

# The Attitudes of Preclinical and Clinical Turkish Medical Students Toward Suicide Attempters

Murat Emul, Zeynep Uzunoglu, Hacer Sevinç, Çidem Güzel, Çala Yılmaz, Dervi Erkut, and Kemal Arıkan

Department of Psychiatry, University Hospital, Afyonkarahisar, Turkey

**Abstract.** *Background:* Interest in studies of stigma toward patients with mental disorders is growing. Research on the attitudes of medical students toward suicide attempters does not exist; although as medical personnel, they will encounter suicide attempters in emergency rooms. *Aims:* We aimed to investigate the attitudes of preclinical and clinical medical students toward suicide attempters and to compare their attitudes with nonmedical students. *Methods:* Participants were asked to fill out questionnaires those were searching the attitudes toward suicide attempters. These questionnaires used a social distance scale, skillfulness assessment scale, and dangerousness scale. *Results:* More than 73% of students had a negative attitude toward “renting a room of their home to a suicide attempter.” More than 90% would not want “a suicide attempter to supervise their children for few hours.” Significantly more preclinical than clinical students would not want their children to marry a suicide attempter. *Conclusions:* Social distance, skillfulness, and attitudes concerning the dangerousness of suicide attempters are problematic for medical students and need educational intervention.

**Keywords:** attitude, stigmatization, suicide attempt, medical students

## Introduction

Suicide is a major public health problem. Although the suicide rate is low in Turkey, it has been reported to be increasing (Öncü, Soykan, İlhan, & Sayıl, 2008). Suicide attempters may be especially stigmatized because, in addition to being dismissed as “merely attention-seeking gesturers,” they often cannot find survivor-support groups like those available for friends and families of completed suicides (Sudak, Maxim, & Carpenter, 2008). Negative attitudes toward and rejection of mentally ill people are some of the main obstacles to successful interventions. The most common consequences of discrimination are social distance and exclusion; the burden of stigma might occur with chronic social impairment or lack of social integration. As a result of the stigma associated with mental illness, people suffering from mental illness often do not accept professional help until a very late stage; they fear they will be labeled simply because they have received psychiatric intervention (Angermeyer, Schulze, & Dietrich, 2003; Gabel, Baumann, Witte, & Zaeske, 2002; Peluso & Blay, 2004). Although the stigma is associated with negative, shameful consequences, some suicidologists argue that stigmatizing suicide attempts can be considered helpful in some instances by decreasing attempts (Sudak et al., 2008).

However, there is little knowledge about the attitudes toward suicide attempters among future medical professionals who will inevitably encounter suicide attempters in medical settings. Thus, in this study we had two aims. One was to compare the attitudes of medical students who were training in preclinical medical science and students who were practicing in clinical settings. Our second aim was to compare the attitudes of medical students with the attitudes of students from other schools at the University of Afyon Kocatepe.

## Methods

One of the objectives of the present study was to evaluate the impact of education on attitude differences. To accomplish this objective, we selected preclinical and clinical medical students. The basic medical science group consisted of students in their first, second, and third years of education, in which they are taught theoretical medical sciences, i.e., anatomy, physiology, biochemistry, biology, etc. The clinical group was composed of students in their fourth, fifth, and sixth years of training, in which, in addition to their academic training, they are supposed to

Table 1. Student attitudes on suicide attempters and the social distance scale

Disagree	Clinical/ preclinical %	Other students %	$\chi^2$	$P^1$	$\chi^2$	$P^2$
What would you think about renting a room in your house to a suicide attempter?	79.1/80.6	73.2	0.14	0.99	3.31	0.35
What do you think about working alongside a suicide attempter?	61.6/63.3	53.5	2.29	0.52	5.43	0.14
What would you think about being neighbors with a suicide attempter?	62.4/64.3	60.4	1.42	0.70	2.22	0.53
Would you ask a suicide attempter to supervise your child for few hours?	90.3/90.8	95.1	1.41	0.70	4.44	0.22
What would you think if your child wanted to marry a suicide attempter?	82.4/86.7	95.1	7.82	0.05*	10.17	0.04*
Would you want to introduce a suicide attempter to your close male or female friend?	72.2/70.4	67.3	1.87	0.60	3.22	0.35
Would you suggest that a close friend employ a suicide attempter?	54.3/54.1	57.4	0.60	0.90	6.68	0.08
What do you think about traveling with a group if there is a suicide attempter in the group?	55.2/50.2	52.5	2.73	0.44	6.91	0.08

Note. \*Definitely disagree was shown under the category "disagree";  $P^1$  compared within clinical and preclinical students;  $P^2$  compared within medical and nonmedical students; \*statistically significant.

practice in clinical settings and meet patients (through a clerkship or internship). The second purpose of this study was to compare the attitudes of medical students with students in other parts of the university. Sociology and psychology students were excluded from the study, because these disciplines might influence students' attitudes toward suicide attempters.

Upon giving written informed consent for enrolling in the study, all participants were asked to fill out a questionnaire. The research was performed in accordance with the Helsinki Declaration's criteria.

## Assessment Scales

All participants were asked to fill out a questionnaire about stigmatization. This questionnaire included three subscales: the social distance scale (SDS), the skillfulness assessment scale (SAS), and the dangerousness scale (DS). The reliability and validity of this questionnaire was established in a previous study (Penn et al., 1994).

The SDS measures eight items related to social avoidance (with each item falling on a 4-point Likert scale: *definitely unwilling*, *probably unwilling*, *probably willing*, *definitely willing*). The Cronbach's alpha reliability score of the SDS was 0.79 for its Turkish translation (Savrun et al., 2007).

The SAS has eight items, for which the Cronbach's alpha reliability score was 0.78 for its Turkish translation (Savrun et al., 2007). The DS includes eight questions; participants rate each item according to a 7-point Likert scale, where point 1 or 2 indicate *definitely agree*; 3, 4 and 5 points indicate *neutral*; 6 and 7 points indicate *definitely disagree*. The Cronbach's alpha reliability score of the DS was 0.72 for its Turkish translation (Savrun et al., 2007).

## Statistical Analysis

Statistical analysis was performed with SPSS for Windows version 13.0 (SPSS Inc., Chicago, IL, USA). Data were

analyzed with Student's *t*-test and chi square test. A *p* value < .05 was accepted as statistically significant.

## Results

There were 335 students in our study, and 234 of the participants were from medical school (100 of them were from the preclinical group; 134 were in the clinical practice group) while the other 101 were in other schools of Afyon Kocatepe University. There were no differences among students in birthplace ( $p = .88$ ), the place they had grown up ( $p = .95$ ), family income ( $p = .33$ ), whether they had ever sought out a psychiatrist's services ( $p = .78$ ), or whether they had ever met a suicide attempter ( $p = .76$ ). In addition, the above-mentioned demographic features were not different among medical students who were in preclinical education and those who had entered clinical practice (for place of birth,  $p = .46$ ; for childhood hometown,  $p = .47$ ; for family income,  $p = .99$ ; for psychiatric support,  $p = .90$ ; or for having met a suicide attempter,  $p = .98$ ).

Using the SDS, 79.1% of medical students and 73.2% of other students had a negative attitude toward "renting a room in their home to a suicide attempter." When the participants were asked whether they would leave their child in the care of a suicide attempter for a few hours, 90.1% of medical and 91.4% of other students disagreed (Table 1). In the SAS, 51.7% of medical and 57.4% of other students believed the hearing and speech abilities of suicide attempters were impaired. Furthermore, 60.3% of medical students and 63.4% of students in other schools thought that "suicide attempters are impulsive."

To examine the effect of education in medical students, we divided them into two groups, preclinical and clinical. The only significant difference encountered between preclinical and clinical medical students was in Item 5 of the SDS ( $p = .05$ ). Significantly more students in preclinical classes would not want their children to marry a suicide attempter. According to the SDS, only Item 5 was significantly different between medical and other students ( $p =$

Table 2. Students; skill assessments of suicide attempters

Clinical – preclinical/nonmedical students	Agree <sup>+</sup> %	Neutral %	Disagree <sup>#</sup> %	$\chi^2$	$P^1$	$\chi^2$	$P^2$
They can control their rage	5.1–4.1/18.8	40.3–35.7/39.6	54.7–59.2/41.6	0.15	0.93	16.85	0.00 <sup>*</sup>
Their hearing and speech abilities are normal	7.3–4.1/5.9	41.0–39.8/37.7	51.7–55.1/57.4	0.31	0.86	1.41	0.50
They can externalize their positive feelings	17.9–10.2/21.8	57.3–67.3/49.5	24.8–21.4/28.7	2.68	0.26	2.94	0.23
They can manage their daily problems	13.3–6.1/16.8	53.4–57.1/50.5	33.3–35.0/32.7	0.68	0.71	1.72	0.42
They can perform work successfully	16.3–10.2/15.8	56.8–61.2/56.5	26.9–27.6/27.7	2.35	0.31	1.18	0.92
They have strong social abilities	15.4–10.2/15.8	57.7–62.2/55.5	26.9–26.5/28.7	3.46	0.18	0.55	0.76
They do not behave impulsively	8.5–5.1/7.9	31.2–26.5/28.7	60.3–69.3/63.4	3.38	0.04 <sup>*</sup>	0.85	0.66
They are enterprising	17.8–11.2/5.0	47.9–49.0/48.5	30.3–36.0/46.5	6.42	0.09	4.19	0.12

Note. <sup>+</sup>Definitely agree was shown under the category of “Agree”; <sup>#</sup>Definitely disagree was shown under the category “Disagree”;  $P^1$  compared within clinical and preclinical students;  $P^2$  compared within medical and nonmedical students; <sup>\*</sup>statistically significant.

Table 3. Examples of students’ responses on the dangerousness scale

Clinical – preclinical/other students	Agree <sup>+</sup>	Neutral	Disagree <sup>#</sup> %	$\chi^2$	$P^1$	$\chi^2$	$P^2$
If a suicide attempter applied to teach in a primary school, I would try to get him fired	12.8–8.2/21.8	46.6–52.0/46.6	40.6–38.8/31.7	0.37	0.83	5.19	0.08
The important thing about a suicide attempter is you cannot predict what they may do any minute	29.9–39.8/45.5	46.6–43.9/42.6	23.5–15.3/11.9	5.27	0.04 <sup>*</sup>	9.75	0.01 <sup>*</sup>
I would trust a person less if I knew that he/she were a suicide attempter	36.3–35.7/44.6	39.8–41.8/37.6	23.9–21.4/17.8	0.53	0.77	2.70	0.26
Although the suicide attempter seems like a good person, one must not forget for a minute that they have made a suicide attempt	32.5–25.5/42.6	36.7–39.8/41.6	30.8–33.7/15.8	6.46	0.04 <sup>*</sup>	8.24	0.02 <sup>*</sup>

Note. <sup>+</sup>Definitely agree was shown under the category “Agree”; <sup>#</sup>Definitely disagree was shown under the category “Disagree”;  $P^1$  compared within clinical and preclinical students;  $P^2$  compared within medical and nonmedical students; <sup>\*</sup>statistically significant.

.04), while the other seven items were not significantly different. Thus, significantly more medical students did not want “their children to marry a suicide attempter” (Table 1). On the SAS, significantly more preclinical students than clinical students believed that a suicide attempter is impulsive ( $p = .040$ ). The other items in the SAS were not significantly different between preclinical and clinical medical students. The only significant difference between medical and nonmedical students on the SAS was the first item ( $p = .000$ ); more medical students believed that suicide attempters cannot control their rage (Table 2).

On the DS scale, significantly more nonmedical than medical students believed that “suicide attempters are unpredictable” ( $p = .008$ ). In addition, more nonmedical than medical students preferred “never to forget that someone had attempted to commit suicide even though they seem like a good person” (in the fourth item,  $p = .016$ ) on the DS (Table 3). Furthermore, significantly more preclinical students believed that “a suicide attempter is unpredictable” ( $p = .043$ ), while significantly more clinical students believed that “one always has to keep in mind that a suicide attempter has made a suicide attempt before” ( $p = .040$ ). In addition, we analyzed the attitude differences between male and female students. The only significant difference was that more females than males agreed that “if a suicide attempter applied to be a teacher in a primary school, I would oppose his appointment” ( $p = .012$ ).

## Discussion

In the last two decades, with the worldwide shift toward a more community-based psychiatric care approach, stigma and related issues have been receiving an increasing amount of attention. Despite the importance of the issue of stigma, there have been no systematic studies of attitudes toward suicide attempters. In the present study, the findings on medical students’ attitudes toward suicide attempters on the SDS were disappointing. When students from medical and nonmedical schools were asked to think about renting a room of theirs to a suicide attempter or introducing a suicide attempter to a close friend, more than 70% of participants answered that they were “unwilling.” The most striking finding was that more than 85% of the students were “unwilling” to “leave their child in the care of a suicide attempter for a few hours.” Furthermore, significantly more medical students than students from other schools were unwilling “to let their children marry a suicide attempter.” In the literature, the most severe stigmatization attitudes, beliefs, or discrimination have been reported on schizophrenia spectrum disorders. In a study of schizophrenia, only 25% of the general public said they would marry someone with schizophrenia (Thompson et al., 2002). In another study, 30.7% of respondents were reported to worry about living in a neighborhood with a group of schizophrenic patients (Gaebel et al., 2002). In addition, 43% of

participants in Ozmen et al.'s (2004) study were found to be unwilling to rent their house to a person with depression, and 27.9% were reported to have negative thoughts about marrying a person with depression, which might be expected to be a less-stigmatized disorder. However, the social distance in medical students toward suicide attempters was much higher than in the findings from other studies for the above-mentioned disorders, which was also unexpected. One of the possible explanations for this high level of social distance in all students might be religion. Although Turkey is a secular country, most of the individuals abide by the rules of Islamic religion. The students' attitudes toward suicide attempters might be influenced by Islamic opinions about suicide attempts. These strongly socially distant attitudes might cause a suicide attempter to bear the general characteristics of stigmatization: to be distinguished as having undesirable characteristics that may form negative stereotypes and to experience loss of social status (Link & Phelan, 2001).

Strong evidence has suggested an association between perceived unpredictability and dangerousness, on the one hand, and the preference for social distance on the other (Angermeyer & Matschinger, 2005). In the present study, more than 60% of all students believed that "suicide attempters are impulsive." In addition, more than 40% of students thought that "suicide attempters cannot control their rage." According to the DS, more than 30% of university students found the suicide attempters "unpredictable" and "less trustworthy," and preferred to "keep the previous suicide attempts in mind." Thus, the attitudes toward suicide attempters among university students might also influence social distance. It has been argued that one of the factors contributing most heavily to stigma is the treatment of someone as dangerous (Martin, Pescosolido, & Tuch, 2000), and the negative stereotype of dangerousness seems to have a disproportionately detrimental effect on community attitudes toward people with mental illness (Botha, Koen, & Niehaus, 2006). In the present study, although the ratings were high in both groups, significantly more nonmedical than medical students believed that a suicide attempter is "unpredictable" and refused to "forget the past suicide attempt for a minute." The significantly more positive attitudes in medical students for these two preferences might be the result of their medical education and improvement in the skills of medical students regarding emergency suicidal situations.

Approximately three or four out of five medical students displayed socially distant attitudes toward suicide attempters. Some sociological researchers reason that certain institutional practices and structural mechanisms may contribute to poor quality of health care even when the psychological intent to stigmatize is absent (Link & Phelan, 2001). This phenomenon is especially important when one remembers that nearly 70% of suicide attempters had previously seen a general practitioner, and 40% of them had done so in the month prior to their suicide attempt (Luoma, Martin, & Pearson, 2002). Thus, these high proportions of socially distant attitudes in future health professionals

might influence the quality of health service provided to suicide attempters. The only difference between clinical and preclinical students was that more clinical students would not want their children to marry a suicide attempter. This is consistent with the stigma literature and the theory that willingness to interact with a person with a mental disorder decreases with level of intimacy (Gaebel et al., 2002; Jorm, Christensen, & Griffiths, 2006). The clinical medical students had interacted with suicide attempters in clinical settings more than preclinical students, and they were expected to have greater intimacy as clinicians with the suicide attempters in their practice. Furthermore, more than one in two medical students, both preclinical and clinical, thought that suicide attempters were aggressive and impulsive, but more preclinical than clinical medical students believed that "suicide attempters are impulsive." Aggression (Giegling et al., 2008) and impulsivity (Dougherty et al., 2004) were common accusations about suicide attempters in the literature. In one study, impulsivity was assessed as both a transient state and a characteristic trait for suicidal individuals with a history of previous attempts (Fazaa & Page, 2009). However, in a recent study, only 10% of suicide attempters were found to have attempted suicide impulsively (Witte et al., 2008). Thus, the debates about the link between impulsivity and suicide attempts are inconclusive. Impulsive individuals were believed to be more likely exposed to and to have more tolerance for painful or provocative experiences (such as substance use) than less-impulsive individuals (Smith et al., 2008; Witte et al., 2008). In psychiatry curricula, clinical students are told that mental disorders were the situations most closely related to suicide attempts. Thus, preclinical students who have not been taught this might believe more strongly that "suicide attempters are impulsive." Additionally, this lack of knowledge in preclinical students also contributed to their opinion that "suicide attempters are unpredictable." Thus, significantly fewer clinical medical students, who had been taught that "previous suicide attempts strongly predict later suicidality and multiple suicide attempts are strongly related with mood, anxiety and substance use disorders (71%)" (Miranda et al., 2008), thought that suicide attempters are unpredictable, but these students were aware of the predictors of suicide attempts by keeping the previous attempts in their minds.

Studies on attitudes toward suicide attempters are lacking in psychiatry residency (Sudak et al., 2007). Nevertheless, it is important to overcome stigma against suicide attempters throughout the social environment of medical schools. In medical schools, learning takes place through training and social interaction. Hence, medical education and learning environments must be structured to positively impact attitudes toward suicide attempters, although many medical schools have reduced the length of psychiatry internships. Medical students must not only gain knowledge and skills about the recognition and management of suicidal problems, but they should also improve their attitudes and practices toward persons who have made suicide attempts.



This study has some limitations: first, Afyonkarahisar is a small city in which suicide attempts are relatively infrequent. Thus, the attitudes of medical students might differ in the larger, industrialized cities of Turkey. The design of the study, since it relies on self-reporting, may be a second limitation. In such self-reported questionnaires, some participants might prefer to provide socially acceptable answers rather than their real feelings. In addition, we did not investigate the strength of respondents' beliefs in Islam. Thus, cultural discrepancies deserve attention in further research.

In conclusion, while stigma and related issues have received growing attention in the last two decades, there was no study on stigma toward suicide attempters in the literature. In the present study, we found that the attitudes of medical students toward suicide attempters were most problematic on the social distance scale. Furthermore, attitudes toward suicide attempters' characteristics, as measured on the skillfulness and dangerousness scales, did not offer much hope for the attitudes of medical students in Afyonkarahisar. Although among some suicidologists, it is considered helpful to stigmatize suicide attempts to decrease these attempts, the findings of the present study may indicate a structural stigmatization in emergency hospital settings, considering that many suicide victims have been in contact with their physicians within the month prior to their suicide (Rodi, Roskar, & Marusic, 2010). The one mildly hopeful finding in the present study was that the attitudes of medical students may change during their medical school tenure.

## References

- Angermeyer, M. C., & Matschinger, H. (2005). Labeling – stereotype – discrimination: An investigation of the stigma process. *Social Psychiatry and Psychiatric Epidemiology*, *40*, 391–395.
- Angermeyer, M. C., Schulze, B., & Dietrich, S. (2003). Courtesy stigma: A focus group study of relatives of schizophrenia patients. *Social Psychiatry and Psychiatric Epidemiology*, *38*, 593–602.
- Botha, U. A., Koen, L., & Niehaus, D. J. H. (2006). Perceptions of a South African schizophrenia population with regards to community attitudes toward their illness. *Social Psychiatry and Psychiatric Epidemiology*, *41*, 619–623.
- Dougherty, D. M., Mathias, C. W., Marsh, D. M., Papageorgiou, T. D., Swann, A. C., & Moeller, F. G. (2004). Laboratory measured behavioral impulsivity relates to suicide attempt history. *Suicide and Life-Threatening Behavior*, *34*, 374–385.
- Fazaa, N., & Page, S. (2009). Personality style and impulsivity as determinants of suicidal subgroups. *Archives of Suicide Research*, *13*, 31–45.
- Gaebel, W., Baumann, A., Witte, A. M., & Zaeske, H. (2002). Public attitudes toward people with mental illness in six German cities. Results of a public survey under special consideration of schizophrenia. *European Archives of Psychiatry and Clinical Neuroscience*, *252*, 278–287.
- Giegling, I., Moreno-De-Luca, D., Rujescu, D., Schneider, B., Hartmann, A. M., Schnabel, A., . . . Serretti, A. (2008). Dopa decarboxylase and tyrosine hydroxylase gene variants in suicidal behavior. *American Journal of Medical Genetics. Part B, Neuropsychiatric Genetics*, *147*, 308–315.
- Jorm, A. F., Christensen, H., & Griffiths, K. M. (2006). Changes in depression awareness and attitudes in Australia: The impact of beyond blue: The national depression initiative. *Australian and New Zealand Journal of Psychiatry*, *40*, 42–46.
- Link, B. G., & Phelan, J. C. (2001). Conceptualizing stigma. *Annual Review of Sociology*, *27*, 363–385.
- Luoma, J. B., Martin, C. E., & Pearson, J. L. (2002). Contact with mental health and primary care providers before suicide: A review of the evidence. *American Journal of Psychiatry*, *159*, 909–916.
- Martin, J. K., Pescosolido, A. B., & Tuch, A. S. (2000). Of fear and loathing: The role of disturbing behavior, labels, and causal attributions in shaping public attitudes toward people with mental illness. *Journal of Health and Social Behavior*, *41*, 208–223.
- Miranda, R., Scott, M., Hicks, R., Wilcox, H. C., Harris Munfakh, J. L., & Shaffer, D. (2008). Suicide attempt characteristics, diagnoses, and future attempts: Comparing multiple attempters to single attempters and ideators. *Journal of the American Academy of Child and Adolescent Psychiatry*, *47*, 32–40.
- Öncü, B., Soykan, Ç., İlhan, İ. Ö., & Sayıl, I. (2008). Attitudes of medical students, general practitioners, teachers, and police officers toward suicide in a Turkish sample. *Crisis*, *29*, 173–179.
- Ozmen, E., Ogel, K., Aker, T., Sagduyu, A., Tamar, D., & Boratav, C. (2004). Public attitudes to depression in urban Turkey: The influence of perceptions and causal attributions on social distance toward individuals suffering from depression. *Social Psychiatry and Psychiatric Epidemiology*, *39*, 1010–1016.
- Peluso, E. T. P., & Blay, S. L. (2004). Community perception of mental disorders. A systematic review of Latin American and Caribbean studies. *Social Psychiatry and Psychiatric Epidemiology*, *39*, 955–961.
- Penn, D. L., Guynan, K., Daily, T., Spaulding, W. D., Garbin, C. P., & Sullivan, M. (1994). Dispelling the stigma of schizophrenia: What sort of information is best? *Schizophrenia Bulletin*, *20*, 567–578.
- Rodi, P. M., Roskar, S., & Marusic, A. (2010). Suicide victims' last contact with the primary care physician: Report from Slovenia. *International Journal of Social Psychiatry*, *56*, 280–287.
- Savrun, B. M., Arıkan, K., Uysal, O., Çetin, G., Poyraz, B. C., Aksoy, C., & Bayar, M. R. (2007). Gender effect on attitudes toward the mentally ill: A survey of Turkish university students. *The Israel Journal of Psychiatry and Related Science*, *44*(1), 57–61.
- Smith, A. R., Witte, T. K., Teale, N. E., King, S. L., Bender, T. W., & Joiner, T. E. (2008). Revisiting impulsivity in suicide: Implications for civil liability of third parties. *Behavioral Sciences and the Law*, *26*, 779–797.
- Sudak, D., Roy, A., Sudak, H., Lipschitz, A., Maltzberger, J., & Hendin, H. (2007). Deficiencies in suicide training in primary care specialties: A survey of training directors. *Academic Psychiatry*, *31*, 345–349.
- Sudak, H., Maxim, K., & Carpenter, M. (2008). Suicide and stig-

ma: A review of the literature and personal reflections. *Academic Psychiatry*, 32, 136–142.

Thompson, A. H., Stuart, H., Bland, R. C., Arboleda-Florez, J., Warner, R., Dickson, R. A., . . . Wig, N. N. (2002). Attitudes about schizophrenia from the pilot site of the WPA worldwide campaign against the stigma of schizophrenia. *Social Psychiatry and Psychiatric Epidemiology*, 37, 475–482.

Witte, T. K., Merrill, K. A., Stellrecht, N. E., Bernert, R. A., Hollar, D. L., Schatschneider, C., & Joiner, T. E. Jr. (2008). “Impulsive” youth suicide attempters are not necessarily impulsive. *Journal of Affective Disorders*, 107(1–3), 107–116.

Received August 18, 2009

Revision received August 2, 2010

Accepted August 13, 2010

Published online May 27, 2011

#### About the authors

Murat Emul, MD, is Associate Professor in the Department of Psychiatry, Medical Faculty of Cerrahpasa, and Istanbul Univer-

sity. He has been in Europe via the Leonardo de Vinci program and has some international publications in the area of psychiatric research.

Zeynep Uzunoglu, Hacer Sevinç, Çidem Güzel, Çala Yılmaz, and Dervis Erkut are undergraduate students in the Medical Faculty of Afyon Kocatepe University.

Kemal Arıkan, MD, is Professor in the Department of Psychiatry, Medical Faculty of Cerrahpasa, and Istanbul University. He has been in the United States via an NIH program and has some international publications in the area of psychiatry research.

Murat Emul

Department of Psychiatry  
University Hospital  
03100 Afyonkarahisar  
Turkey  
Tel. +90 533 5141505  
E-mail hmuratemul@hotmail.com