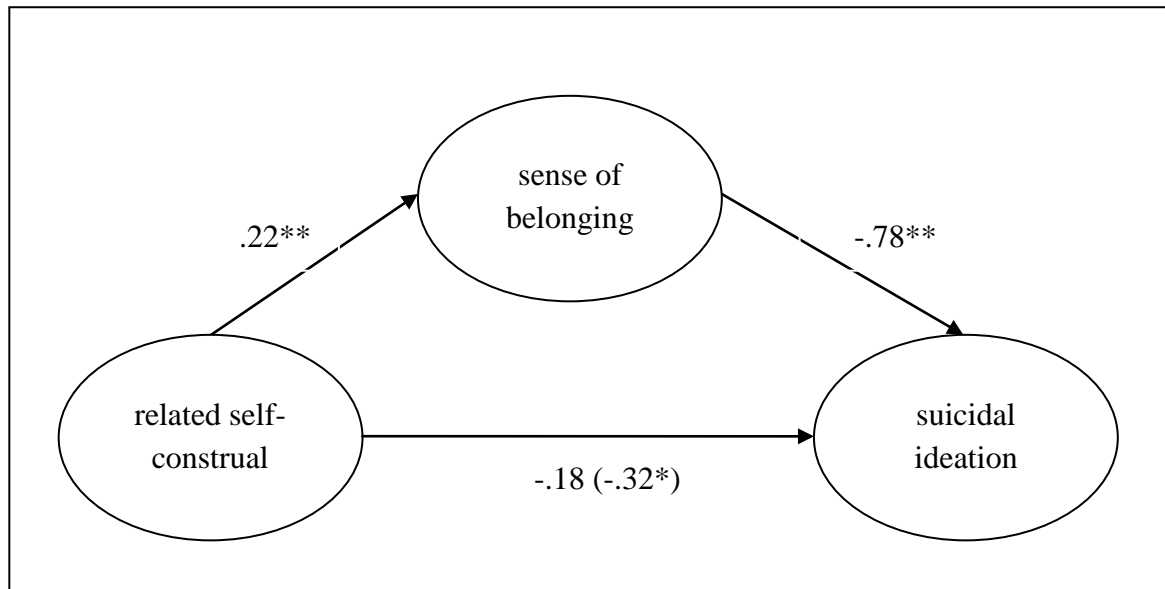


Figure 6. Indirect effect of related self-construal on suicidal ideation through the sense of belonging

Note. Coefficients are standardized coefficients, * $p < .05$, ** $p < .01$, (*) $p < .10$; Value in parentheses indicates the direct effect of the predictor on the outcome.

Pseudo $R^2 = .22$

The mediation model for suicidal attempts could not be estimated due to the low occurrence rate of the outcome ($n = 4$) which made the calculation of the indirect effect impossible.

To sum up, the meditational models were tested for depression and suicidal ideation but not suicidal attempts due to methodological limitations. Hypothesis 6 was confirmed for depression and suicidal ideation; sense of belonging mediated the relationship between related self-construal and depression and the relationship between related self-construal and suicidal ideation.

4.3.6 Moderation of Stress

Hypothesis 7 states that the effect of the sense of belonging on depression (H7a) and suicidal tendency (H7b) is stronger for those who perceived a high level of stress during the past year. In order to test this hypothesis moderation analyses were conducted using multiple hierarchical regression analyses for the continuous outcome, depression (H7a), and using multinomial logistic regression for the categorical outcome of suicidal tendency (H7b). For these analyses participants with missing data related to perceived levels of stress were excluded. Both regression analyses controlled for religiosity. In order to reduce the problem of multicollinearity related to predictor variables in the hierarchical linear regression, the predictor and the moderator were linearly transformed by subtracting the sample mean from each predictor variable (Aiken & West, 1991). These centered variables were used to calculate the product term for the interaction. For the hierarchical regression analysis religiosity was entered as a control variable in the first step as in the previous analyses, sense of belonging and stress were entered in the second step, and the interaction term in the third step. Results of the analyses for depression are presented in Table 13, results of the analysis for suicidal tendency are presented in Table 14.

Table 13.

Regression analysis of sense of belonging and stress on depression, controlled for religiosity

Predictor	B (β)	R ²	ΔR^2	ΔF	df 1,2	VIF
Step 1:		.00	.00	1.09	1, 314	
Religiosity	-.73 (-.06)					1.00
Step 2:		.53	.53**	175.42**	2, 312	
Religiosity	.15 (.01)					1.03
Sense of belonging	-7.52** (-.46)					1.25
Stress	.19 ** (.40)					1.22
Step 3:		.53	.00	.31	1, 311	
Religiosity	.13 (.01)					1.04
Sense of belonging	-7.57** (-.47)					1.27
Stress	.19** (.41)					1.26
Sense of belonging x stress	.02 (.02)					1.09

Note. The values are unstandardized coefficients with standardized coefficients in parentheses. * $p < .05$, ** $p < .01$, (*) $p < .10$

Durbin-Watson = 2.06

$N = 316$ (participants with missing data for stress were excluded)

Table 14.

Regression analysis of sense of belonging, and stress on suicidal ideation, controlled for religiosity and autonomous self-construal

Predictor	B (SE)	OR	Wald	df	Pseudo R ²
					.26
Religiosity					
(Ideation)	-.52** (.17)	.59	9.68	1	
(Attempt)	-1.02 (.72)	.36	2.00	1	
Sense of belonging					
(Ideation)	-1.62** (.50)	.20	10.64	1	
(Attempt)	-1.70 (1.45)	.18	1.37	1	
Stress					
(Ideation)	-.03 (.03)	.97	.60	1	
(Attempt)	.00 (.11)	1.00	.00	1	
Sense of belonging x Stress					
(Ideation)	.01 (.01)	1.01	1.74	1	
(Attempt)	-.01 (.04)	.99	.09	1	

Note. The values are unstandardized coefficients with standard errors in parentheses. Reference category: no suicidal ideation or attempt, the criterion in parantheses for each predictor variable. * $p < .05$, ** $p < .01$, (*) $p < .10$

$N = 316$ (participants with missing data for stress were excluded)

For the depression outcome results indicated that the two-way interaction term between stress and the sense of belonging did not significantly contribute to the explanation of depression after controlling for religiosity, and the main effects. Therefore the moderation hypothesis (H7a) was not supported. The effect of the sense of belonging on depression did not depend on the student's level of stress experienced during the past year. The same result was seen for suicidal ideation: the interaction term did not significantly contribute to the prediction. Levels of stress did not modify the relationship between the sense of belonging and the probability of having a suicidal ideation during the past year. Therefore the moderation hypothesis (H7b) was not confirmed.

4.3.7 Post-hoc analyses

Lenzi (2012) found a curvilinear relation between individualism and suicide rates on a cross-cultural comparison in which the high end of individualism is represented by countries which have a strong emphasis on social integration and display medium suicide rates. In order to investigate if related and autonomous self-construals show a curvilinear pattern in the relation to depression and suicidal tendency on the individual level, that was not captured by the linear regression analysis further analyses including the quadratic term and controlling for religiosity were conducted. The variables were centered in order to avoid the problem of multicollinearity (Aiken & West, 1991). Results of the analysis are displayed in Table 15. For the depression outcome did neither the related self, nor the autonomous self-construal significantly improved the prediction of depression with their quadratic terms.

Table 15.

Regression analysis of quadratic terms of related and autonomous self-construal on depression, controlling for religiosity and their main effects

Predictor	B (β)	R ²	Δ R ²	Δ F	df 1,2	VIF
Step 1:		.02	.02	1.91	3, 317	
Religiosity	-.75 (-.06)					1.03
Related self	-2.48 (-.13)*					1.33
Autonomous-self	-1.65 (-.10)					1.35
Step 2:		.02	.00	0.64	2, 315	
Religiosity	-.85 (-.07)					1.04
Related self	-2.57 (-.14)*					1.36
Autonomous self	-1.89 (-.11)					1.44
(Autonomous self) ²	-.91 (-.04)					1.12
(Related self) ²	1.21 (.06)					1.14

Note. The values are unstandardized coefficients with standardized coefficients in parentheses. * $p < .05$, ** $p < .01$, (*) $p < .10$

Durbin-Watson = 2.08

$N = 321$

Equally for suicidal ideation neither related self-construal nor autonomous self-construal improved the prediction of suicidal ideation or suicidal attempt with their quadratic terms. Therefore a positive linear association best represents the relation between related self-construal depression and related self-construal and suicidal tendency.

Table 16.

Regression analysis of quadratic terms of related and autonomous self-construal on suicidal tendency, controlling for religiosity and their main effects

Predictor	B (SE)	OR	Wald	df	Pseudo R ²
					.13
Religiosity					
(Ideation)	-.56** (.16)	.57	12.79	1	
(Attempt)	-.75 (.67)	.47	1.25	1	
Related self					
(Ideation)	-.55* (.28)	.58	3.94	1	
(Attempt)	-4.90 (3.94)	.01	1.55	1	
Autonomous self					
(Ideation)	-.09 (.25)	.91	.14	1	
(Attempt)	-.31 (1.83)	.73	.03	1	
(Related self) ²					
(Ideation)	-.33 (.31)	.72	1.16	1	
(Attempt)	-1.35 (2.03)	.26	.44	1	
(Autonomous self) ²					
(Ideation)	.20 (.25)	1.23	.65	1	
(Attempt)	.46 (1.36)	.73	.12	1	

Note. The values are unstandardized coefficients with standard errors in parentheses. Reference category: no suicidal ideation or attempt, the criterion in parentheses for each predictor variable. * $p < .05$, ** $p < .01$, (*) $p < .10$

$N = 316$ (participants with missing data for stress were excluded)

In order to investigate the unexpected positive association of the autonomous self with suicidal tendency in further detail, correlations were conducted for the full range of different degrees of suicidal ideation and attempts in the past year (Bayam et al., 2008; Osman et al., 2001) including the following: “it was just a passing thought”, “I briefly considered it, but not seriously”, “I thought about it and was somewhat serious”, “I had a plan for killing myself which I thought would work and seriously considered it”, “I attempted to kill myself, but I do not think I really meant to die”, “I attempted to kill myself,

and I think I really hoped to die". A more autonomous self significantly predicted higher degrees of suicidality ($r(96) = .22, p < .05$).

In the literature there is some evidence for gender-specificity of the association between individualism and suicide indices (Rudmin et al., 2003). Therefore models including the interaction effects between autonomous self-construal and gender and related self-construal and gender, controlling for religiosity were conducted. Results show that the association between related self-construal and mental health outcomes appear to be equally valid for men and women. Neither did the interaction of related self-construal with gender reveal significant effects for depression ($F(1,314) = 3.32, p = .07$), nor did the interaction of autonomous self-construal ($F(2,314) = 2.58, p = .08$). Similarly no interaction between gender and related self-construal was observed for suicidal ideation ($B = -.42, SE = .56, Wald = .56, p = .45, OR = .66$) or suicidal attempt ($B = -3.97, SE = 3.14, Wald = 1.60, p = .21, OR = .02$). Equally there was no gender difference in the association between autonomous self-construal and suicidal ideation ($B = -.48, SE = .53, Wald = .82, p = .37, OR = .62$) or suicidal attempts ($B = -4.85, SE = 2.90, Wald = .01, p = .10, OR = .01$).

Further analyses were conducted to investigate if the sense of belonging may play a mediating role instead of a moderating role in the relation between stress and mental health outcomes, as suggested by Choenarom et al. (2005). Multiple regression analyses were conducted to assess each component of the proposed mediation model of the sense of belonging in the relation between stress and depression. First, results indicated that stress was positively associated with depression ($\beta = .60, t(314) = 13.15, p < .01$). Second, it was found that stress was significantly negatively associated with the sense of belonging ($\beta = -.42, t(314) = -8.15, p < .01$). It was also found that the mediator, the sense of belonging, was significantly negatively associated with depression ($\beta = -.46, t(314) = -10.83,$

$p < .01$). Because both the a-path and b-path were significant, mediation analyses were conducted using the bootstrapping method with bias-corrected confidence estimates (MacKinnon et al., 2004; Preacher & Hayes, 2004). A 95% confidence interval of the indirect effects was obtained with 5000 bootstrap samples (Preacher & Hayes, 2008). The analysis supported the mediating role of the sense of belonging in the relation between stress and depression ($\beta = .20$, CI = .14 to .26). Furthermore results indicated that the direct effect of stress on depression remained significant when controlling for the sense of belonging ($\beta = .41$, $t(314) = 9.45$, $p < .01$), thus indicating a partial mediation. The mediation model is displayed in Figure 7.

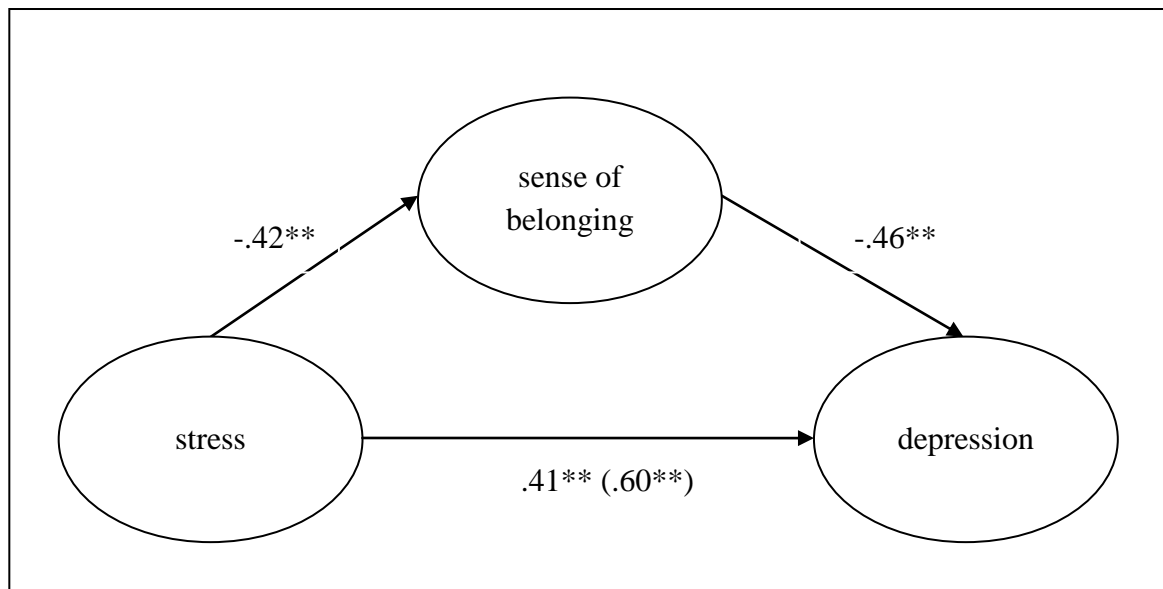


Figure 7. Indirect effect of stress on depression through the sense of belonging

Note. Coefficients are standardized coefficients, * $p < .05$, ** $p < .01$, (*) $p < .10$. The value in parentheses indicates the direct effect of the predictor on the outcome. Adj. $R^2 = .53$, $F(2,313) = 177.03^{**}$

Multiple logistic regression analyses were conducted to assess the mediation model of the sense of belonging in the relation between stress and suicidal ideation. First, results indicated that stress was positively associated with suicidal ideation ($\beta = .60$, $SE = .13$,

Wald = 20.67, $p < .01$). Second, stress was significantly associated with the sense of belonging ($\beta = -.42$, $t(314) = -8.15$, $p < .01$). Also, the sense of belonging, was significantly associated with suicidal ideation ($B = -.76$, $SE = .15$, $Wald = 26.38$, $p < .01$). Mediation analyses were estimated using the bootstrapping method with bias-corrected confidence estimates because both the a-path and b-path were significant (MacKinnon et al., 2004; Preacher & Hayes, 2004). The 95% confidence interval of the indirect effects was conducted with 5000 bootstrap samples (Preacher & Hayes, 2008). The analysis supported the mediating role of the sense of belonging in the relation between stress and depression ($\beta = .33$, $CI = .20$ to $.50$). Results also indicated that the direct effect of stress on depression remained significant when controlling for the sense of belonging ($\beta = .32$, $SE = .14$, $Wald = 5.05$, $p < .01$), therefore indicating a partial mediation. The mediation model is displayed in Figure 8.

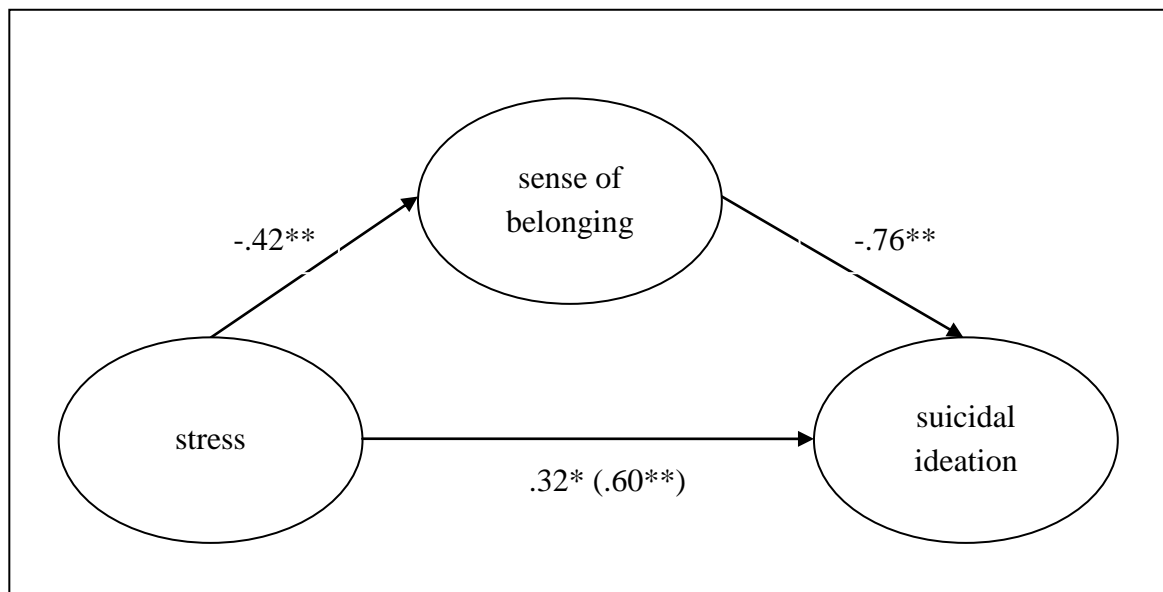


Figure 8. Indirect effect of stress on suicidal ideation through the sense of belonging

Note. Coefficients are standardized coefficients, * $p < .05$, ** $p < .01$, (*) $p < .10$. The value in parentheses indicates the direct effect of the predictor on the outcome.

Pseudo $R^2 = .21$

For suicidal attempts the mediation model could not be estimated due to a low occurrence rate of the outcome ($n = 4$) which made the calculation of the indirect effect impossible.

As an indepth analysis of the potential effect of contextual factors on depression and suicide tendency, the associations with perceived income level, education and occupation of the father, type of longest residential place (metropolis, city, small town, village) and number of parental siblings were examined using spearman correlation coefficients. Due to the limited sample size of the current study it was not possible to investigate the association of multiple categorical predictors on the categorical outcome; therefore each contextual variable was considered separately. Results of the correlation analyses are displayed in Table 17. None of the contextual variables was significantly associated with suicidal tendency or depression.

Table 17.

Correlations among the outcomes and contextual variables

Variable	Depression	Suicidal tendency
Perceived income level	-.08	-.03
Education of father	.03	.09
Occupation of father	.00	-.03
Type of residential place	.07	.01
No. parental siblings	.00	-.04

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

Chapter 5

DISCUSSION

Adolescents in their transitional period to college may have a higher risk for depression and suicidal tendencies, and certain stable individual factors may play a protective role against deleterious effects of stress in this difficult period. The major aim of the current study was to assess whether related and autonomous self-construals were associated with suicidal tendency and depression above and beyond religiosity and whether general sense of belonging explained the association between related self-construal and mental health outcomes. The current study showed that among the self-construals (i.e., autonomous and relatedness), the only significant association was shown for related self-construal and in a linear fashion, equally for men and women – in other words: the more related the better. In line with expectations, the current study further showed the mediating role of the sense of belonging in the relationship between related self-construal and depression and suicidal tendency. The sense of belonging also appeared to mediate the relationship between stress and mental health outcomes, rather than being moderated by stress levels, as it was hypothesized by the current study. Autonomous self-construal did not predict suicidal tendency or depression.

Results of the current study provided support for the protective role of sense of belonging and related self-construal; namely related self-construals and sense of belonging were associated with a lower probability of suicidal ideation and attempts and with lower levels of depression, controlling for the influence of religiosity. The finding of the sense of belonging and better mental health outcomes is consistent with theories on the role of intrapersonal level indicators of interpersonal closeness in suicidality. The interpersonal theory of suicide (Joiner, 2005; Joiner et al., 2009; van Orden et al., 2010) proposes thwarted belongingness was proposed as a predictor of suicidal desire. In Durkheim's theory on

social integration and regulation, intra- and interpersonal indicators of connectedness were proposed as precursors to suicidal tendency (Durkheim et al., 1951). The result is also in line with the various studies showing that indicators of social integration and a sense of belonging are supportive of different well-being parameters in various populations including college students (Hagerty et al., 1996), young male naval recruits (Sargent et al., 2002), American adolescents (Resnick et al., 1997), healthy adults (McLaren & Challis, 2009), retired adults (Bailey & McLaren, 2005; Kissane & McLaren, 2006; McLaren et al., 2007; Vanderhorst & McLaren, 2005) and populations at risk for mental health problems (Choenarom et al., 2005; Hill, 2009).

As with the sense of belonging, the negative association of related self-construal and suicidal tendency supports the theoretical perspective of Durkheim (1951), assuming a lack of appropriate opportunities to form a social identity and connectedness in modernizing societies to cause increases in suicide. The result supports Kâğıtçıbaşı's autonomous-related self theory (Kâğıtçıbaşı, 2005b), assuming that relatedness is a basic human need whose satisfaction is associated with well-being – and other theories of basic human needs, also proposing the need of interpersonal relatedness (Murray, 1938; Ryan & Deci, 2000). The finding cannot be directly interpreted in relation to individualism/collectivism and suicide, as relatedness is just one of the two independent dimensions (relatedness and autonomy) that underlie individualism/collectivism. Findings for the association between individualism and suicide are heterogeneous – some indicating a positive association (Eskin, 2013; Scott et al., 2004; van Leeuwen et al., 2010), some limiting this positive association to men (Eckersley & Dear, 2002; Rudmin et al., 2003), others pointing to a curvilinear relation with the highest suicide rates for medium levels of individualization (Lenzi et al., 2012). The finding of a negative association between relatedness and suicide of the current study may be interpreted in line with Lenzi (2012)'s findings of a curvilinear

relationship. According to Kâğıtçıbaşı (2007)'s theory, individualism is a pattern of low relatedness and high autonomy – thus may be a risk factor due to its low relatedness. Lenzi (2012) discuss that the high end of individualism is represented by countries which can be characterized as second-modern societies, which have a strong emphasis on social integration. In that sense the empirically established protective factor related self-construal of the current study may be the influence that accounts for the low suicide rates observed in countries with low and high individualism.

As a matter of fact the current study not only showed the protective value of related self-construal and the sense of belonging against suicidal ideation and attempts as well as depression, but also showed the sense of belonging as the mediating factor in the relation between related self-construal and these mental health outcomes. The current study is one of the first (to our knowledge) in investigating the mechanism via which certain self-construals are protective of mental health and suicide and depression in particular. This finding suggests that the related ways adolescents construe and define their self concepts may affect the relative significance put onto related realms of life, which in turn may create the circumstances within which they feel like they belong. In other words, an adolescent who construes self as more related may also be more likely to be more seeking of, open to and even creative of opportunities for interpersonal interactions and connections, thus having more chances of having a higher sense of belonging, which in turn is associated with lower suicidal ideation and depression. The small to medium effect sizes of related self-construal and the sense of belonging emphasize the importance of these factors in the prediction of such complex and multiply determined outcomes as depression and suicidal ideation.

The protective role of the sense of belonging was not shown against the adverse effects of stress in the current study in contrary to expectations. Rather the sense of belong-

ing constituted a mediating element in the association between stress and negative mental health outcomes. This result contradicts with findings indicating that stress may be an influential moderator in the effectiveness of risk factors (Stange et al., 2013), and supports Choenarom et al. (2005)'s finding of a mediation of the sense of belonging in the relation between stress and depression. In interpretation of this finding, it has to be taken into account that the sample of the current study showed a high perceived stress level throughout the last year. The lack of participants with lower levels of stress may have limited the possibility to detect the moderating role of stress. According to the results of the current study the high stress level of the student sample appears to reduce their sense of belonging, which in turn increases the likelihood of depression and suicidal ideation. This result may also be due to the specific types of stressors adolescents are experiencing in the period of transition to university: most frequently and perceived as most stressful events were after educational topics changes and problems in interpersonal relationships (family and friends). These stressors may have lead to a threat to the sense of belonging, which in turn influenced depressive symptoms and suicidal tendency. The current study revealed the mediating role of the sense of belonging as a general effect for all students, whereas a prior study, Choenarom et al. (2005) found this mediation effect as limited to individuals with depression. Future research is warranted to examine the competing models of how stress and sense of belonging as a protective factor relate to each other.

The current study showed that related and autonomous self-construals did not show a curvilinear pattern in the relation to depression and suicidal tendency. The only significant association was shown for related self-construal and in a linear fashion, equally for men and women – in other words: the more related the better. In the current study, a self-construal as autonomous did not appear to be a strong factor for or against depression and suicidal tendency among the Turkish first-year college students when relatedness self-

construal was taken into account. In fact, in the current study, when considered as a single factor, autonomy was associated with higher levels of suicidal tendency, which is an unexpected finding given few studies on autonomy and well-being outcomes (Reis et al., 2000; Sheldon et al., 1996, van Bergen et al., 2012). Autonomy describes the individual's perception of self as the agent of decision, choice, and action in life. As such, autonomous individuals may feel entitled enough to consider suicide as an option. A heteronomous person on the contrary perceives the others as agents of decision. The rather individual act of suicide would therefore not constitute a serious option, as it is not likely to be approved as a solution by close others.

The specific population of the current study, that is an adolescent sample in an urban sociocultural context in Turkey, needs to be considered when interpreting these results. In the current sample autonomy might not have been associated with mental health outcomes beyond relatedness because first year college students of high SES represent a relatively homogeneous population presumably with higher levels of autonomy compared to other populations within Turkey (Mayer et al., 2012). In this population the autonomy need may be well satisfied or may not be threatened, thus related self-construals may be the critical factor in the development of suicidal tendency and depression. No studies to date examined this association directly; however, a study on adolescents from private and public schools in Istanbul showed that family cohesion which may indicate high relatedness was associated with depression whereas parental control which may indicate low levels of autonomy was not (Aydın & Öztütüncü, 2001). The positive association between autonomy alone and suicidal tendency may even indicate the potential risk of autonomy in this specific population (i.e., urban educated adolescents with relatively high SES standing). If for these adolescents in transition to university a high sense of autonomy hence having high agency appears to be a risk factor, this may be due to an overwhelming feel-

ing of responsibility that could increase the pressure for making right decisions in a period of high uncertainty and constant change. If failures do occur, a feeling of solely being responsible may contribute to an accentuated sense of personal failure, which in turn could increase the likelihood of suicidal tendency. All in all, autonomy may be associated with mental health outcomes in different ways and to a different extent in populations of various socioeconomic and cultural backgrounds, wherein autonomy needs may not be readily fulfilled or secured. Therefore it would be insightful for future research to investigate the association between autonomous self-construal and mental health outcomes among different populations with varying levels of autonomy within Turkey as well as cross-culturally. For instance, it is an empirical question for future research whether the high suicide rates in Southeastern regions of Turkey among women (Altındağ, Özkan, & Oto, 2005) and particularly among younger women (Coşkun et al., 2012) are associated with lower levels of autonomy in these specific populations. That way light could be shed to the question how autonomy relates to mental health and well being among different sociocultural contexts.

It is of critical importance to consider the varying extent to which interpersonal, intrapersonal and contextual influences affect suicide and well being across different sociocultural contexts. An often neglected but essential component of our understanding of psychological well being in general and suicide in particular is the relative role of environment over psychological factors, such as education and socioeconomic status. In the current study, the contextual environmental factors are largely controlled given the homogeneity of the sample of urban college students. In a sample with a larger variation of contextual factors, the influence of contextual factors is likely to be uncovered and more powerful compared to what has been found in the current study. On the other hand, in specific cases contextual factors may be so potent and powerful that the environmental constraints

on psychological factors may be very strong as to eradicate the influence of such individual level factors. Under such powerful contextual constraints or influences, anybody may be at a high risk for suicidal tendency, regardless of their psychological attributes like individual relatedness, autonomy or belongingness. The high rates of women suicides in Southeastern part of Turkey (Altındağ et al., 2005) may provide an example of such a powerful contextual influence; however this hypothesis is yet to be examined.

It is noteworthy in the current study that level of religiosity among adolescents significantly predicted less suicidal ideation but did not predict suicidal attempts or depression. A striking finding is that the protective role of related self-construal and the sense of belonging was shown for both depression and suicidal tendency whereas the protective effect of religiosity was specific to suicidal ideation. The specificity of the association between religiosity and decreased suicidal ideation may be due to the prohibition of suicidal acts by the religion, whereas other psychological phenomena such as depression are not subject to religious condemnation. Suicide is condemned in all major religions including Islam (Lizardi & Gearing, 2010; Stack & Kposowa, 2011), which was the predominant religious denomination of the current sample. Current research also points to the possibility of higher religiosity as an indicator of conditions for higher social cohesion (Fischer et al., 2010; Stack & Kposowa, 2011), thus increased sense of belonging. The current study showed that relatedness and the sense of belonging show a protective effect above and beyond religiosity, thus the question to what extent religiosity contributes to relatedness and the sense of belonging is yet to be investigated.

Not only cross-cultural or different sociocultural context, but also gender effects may be worthwhile to consider in future research (Rudmin et al., 2003). In the current sample, the associations of relatedness and autonomy with mental health outcomes were

similar for both genders, a result that may again be reflective of the specificity of the socio-economic and cultural background of the sample.

The role of two different types of self-construals in depression appear to be in line with Blatt's (2004) conceptualization of two types of depression – one related to interpersonal matters (anaclitic depression) and the other related to self-criticism (introjective depression). According to Blatt, there are two different developmental pathways to two phenomenologically different types of depression whereby different early life experiences, personality characteristics and self and others' mental representations are at play. For future research, it remains to be established whether self-construals of relatedness and autonomy are reflective of these two different pathways and experiences of depression. Within this framework, it is of interest whether one pathway over the other is more predictive of suicidal tendency in specific sociocultural contexts.

Given that depression may be conceptualized in two different forms (Blatt (2004) the associations with relatedness and autonomy may be different if those two components are taken into account. The current study examined inter- and intrapersonal reasons for living in order to investigate if relatedness is subjectively perceived as a reason not to commit suicide. Results revealed that individuals with related self-construal reported relatively more interpersonal reasons for living than intrapersonal reasons for living and therefore supported the hypothesis that relatedness is subjectively perceived as a bound to life. Even though the cross-sectional design of the current study does not allow inference about causality (Engelhardt et al., 2009) it can be argued that relatedness is subjectively perceived as a reason for living and a reason not to commit suicide. This finding is in line with research on the protective value of a purpose in life, showing that the feeling of a purposeful life played a significant protective role against suicidal ideation (Heisel & Flett, 2004; Kleiman & Beaver, 2013; Wang, Lightsey, Pietruszka, Uruk, & Wells, 2007) and

depression (Kleftaras & Psarra, 2012; Wang et al., 2007), and is frequently caused by social relations and connectedness (Kleftaras & Psarra, 2012). Further research could indicate if interpersonal reasons for living pose a purpose in life and thus decreasing suicidal ideation.

It is noteworthy that adolescents or first year college students of the present study composed a group at high risk for mental health problems indicated by almost 60% of students with clinical levels of depression and almost 30% with suicidal ideation during the past year, but relatively few suicidal attempts during the past year. The high level of depression in the current sample may not only be due to the high educational demands but may also be influenced by a general political unrest in Turkey during the time of data collection. The comparably high prevalence of suicidal ideation may be due to the conceptualization of the current study, including “passing thoughts” into suicidal ideation. Besides, students reported a relatively high level of stress during the past year, with topics of education and relationships contributing most to this subjective stress. Results are in line with the proposal of the study that the year before university entrance is an especially stressful period in Turkey. It also replicates the findings that topics related to education and relationships are the most stressful impacts for adolescents (Arnett, 2004; Engin et al., 2009; Williamson et al., 2003; Zimmer-Gembeck & Skinner, 2008).

With respect to theoretical implications, our findings on the protective value of related self-construal and the sense of belonging against suicidal tendency and depression provide support for existing theories where interpersonal factors related to connectedness, integration and sense of belonging are proposed as critical factors against suicidal risk in particular. Current findings might also have practical implications if further supported by future studies with more diverse samples of adolescents as well as other age groups. In order to approach the important public health problem of suicide and depression by effec-

tive prevention strategies it is of importance to show whether men and women in different sociocultural contexts are affected by opportunities to be socially integrated (related) on the one hand and opportunities to be independent agencies in their lives (autonomous) on the other hand. The current study showed that in an urban context for college students who are transitioning to a new phase in their lives, relatedness and sense of belonging are critical factors in suicidal ideation and levels of depression, pointing to a need to focus on promoting not only values but actions that would increase relatedness and belonging. In another context, autonomy might be a critical factor that needs to be the agenda for intervention and prevention efforts. Further research is warranted to make these recommendations.

One limitation of the current study is the relatively homogenous characteristics of socioeconomic and sociocultural context of the sample. Examinations of the associations of sociocultural factors and mental health outcomes among a variety of populations within Turkey would provide a broader picture about the way those factors operate and allow inferences about the universality or specificity of the established associations. Again, the relative importance of specific associations of autonomy and relatedness with suicidal risk and tendency may be better uncovered in diverse samples. Additionally cross-cultural comparisons of sociocultural factors would provide further insight into the importance of understanding the dynamic complexity of factors that are related to suicidal tendency and depression.

Another limitation of the current study is the relatively small sample size, which limited the possibilities to conduct statistical tests for an outcome as rare as suicidal attempts. In the current sample, suicidal attempts were particularly reported less than in other studies in Turkish college students (Eskin, 2013) and American, European and Australian adolescents (Evans et al., 2005). An extension of the sample size would allow further

examination of the associations between related and autonomous self-construal, the sense of belonging and suicidal attempters. This would furthermore allow a more detailed comparison between the similarities and differences between suicidal attempters versus students with suicidal ideation. Inferences about the distinctiveness between a suicidal thought and the attempt to actually complete suicide are especially critical for the development of prevention strategies in order to specifically target persons at higher risk. Suicide attempt history is a more potent indicator of risk for future attempts compared to suicidal ideation (Miranda et al., 2008). This is to mean that mechanisms other than sense of belonging may account for the association between relatedness and suicide attempt risk, whereas the sense of belonging plays a significant role in explaining the association between relatedness and suicidal ideation (Joiner, 2005; Joiner et al., 2009; van Orden et al., 2010). Joiner (2005)'s theory suggests capability for self-harm as a predictor of suicide attempts, which is open to empirical examination in future studies. Hence further research on protective factors for suicidal attempts separate from suicidal ideation may be critical to examine and understand different pathways to suicidality.

Another limitation of the current study is its cross-sectional design which limits the extent of causal statement in the relation between sociocultural factors and mental health outcomes. The current study investigated self-reported reasons for living in order to investigate if relatedness is subjectively perceived as a boundary to life. A longitudinal investigation of sociocultural factors and the development of mental health outcomes over time would provide further insights into the way those factors operate causally.

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Appendix

A. Consent form

Değerli Katılımcı,

Koç Üniversitesi Psikoloji Bölümü öğretim üyesi Yardımcı Doçent Banu Çankaya ile yüksek lisans öğrenci Hannah Beckmann tarafından yürütülen bir çalışma için bazı sorular sormak istiyoruz. Bu çalışmanın amacı sizin sosyal çevreniz ile olan ilişkileriniz, aidiyet duygunuz ve sıkıntılarınız arasındaki ilişkileri anlamaktır.

Sorularımızın doğru veya yanlış cevabı yoktur, bizim için en önemli olan sizin ne düşündüğünüzdür. Her soru için sizin durumunuzu en iyi ifade eden cevabı seçmeye çalışınız.

Bazı sorular birbirine benzerlik gösterebilir ancak farklı durumları değerlendirmektedir; lütfen dikkatle cevaplayınız. Sizden aldığımız kişisel bilgiler yalnızca bizim tarafımızdan kullanılacak ve kimliğinize dair hiçbir bilgi alınmayacak olup başka hiç bir kurum ve kişi ile paylaşılmayacaktır.

Anketin cevaplanmasında herhangi bir süre kısıtlaması yoktur. Size sorduğumuz soruların tamamlanması yaklaşık 30-40 dakikanızı alacaktır. Anket soruları içerisinde kişisel rahatsızlık oluşturacak sorularla karşılaşmanız durumunda yanıtlamayı tamamen bırakıp araştırmadan ayrılabilirsiniz.

Oluşabilecek herhangi bir kişisel rahatsızlık durumunda üniversitenin sağlık merkezine başvurabilirsiniz.

Koç Üniversitesi: (0212) 338-1273 veya kuptem@ku.edu.tr; acil durumlarda (0212) 338-1100 'ı arayabilirsiniz

Boğaziçi Üniversitesi: (0212) 359 7139 veya burem@boun.edu.tr

Bu araştırmaya gönüllü olarak katılmayı kabul ettiğinizi belirttikten sonra anket sorularını cevaplamaya başlayabilirsiniz.

Soruları içten ve kendinizi en doğru yansıtabilecek şekilde cevaplamamız bizim için çok değerli olacaktır. İlginiz ve zaman ayırdığınız için şimdiden çok teşekkür ederiz.

Lütfen çalışmaya gönüllü olarak katılmayı kabul edip etmediğinizi belirtiniz.

- Çalışmaya katılmayı gönüllü olarak kabul ediyorum.
- Çalışmaya katılmayı kabul etmiyorum.

B. Demographic questionnaire

Cinsiyetiniz

- Kadın
 Erkek

Doğum yılınız: _____

Hangi üniversitede okuyorsunuz?

- Koç Üniversitesi
 Boğaziçi Üniversitesi

Üniversitede İngilizce hazırlık eğitimi aldınız mı yada alıyor musunuz?

- Evet
 Hayır

İngilizce hazırlık eğitiminde hangi dönemde olduğunuzu belirtiniz.

- 1 2 3 4 Tamamladım

İngilizce hazırlık eğitimi kaç dönem içinde bitirdiniz?

- 1 2 3 4

Lisans eğitiminizin hangi döneminde olduğunuzu belirtiniz.

- 1 2 3 4 5 6 7 8 9 10 11 12 >12

Hangi bölümde okuyorsunuz? (Çift anabilim dalı programı için iki seçenek işaretleyebilirsiniz.)

- Bilgisayar ve Öğretim Teknolojileri Eğitimi Bölümü
 Eğitim Bilimleri Bölümü
 İlköğretim Bölümü
 Orta Öğretim Fen ve Matematik Alanları Eğitimi Bölümü
 Yabancı Diller Eğitimi Bölümü
 Eğitim Teknolojileri Araştırma ve Uygulama Merkezi
 Batı Dilleri ve Edebiyatları Bölümü
 Çeviribilim Bölümü
 Felsefe Bölümü
 Fizik Bölümü
 Kimya Bölümü

- Matematik Bölümü
- Moleküler Biyoloji ve Genetik Bölümü
- Psikoloji Bölümü
- Sosyoloji Bölümü
- Tarih Bölümü
- Türk Dili ve Edebiyatı Bölümü
- Ekonomi Bölümü
- İşletme Bölümü
- Siyaset Bilimi ve Uluslararası İlişkiler Bölümü
- Bilgisayar Mühendisliği Bölümü
- Elektrik-Elektronik Mühendisliği Bölümü
- Endüstri Mühendisliği Bölümü
- İnşaat Mühendisliği Bölümü
- Kimya Mühendisliği Bölümü
- Makine Mühendisliği Bölümü
- Turizm İşletmeciliği Bölümü
- Uluslararası Ticaret Bölümü
- Yönetim Bilişim Sistemleri Bölümü
- Beden Eğitimi Bölümü
- Güzel Sanatlar Bölümü
- Diğer: _____

Burslu musunuz (eğitim-öğretim ücreti)?

- Hayır
- 25% bursluyum
- 50% bursluyum
- 100% bursluyum
- Diğer: _____

Aylık burs alıyor musunuz?

- Hayır
- Evet (< 500 TL)
- Evet (500-1000 TL)
- Evet (> 1000 TL)

Okul dışında bir işte çalışıyor musunuz?

- Evet
- Hayır

Annenizin öğrenim durumu nedir? (En son okuduğu okul)

- Okur yazar değil
- Diplomasız okur yazar
- İlkokul mezunu
- Ortaokul mezunu
- Lise veya meslek okulu mezunu
- Üniversite mezunu
- Yüksek lisans mezunu
- Doktora mezunu

Babanızın öğrenim durumu nedir? (En son okuduğu okul)

- Okur yazar değil
- Diplomasız okur yazar
- İlkokul mezunu
- Ortaokul mezunu
- Lise veya meslek okulu mezunu
- Üniversite mezunu
- Yüksek lisans mezunu
- Doktora mezunu

Babanız hayatta mı?

- Evet
- Hayır

Babanızın çalışma durumunu söyler misiniz?

- Emekli, şu an çalışıyor
- Emekli, şu an çalışmıyor
- Gelir getiren bir işi yok, çalışmıyor - düzenli ek geliri var
- Gelir getiren bir işi yok, çalışmıyor - düzenli ek geliri yok
- Maaş ya da ücret karşılığı çalışıyor
- Kendi hesabına çalışıyor, kendi işinin sahibi
- Diğer: _____

Babanızın mesleği nedir?

- İşçi/hizmetli - parça başı işi olan (yevmiye)
- İşçi/hizmetli - düzenli işi olan (maaş)
- Ustabaşı/kalfa - kendine bağlı işçi çalışan
- Yönetici olmayan memur / teknik eleman/uzman vs
- Yönetici (1-5 çalışanı olan)
- Yönetici (6-10 çalışanı olan)

- Yönetici (11–20 çalışanı olan)
- Yönetici (20'den fazla çalışanı olan)
- Ordu mensubu (uzman er, astsubay, subay)
- Ücretli nitelikli uzman (avukat, doktor, mimar, mühendis vs)
- Çiftçi (kendi başına/ailesiyle çalışan)
- Seyyar - Kendi işi (freelancedahil), dükkanda hizmet vermiyor
- Tek başına çalışan, dükkan sahibi, esnaf (taksi şoförü dahil)
- İşyeri sahibi- 1–5 çalışanlı (Tic, Tarım, İmalat)
- İşyeri sahibi- 6–10 çalışanlı (Tic, Tarım, İmalat)
- İşyeri sahibi -11–20 çalışanlı (Tic, Tarım, İmalat)
- İşyeri sahibi - 20'den fazla çalışanlı (Tic, Tarım, İmalat)
- Serbest nitelikli uzman (avukat, mühendis, mali müşavir, bilgisayar yazılımcısı vs)
- Diğer: _____

Anneniz hayatta mı?

- Evet
- Hayır

Annenizin çalışma durumunu söyler misiniz?

- Emekli, şu an çalışıyor
- Emekli, şu an çalışmıyor
- Gelir getiren bir işi yok, çalışmıyor - düzenli ek geliri var
- Gelir getiren bir işi yok, çalışmıyor - düzenli ek geliri yok
- Maaş ya da ücret karşılığı çalışıyor
- Kendi hesabına çalışıyor, kendi işinin sahibi
- Diğer: _____

Annenizin mesleği nedir?

- İşçi/hizmetli - parça başı işi olan (yevmiye)
- İşçi/hizmetli - düzenli işi olan (maaş)
- Ustabaşı/kalfa - kendine bağlı işçi çalışan
- Yönetici olmayan memur / teknik eleman/uzman vs
- Yönetici (1–5 çalışanı olan)
- Yönetici (6–10 çalışanı olan)
- Yönetici (11–20 çalışanı olan)
- Yönetici (20'den fazla çalışanı olan)
- Ordu mensubu (uzman er, astsubay, subay)
- Ücretli nitelikli uzman (avukat, doktor, mimar, mühendis vs)
- Çiftçi (kendi başına/ailesiyle çalışan)
- Seyyar - Kendi işi (freelance dahil), dükkanda hizmet vermiyor

- Tek başına çalışan, dükkan sahibi, esnaf (taksi şoförü dahil)
- İşyeri sahibi- 1–5 çalışanlı (Tic, Tarım, İmalat)
- İşyeri sahibi- 6–10 çalışanlı (Tic, Tarım, İmalat)
- İşyeri sahibi -11–20 çalışanlı (Tic, Tarım, İmalat)
- İşyeri sahibi - 20'den fazla çalışanlı (Tic, Tarım, İmalat)
- Serbest nitelikli uzman (avukat, mühendis, mali müşavir, bilgisayar yazılımcısı vs)
- Diğer: _____

Ülkemizdeki ortalama gelir düzeyini düşündüğünüzde, ailenizi hangi gelir grubuna ait görüyorsunuz?

- Alt gelir grubu
- Ortanın altı gelir grubu
- Orta gelir grubu
- Ortanın üstü gelir grubu
- Üst gelir grubu

Annenizin kaç kardeşi var?

- yok 1 2 3 4 5 6 7 8 9 10

Babanızın kaç kardeşi var?

- yok 1 2 3 4 5 6 7 8 9 10

Kaç kız kardeşiniz var?

- yok 1 2 3 4 5 6 7 8 9 10

Kaç erkek kardeşiniz var?

- yok 1 2 3 4 5 6 7 8 9 10

Hangi şehir/kasaba/köyde doğdunuz? _____

Hangi şehir/kasaba/köyde hayatınızın çoğunu geçirdiniz?

Bugüne kadar en uzun yaşadığınız yer, nasıl bir yerdi?

- Büyük şehir merkezi
- Şehir

- Kasaba
- Köy
- Yurtdışı - Köy/Kasaba
- Yurtdışı - Şehir/Büyük Şehir

Bugüne kadar hiç bir şehirden başka bir şehire ya da başka bir ülkeye taşındınız mı?

- Evet
- Hayır

Hangi şehirde liseye gittiniz? _____

Lisenizin adı nedir? _____

Lisenizin tipi nedir?

- Düz Lise
- Özel Lise
- Anadolu Lisesi
- Fen Lisesi
- Meslek Lisesi
- İmam Hatip Lisesi
- Diğer: _____

Üniversite eğitimi için bulunduğunuz yerden ayrılıp yeni bir şehre taşındınız mı?

- Evet
- Hayır

Aileniz şu anda hangi şehirde oturuyor? _____

Ailenizin evi kira mı?

- Kendinin
- Kira
- Lojman/Yurt
- Diğer: _____

Siz şu an nerede oturuyorsunuz?

- Yurtta
- Ailemle
- Kendi evimde
- Arkadaşlarla bir ev paylaşıyorum
- Diğer: _____

Kimlerle yaşıyorsunuz? (Birden fazla seçenek işaretleyebilirsiniz.)

- Anne ve/veya Babam
- Kardeşlerim
- Büyükanne ve/veya Büyükbabam
- Diğer akrabalarım
- Çocuklarım
- Eşim
- Sevgilim
- Arkadaşlarım
- Tek yaşıyorum

Şu ana kadar toplam kaç yıl ailenizden ayrı yaşadınız?

- Hiç
- < 1 yıl
- 1 yıl
- 2 yıl
- 3 yıl
- 4 yıl
- 5 yıl
- > 5 yıl

Hangi dine mensupsunuz?

- Müslüman (alevi)
- Müslüman (sünni)
- Hristiyan
- Musevi
- Budist
- Hindu
- Hiçbiri
- Diğer: _____

C. Coding of SES based on the father's education and occupation

Occupation	Education					
	No degree	Primary school	Middle school	High school	University (Bachelor)	University (Master)
Unemployed/currently not working – no side income/benefits	1	1	2	2	3	3
Unemployed/currently not working – regular side income/benefits	2	2	3	3	4	4
Labourer/retainer – working by piecework (irregular, from time to time)	1	2	2	3	4	5
Labourer/retainer – working regularly (doing the same job unless special conditions)	2	3	3	4	5	5
Workmaster/qualified workman – has workers working under his command	2	3	3	4	5	5
Civil servant who doesn't direct / craft / expert etc.	2	3	3	4	5	5
Director (with 1-5 employees)	3	4	4	4	5	6
Director (with 6-10 employees)	3	4	4	5	6	6
Director (with 11-20 employees)	4	4	4	5	6	6
Director (with more than 20 employees)	4	4	5	5	6	6
Military man (military specialist, sergeant, officer)	-	3	3	4	6	6
Expert with payment, seniority and qualifications (lawyer, doctor, architect, engineer, academician)	-	-	-	-	6	6
Farmer (working by themselves or with their families)	2	2	2	3	5	5
Street hawker – own job (including free lance), not giving service in a store	3	3	3	4	5	5
Working alone, store owner, tradesman (including taxi drivers)	3	4	4	4	6	6
Business owner with 1-5 employees (trade, agriculture, manufacture, service)	3	4	4	5	6	6
Business owner with 6-10 employees (trade, agriculture, manufacture, service)	4	4	4	5	6	6
Business owner with 11-20 employees (trade, agriculture, manufacture, service)	4	4	5	5	6	6
Business owner with more than 20 employees (trade, agriculture, manufacture, service)	4	4	5	5	6	6
Freelance qualified expert (lawyer, engineer, financial advisor, doctor, pharmacist etc.)					6	6

