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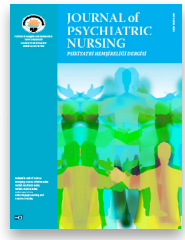

Original Article

Evaluation of knowledge level about suicide and stigmatizing attitudes in university students toward people who commit suicide

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Abstract

Objectives: This study was planned as a descriptive research with the aim to analyze university students' level of knowledge and stigmatizing attitudes toward people who have committed suicide.

Methods: Research was conducted among university students (n=1100). Students' stigmatizing attitudes toward suicides and level of knowledge about suicide were assessed using the Stigma of Suicide Scale (SOSS) and Literacy of Suicide Scale (LOSS). The Student Information Form was used to collect information about students' age, gender, and marital status, a history of previous psychiatric support or psychological consultation services, and suicidal ideation or suicide attempts.

Results: Students who had previously had a psychiatric consultation or received a psychiatric diagnosis obtained a higher average of statistically significant LOSS scores compared to students who had not received psychiatric support (p=0.001). Students who had had suicidal ideation or suicide attempts in the past had a higher average of statistically significant LOSS scores compared to students who had not thought about or attempted suicide (p=0.001). Students who reported a history of suicidal ideation or suicide attempts had higher statistically significant average scores on the Glorification/Normalization subscale compared to students who had not reported a history of thoughts about or attempted suicide (p=0.001), and their Stigma subscale score average was lower (p=0.001). Students' LOSS scores had a negative statistically significant relationship with SOSS' Stigma subscale averages (r=-0.101; p=0.001).

Conclusion: Prevention of suicide attempts is an important public health problem; psychoeducational activities for university students need to be developed that include messages aimed both at increasing knowledge of suicide and reducing students' stigmatizing attitudes toward suicide. Developing trainings for increasing awareness about the warning signs of suicide by community mental health nurses, specialist psychiatric nurses, or school psychologists is effective for suicide prevention.

Keywords: Attitude; level of knowledge; stigma; suicide; university students.

Suicide is a multi-factorial and multivariate social phenomenon that differs in terms of its frequency, social impact, and perception in different cultural and social contexts.[1]

As with people having mental disorders, people who attempt suicide are exposed to negative social attitudes; they are blamed and implicitly stigmatized.[2] The stigma associated with suicide results in the self-isolation of suicidal people and makes it difficult for them to express their feelings. It detaches the individual from life, friends, close familial relationships, and society.[3] This stigma makes the process harder for people who have a tendency toward committing suicide or those who have lost a relative to suicide.[4] The greatest obstacles against the identification and treatment of suicidal ideation are the stigmatizing attitudes toward mental disorders and

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their treatment.[5] Social acceptance of stigmatizing attitudes leads to traumas for potentially suicidal persons. In this frame of mind, the individual begins to feel that society devalues him/her based on some negative preconceptions without any concrete proof; therefore, s/he experiences isolation.[6] The attitude of stigmatization refers to a shameful situation for individuals and results in social isolation, limited life opportunities, and restraints on seeking help. Moreover, negative social attitudes such as stigmatization and discrimination are significant obstacles to social integration.[7]

Stigma surrounding suicide has such a huge impact that it may discourage people from expressing their ideas about suicide. Therefore, stigmatization could be considered as one of the primary obstacles against seeking help, preventing an individual from talking about personal problems openly and freely, and discussing what can be done about these problems.[6] Some persons think that if they expressed their suicidal thoughts, they could be stigmatized as weak and faithless individuals coming from bad families or even as "crazy" people. This situation obstructs the early diagnosis of suicide and help for individuals in despair.[4]

Whereas there are many reasons for stigmatizing suicide, one of the most significant is not having a correct understanding of what might lead to suicide. Due to such misinterpretations, many people try to remain distant to individuals and subjects related with suicide.[8] Stigmatizing attitudes toward suicide influence those who commit suicide, relatives of the person who has committed suicide, and even those who have the ideation or desire of committing suicide.[9] A suicide attempt should be considered a clear sign of an individual who is seeking help. Unfortunately, those who survive suicide attempts are frequently and severely stigmatized, for example, as "s/he just wants to attract attention".[10] Family members of a person who has died by suicide are more stigmatized, ashamed, and rejected, when compared to other close friends. Suicidal people or people who want to commit suicide may be unwilling to seek treatment due to such misunderstandings about suicide. This unwillingness may endanger the individual's personal safety and mental health.[8,11]

The study by Luoma et al.[12] (2002) reported that 45% of the people who committed suicide got in touch with a health expert in the last month before the suicide; however, only 32% received mental health services in the last one year before their suicide. There is still no precise information about why suicidal people do not seek help. Yet, it can be argued that the society's insufficient knowledge about suicide may have resulted in low levels of help-seeking behavior. Low levels of awareness about the causes and symptoms of suicide could mean that suicidal individuals were not aware of the importance of receiving professional help.[12,13] Reviewing the international scholarly literature, many scales have been developed to evaluate individuals who have committed or attempt to commit suicide.[13–21] Although stigmatization of suicide is an important subject, only a few relevant studies have been performed in Turkey. This study analyzes the literacy of university students, who are part of the high-risk age group for suicide, with the aim of understanding the basis for their stigmatizing attitudes toward suicide and the people who commit suicide.

Materials and Method

Research Sample

This study was carried out between September 2014 and February 2015 with the voluntary participation of university students (n=1100) who were registered in undergraduate programs of different faculties or colleges at a state university in Turkey. These students belonged to the 1 through 65 years age group, did not have any communication problems, and gave written informed consent. The number of participating students from each faculty or college was determined using the proportional sampling method.

Data Collection Tools

Student Information Form: This form includes questions on age, gender, faculty or college, perception of family income level, parents' educational level, history of psychiatric or psychological support, and history of suicide attempts.

Literacy of Suicide Scale (LOSS): Developed by Calear et al. (2014),[13] the Literacy of Suicide Scale consists of 27 statements assessing four knowledge areas on suicide. Öztürk and Akın (2016)[14] assessed the validity and reliability studies for the Turkish version of the scale. Its subscales are: Signs/Symptom; Causes/Triggers; Risk Factors; and Treatment and Precautions. Each of the 27 items is assessed using a 3-point Likert scale ("Correct", "False" or "I do not know"). The total score varies between 0 and 27; it is obtained by summing item scores. High LOSS scores indicate a high level of knowledge about suicide. [14]

Stigma of Suicide Scale (SOSS): This scale includes a set of statements with one or a few words that describe someone who committed suicide (e.g., 's/he is selfish', 's/he is a coward', 's/he is brave'). It was developed by Batterham et al.[15] in 2013. Öztürk, Akın and Durna[16] (2016) assessed the validity and reliability tests of the Turkish version of the scale. The SOSS has three subscales: one that assesses stigmatization of people who died by suicide; another analyzing the relationship between suicide and isolation/depression; and the final one on the normalization of suicide or its sublimation.[16]

Research Ethics

The study was conducted in conformity with the Helsinki Declaration. The İstanbul Bilim University Ethics Committee approved this study (44140529/2015-70). The presidency of the university where this study was carried out, and the scholars who developed the scales provided written consent letters. In addition, students who voluntarily agreed to participate in the study were informed about the purpose and method of the study and asked to give written consent letters.

Statistical Analysis

Data were analyzed using the NCSS (Number Cruncher Statistical System) 2007&PASS (Power Analysis and Sample Size) 2008 Statistical Software (NCSS LLC, Kaysville, Utah, USA) programs. Descriptive statistical methods (mean and standard deviation) were used to analyze data. Student's t-test was used for paired comparisons of normally distributed quantitative data, and the One-Way ANOVA test was used to compare three or more groups. The Tukey HSD test was employed for the identification of the group-causing difference. Significance levels were set at $p<0.01$ and $p<0.05$. The Student's t-test, one-way ANOVA test, and Pearson's Correlation Analysis were used in the comparison of LOSS mean scores in terms of students' socio-demographic characteristics. Pearson's Correlation Analysis was also used to analyze the relationship between mean SOSS and LOSS scores.

Table 1. Sociodemographic characteristics of university students (n=1100)

	n	%
Gender		
Female	645	58.6
Male	455	41.4
Age (years)		
Mean±Standard deviation	20.52±1.84	
Minimum–Maximum	18–36	
Marital status		
Single	1082	98.4
Married	18	1.6
Mother's educational level		
Not literate	97	8.8
Literate	70	6.4
Primary school	557	50.6
Secondary school	205	18.6
High school	122	11.1
Undergraduate and postgraduate	49	4.5
Father's educational level		
Not literate	20	1.8
Literate	38	3.5
Primary school	380	34.5
Secondary school	249	22.6
High school	249	22.6
Undergraduate and postgraduate	164	14.9
Students' faculties		
Faculty of arts and sciences	120	10.9
Faculty of education	400	36.4
Faculty of forestry	64	5.8
Faculty of economics and administration	130	11.8
Faculty of communication	70	6.4
Faculty of theology	83	7.5
Faculty of engineering and architecture	33	3.0
School of physical education and sports	67	6.1
Faculty of tourism	53	4.8
School of health	80	7.3
Class		
1st year	283	25.7
2nd year	350	31.8
3rd year	282	25.6
4th year	185	16.8
The place of longest residence		
Urban (city center)	683	62.1
Rural (district/town/village)	417	37.9

Results

Students' Socio-Demographic Characteristics

Of the students, 58.6% were women, 98.4% were single, and their mean age was 20.52±1.84 years. Among them, 36.4% were registered at the Faculty of Education and 31.8% were second year students (Table 1).

Mean Scores of the Literacy of Suicide Scale (LOSS) and Related Variables

Students correctly answered the LOSS items by 36.88% over the total scale. Among the sub-scale items, the item least often answered correctly was the subscale of "symptoms", at a rate of 22.91%, whereas the item most often answered correctly was "Treatment/precaution", at a rate of 67.11% (Table 2).

No statistically significant relationship was found between the students' average age and the mean total LOSS score ($p>0.05$). In addition, no statistically significant difference was found between the mean total LOSS score and students' gender, marital status, parents' educational levels, the place of longest residence, and the schools and classes they had attended ($p>0.05$) (Table 3).

A statistically significant relationship was found in the negative direction between the mean scores of the SOSS "Stigmatization" sub-scale and the mean total LOSS score, at a rate of 10.1% ($r=-0.101$; $p=0.001$) (Table 4).

Mean Scores of the Stigma of Suicide Scale (SOSS) and Related Variables

Although the SOSS Stigma sub-scale had a low approval rate,

Table 2. Mean scores of the correct answers in the subscales of the Literacy of Suicide Scale (LOSS)

Sub-scale	Number of items	Correct answers
		Mean±SD
Symptoms	6	22.91±19.50
Risk factors	7	45.09±20.27
Causes/Triggers	10	27.41±19.08
Treatment/Precaution	4	67.11±26.64

SD: Standard deviation.

Table 3. Comparison of mean scores of the Literacy of Suicide (LOSS) and Stigma of Suicide Scale (SOSS) in terms of students' sociodemographic characteristics, history of suicide, and previous support from a psychiatrist or psychologist (n=1100)

	n	LOSS				SOSS			
		Total scale		Stigma sub-scale		Isolation/ Depression sub-scale		Sublimation/ Normalization sub-scale	
		[c]r	p	[c]r	p	[c]r	p	[c]r	p
Age (years)		0.013	0.662	0.013	0.656	0.011	0.718	0.013	0.662
		Mean±SD		Mean±SD		Mean±SD		Mean±SD	
Gender			[a]p		[a]p		[a]p		[a]p
Female	645	9.99±3.41	0.724	2.82±0.63	0.340	3.78±0.63	0.191	2.45±0.66	0.110
Male	455	9.91±3.60		2.85±0.60		3.83±0.61		2.39±0.65	
Marital status			[a]p		[a]p		[a]p		[a]p
Single	1082	9.94±3.49	0.200	2.84±0.62	0.319	3.80±0.63	0.959	2.43±0.66	0.511
Married	18	11.00±3.20		2.69±0.75		3.79±0.55		2.32±0.64	
Mother's educational level			[b]p		[b]p		[b]p		[b]p
Not literate	97	9.56±4.02	0.707	2.71±0.74	0.123	3.54±0.83	0.001	2.41±0.73	0.729
Literate	70	10.20±3.67		2.72±0.64		3.70±0.63		2.44±0.71	
Primary school	557	9.99±3.37		2.86±0.58		3.86±0.55		2.43±0.62	
Secondary school	205	9.94±3.25		2.83±0.62		3.80±0.62		2.37±0.68	
High school	122	10.17±3.63		2.87±0.63		3.80±0.66		2.48±0.65	
Undergraduate and postgraduate	49	9.51±4.05		2.92±0.72		3.80±0.74		2.42±0.68	
Father's educational level			[b]p		[b]p		[b]p		[b]p
Not literate	20	9.65±4.25	0.901	2.71±0.57	0.793	3.67±0.53	0.014	2.50±0.61	0.995
Literate	38	9.50±4.51		2.79±0.69		3.54±0.77		2.43±0.82	
Primary school	380	9.91±3.50		2.82±0.64		3.78±0.65		2.42±0.63	
Secondary school	249	10.02±3.30		2.83±0.62		3.88±0.59		2.44±0.65	
High school	249	10.12±3.32		2.86±0.60		3.79±0.62		2.42±0.65	
Undergraduate and postgraduate	164	9.87±3.65		2.84±0.60		3.86±0.58		2.42±0.67	
The longest place of residence			[a]p		[a]p		[a]p		[a]p
Urban (city center)	683	9.97±3.44	0.847	2.87±0.62	0.013*	3.82±0.61	0.133	2.41±0.65	0.457
Rural (district/town/village)	417	9.93±3.57		2.77±0.62		3.77±0.66		2.44±0.67	
Going to a psychiatrist/psychologist									
Yes	195	10.18±3.19	0.314	2.75±0.69	0.055	3.85±0.62	0.270	2.43±0.69	0.890
No	905	9.91±3.55		2.85±0.61		3.79±0.63		2.42±0.65	
Family story of psychiatric/ psychological treatment			[a]p		[a]p		[a]p	[a]p	
Yes	164	10.36±3.41	0.108	2.84±0.64	0.969	3.84±0.57	0.403	2.40±0.61	0.640
No	936	9.89±3.50		2.83±0.62		3.80±0.63		2.43±0.66	
Thinking of committing/ Attempting suicide (suicidal ideation)			[a]p		[a]p		[a]p	[a]p	
Yes	139	10.85±3.45	0.001**	2.61±0.64	0.001**	3.80±0.63	0.986	2.68±0.69	0.001**
No	961	9.83±3.47		2.87±0.61		3.80±0.63		2.39±0.64	
Telling someone about the possibility of committing suicide			[a]p		[a]p		[a]p	[a]p	
Yes	110	11.07±3.43	0.001**	2.75±0.70	0.156	3.94±0.60	0.016*	2.65±0.70	0.001**
No	990	9.83±3.47		2.84±0.61		3.79±0.63		2.40±0.65	
Having a family member died by suicide or attempted committing suicide			[a]p		[a]p		[a]p		[a]p
Yes	94	10.2±3.86	0.475	2.73±0.61	0.088	3.78±0.56	0.713	2.47±0.62	0.476
No	1006	9.93±3.45		2.84±0.62		3.80±0.63		2.42±0.66	
Having a relative who died after committing suicide or attempted committing suicide			[a]p		[a]p		[a]p		[a]p
Yes	361	9.96±3.50	0.960	2.80±0.61	0.184	3.84±0.60	0.115	2.44±0.65	0.628
No	739	9.95±3.48		2.85±0.63		3.78±0.64		2.42±0.66	

[a]Student's t-test; [b]One-way ANOVA test; [c]r: Pearson's correlation coefficient; *p<0.05; **p<0.01. SD: Standard deviation.

Table 4. Comparison of students' mean scores of the Literacy of Suicide Scale (LOSS) and Stigma of Suicide Scale (SOSS) (n=1100)

	Stigma of Suicide Scale (SOSS)		
	Stigmatization	**Isolation/Depression**	**Sublimation/Normalization**
Total mean scores of the Literacy of Suicide Scale (LOSS)			
r	-0.101	0.052	0.137
p	0.001*	0.084	0.001*

r: Pearson's correlation analysis coefficient *p<0.01.

Table 5. Approval rates, mean, and standard deviation values of the items in the Stigma of Suicide Scale (SOSS) (n=1100)

Sub-scale and its items	**%**	**Mean (SD)**	**Sub-scale and its items**	**%**	**Mean (SD)**
Stigma			Isolation /Depression		
S/he is weird.	49.2	3.25 (1.17)	S/he is in depression.	86.4	4.18 (0.98)
S/he is prone to violence.	46.4	3.21 (1.18)	S/he isolated her/himself from the external world.	83.2	4.09 (0.98)
S/he is unsuccessful.	44.5	3.16 (1.20)	S/he is mentally disturbed.	81.2	4.06 (1.05)
S/he is a sinner.	43.1	3.18 (1.33)	S/he is unhappy.	79.2	3.97 (1.04)
S/he is unnatural.	42.6	3.18 (1.17)	S/he is in pain.	78.3	3.97 (0.99)
S/he is wretched.	42.2	3.08 (1.19)	S/he is lonely.	74.7	3.81 (0.99)
S/he is illiterate.	41.8	3.11 (1.31)	S/he is alienated from her/himself and her/his environment.	74.5	3.79 (1.07)
S/he is selfish.	41.5	3.11 (1.21)	S/he is fragile.	74.3	3.83 (1.02)
S/he cannot be justified/approved.	41.5	3.11 (1.26)	S/he is hurt.	74.3	3.85 (0.97)
S/he is irresponsible.	40.1	3.16 (1.16)	S/he is sad.	74.1	3.81 (1.06)
S/he is reckless.	40.0	2.98 (1.27)	S/he is isolated from the society.	66.4	3.73 (1.11)
S/he is a coward.	31.4	2.78 (1.28)	S/he is lost.	66.3	3.66 (1.06)
S/he is offensive.	31.4	2.93 (1.13)	S/he is an introvert.	64.2	3.67 (1.12)
S/he tries to attract attention.	31.2	2.82 (1.15)	S/he gave up all worldly things	64.1	3.61 (1.14)
S/he is stupid.	29.6	2.75 (1.30)	S/he is trapped.	56.5	3.47 (1.12)
S/he is shameful.	28.5	2.80 (1.22)	S/he is miserable.	51.3	3.33 (1.14)
S/he is not fair.	28.1	2.87 (1.11)	Normalization / Sublimation		
S/he cannot be forgiven.	25.4	2.68 (1.20)	S/he is determined.	52.0	3.30 (1.21)
S/he does not have any emotions.	23.9	2.66 (1.18)	S/he is brave.	32.9	2.63 (1.31)
S/he is superficial/shallow.	23.3	2.76 (1.10)	S/he is fearless.	32.8	2.77 (1.29)
S/he is malevolent/after revenge.	20.9	2.62 (1.10)	S/he is motivated/ encouraged.	25.0	2.64 (1.14)
S/he is lazy.	20.6	2.63 (1.10)	S/he is devoted to her/his cause.	24.5	2.69 (1.15)
S/he is disgraceful / low.	20.4	2.55 (1.14)	Her/his excuse is acceptable.	20.5	2.44 (1.21)
S/he is cruel.	18.2	2.41 (1.13)	S/he is strong.	12.4	2.11 (1.07)
S/he is arrogant.	16.0	2.46 (1.02)	S/he is a realist.	12.4	2.08 (1.10)
S/he is useless.	15.7	2.40 (1.09)	S/he is tough/ solid.	11.8	2.07 (1.11)
S/he is immoral.	14.4	2.39 (1.10)	S/he is noble.	8.9	2.08 (1.00)
S/he is barbaric/impolite.	11.5	2.30 (1.00)	S/he is a rationalist.	7.4	1.86 (0.99)

SD: Standard deviation.

the subscale of Isolation/Depression had a higher approval rate than all other subscales (Table 5).

By examining students' SOSS subscale scores in terms of their socio-demographic characteristics, it was determined that students who had illiterate parents had statistically lower mean scores in the Isolation/Depression subscale than those who had parents with primary, secondary, and high school degrees (p=0.001; p=0.013; p=0.029). Students whose fathers were literate had statistically significant lower mean scores in the Isolation/Depression subscale than those whose fathers

had secondary school degrees (p=0.028). Students who had lived longest in cities had statistically significant higher mean scores in the Stigma subscale than those who had lived in rural areas (Table 3).

Comparing LOSS and SOSS Mean Scores with the Story of Psychiatrist/Psychologist Support and Suicidal Thoughts/ Suicide Attempts

Among the students, 17.7% had first visited psychiatrist or a psychologist, and 14.9% had a family history of psychiatric examination or treatment. It was determined that 8.5% had someone in their families and 32.8% had someone from their relatives who died after committing suicide or who had attempted suicide. Among the students, 10% told someone that they might commit suicide, and 12.6% had thoughts of committing suicide or had attempted suicide.

The mean LOSS scores of students who told someone they might commit suicide and thought of committing suicide or had attempted suicide had higher scores at a statistically significant level (respectively, p=0.009, p=0.001). The mean "Stigmatization" sub-scale scores of students who had previously gone to a psychiatrist/psychologist were lower, although not at a statistically significant level, but at a level close to statistical significance (p=0.055). Students who had thought of committing suicide or had attempted suicide had higher mean scores in the subscale of Sublimation/Normalization than students who had never thought of or attempted suicide (p=0.001). The first group's mean scores in the Stigma sub-scale were lower (p=0.001) (Table 3).

Discussion

Although suicide is a widespread social problem, society in general has limited knowledge about suicide, and this situation has negative effects on individuals seeking professional help.[13,21–24]

Using the LOSS, Calear et al.[13] (2014) carried out a study on university students and personnel; they found that participants correctly answered the LOSS at a rate of 62.9%. On that basis, participants' literacy of suicide was at an intermediate level. The same study determined the mean total score to be 16.97. Among the subscales, the items least often answered correctly were in the "Symptoms" subscale (45.0%), whereas the items most often correctly answered were in the "Treatment/Precautions" subscale (91.0%).[13] Chan et al.[25] (2012) conducted a study at a university in Austria; the participants' mean LOSS score was 17±2.9. In our study, university students' mean LOSS score was 9.96±3.48 (distribution 0–23 scores), and students correctly answered items in the LOSS at a rate of 36.88%. The findings of our study indicated that students' knowledge of suicide was low. Like the findings of Calear et al. (2014), in our study the items least often correctly answered were in the "Symptoms" sub-scale (22.91%) and the items most often correctly answered items were in the "Treatment/ Precautions" subscale (67.11%). These findings show that students had difficulty in answering questions about the symptoms, causes, and triggers of suicide.

Studies by Calear et al.[26] (2014) and Chan et al.[25] (2014) determined a positive relationship between high literacy about suicide and the behavior of seeking psychological help. Similarly, our study found that students who had received a psychiatric diagnosis after going to a psychiatrist or psychologist, had higher level of knowledge about suicide. This finding illustrated that correct and sufficient knowledge about the risk factors, treatment, and preventability of suicide could help an individual to display a more positive attitude towards getting professional support.

Our study found that students who previously told someone that they might commit, were thinking of committing suicide, or had attempted suicide had higher total LOSS scores at a statistically significant level. The study by Batterham et al.[27] (2013) highlighted that individuals who had suicidal ideation or attempted to commit suicide clearly had high levels of knowledge about suicide. Accordingly, persons who had encountered the phenomenon of suicide had higher knowledge about suicide.[27] However, in our study, there was no statistically significant difference between the mean LOSS scores in terms of the variables of the psychiatric examination or treatment in family and relatives of the student, and having someone who died after committing suicide or had attempted suicide. Students who had a story of psychiatric treatment and suicide had higher—but not statistically significant—mean total LOSS scores.

Suicide is a significant public health problem and has different dimensions that needs to be included within the scope of protective mental health. Reducing stigmatizing attitudes toward suicidal people is one of these dimensions: stigmatization not only negatively affects their treatment, but also leads to serious problems in their social relationships.[28]

Yılmaz et al.[28] (2009) assessed students' attitudes toward people who had attempted suicide. Using the Social Distance Scale, these researchers found that students wanted to stay away from people who attempted suicide. The study by Norheim et al.[22] (2013) determined that mental health professionals had a positive attitude toward the phenomenon of suicide. Another study (2012) found that Austrian psychologists had mostly positive attitudes toward people who committed suicide.[21]

Etzersdorfer et al.[29] (1998) carried out a comparative study of medical students' (registered in Medicine Schools in Austria, Vienna, and India) attitudes toward suicide. Whereas Indian students had a dismissive attitude toward suicide and conceived suicide as a cowardly behavior, Austrian students had a more affirmative attitude. Another study on Turkish and Austrian medical students found that Austrian students had more positive attitudes and Turkish ones were more dismissive toward suicide.[30] Nebhinani et al.[31] (2013) conducted a study in rural parts of India and determined that nursing students had an overall positive attitude toward people who attempted suicide.

Considering other studies that also employed the SOSS, the study by Batterham et al.[15] (2013) found that the approval rate of "Stigma" was low among university students and personnel. The first four items, most often approved under the "Stigma" subscale, were respectively: "s/he is punishing others", "s/he is selfish", "s/he is offensive", and "s/he is reckless". The item least often approved was "s/he is a sinner". Similarly, the study by Chan et al.[25] (2014) reported that the approval rate of the "Stigma" sub-scale items were low, whereas the items in the "Isolation/Depression" subscale had relatively higher approval rates. In another study using the same scale, the approval rates of the items in the "Isolation/Depression" subscale were higher than other subscale items.[15,27]

In the present study, students' mean scores in the SOSS "Stigma" subscale were low; nevertheless, they were higher than those in the above-mentioned studies. When compared with the findings of international studies, Turkish students had more stigmatizing attitudes toward people who committed suicide.[15,17,25,27] The first four items, which received the most approval in the "Stigma" sub-scale, were, respectively, "s/he is weird", "s/he is angry/prone to violence", "s/he is unsuccessful", "s/he is a sinner". The item least approved was "s/he is barbaric". In contrast to the above-mentioned studies, the item "s/he is a sinner" was among the items most approved in our study. This finding indicated that attitudes toward suicide are influenced by cultural differences and religious beliefs. Stigmatizing attitudes toward those who had committed suicide may negatively affect these people's social interaction with others and their attempts to seek professional help.

In line with the afore-mentioned studies, our study determined that the approval rate of items in the "Isolation/Depression" subscale was higher than other subscale items. Accordingly, university students in Turkey related suicide more to loneliness, depression, and unhappiness.

The study by Calear et al.[26] (2014) used the LOSS and found that individuals who had previously gone to a psychiatrist or psychologist had lower mean scores in the Stigma subscale. In the study by Taylor-Rodgers and Batterham (2014),[32] psychological-training workshops for creating awareness and conveying messages for reducing stigma toward suicide developed behaviors of seeking professional help among the participants. In our study, comparison of students' mean subscale scores in the LOSS yielded interesting results. Students who had gone to a psychiatrist or psychologist had lower—but not at a statistically significant level—mean scores in the Stigma subscale than those students who had not previously gone to a psychiatrist or psychologist. Based on these findings, which support the scholarly literature, it can be argued that having a positive attitude toward suicide may positively affect an individual's behavior toward receiving professional help.

Findings in the scholarly literature showed that people who committed or planned suicide had more positive attitudes toward suicide.[15,25,27,33] For example, Batterham et al. (2013) [13] found that people who had previously considered committing suicide had lower mean scores in the Stigma subscale and higher mean scores in the subscale of Sublimation/Normalization of suicide. In a study carried out by Yeğenoğlu[34] (2015), persons who perceived suicide as an acceptable behavior had a higher probability of committing suicide. In our study, students who told someone that they might commit suicide, had thought of committing suicide, or attempted suicide had higher mean scores in the subscales of Sublimation/Normalization and Isolation/Depression. This finding corroborated Yeğenoğlu's study and showed that students with ideation and attempt of suicide perceived suicide as a more acceptable form of behavior. Indeed, these students had high mean scores in the Isolation/Depression subscale, which included items such as "s/he is unhappy", "s/he is lost", "s/he gave up all worldly things", "s/he is lonely", "s/he is alienated from herself/himself and from her/his environment". This indicated that these people tended to be lack hope and isolated themselves from society.

A review of the international scholarly literature using the LOSS and SOSS illustrated that stigmatizing attitudes and literacy about suicide were influential on the behavior of seeking support in individuals who planned or attempted suicide.[25,26] Calear et al (2014) carried out a study on medical students and reported that high levels of knowledge on suicide positively affected help-seeking behavior, whereas stigmatizing attitudes had a negative effect.[24] Therefore, both studies determined a negative relationship between literacy about suicide and stigmatizing attitudes toward suicide.[25,26] In line with the findings of Chan et al. (2014), our study found a negative relationship between the mean score of the Stigma subscale in the Stigma of Suicide Scale (SOSS) and the mean total scores of the Literacy of Suicide Scale (LOSS).

These findings revealed that students who had higher levels of knowledge about suicide related suicide more to isolation and depression and perceived suicide as normal.

Conclusion

This study found that university students had low levels of knowledge about suicide: they had difficulty answering questions about the symptoms, causes, and triggers of suicide. Comparing our findings with other international studies, the university students in our study had more stigmatizing attitudes toward suicide. A negative relationship was found between students' mean scores in the Stigma subscale and mean total scores in literacy about suicide. Students who had a history of receiving professional help had higher scores in literacy about suicide and lower mean scores in stigmatizing. We believe that having stigmatizing attitudes toward people who have committed suicide would negatively affect their social interaction and behavior of seeking professional help.

In summary, we argue that psychological training that conveys messages reducing stigmatizing attitudes toward suicide and that increase literacy about suicide should be organized and

the effectiveness of such training should be assessed. Psychologists and nurses working at Psychological Counselling and Guidance and Medico-Social Units should cooperate with supervising teaching fellows and should assess students' mental states. We believe that offering training to prevent suicide, to increase literacy about suicide, and to reduce stigmatizing attitudes toward suicide would be beneficial.

However, one of the significant limitations of this study was that it focused solely on undergraduate students registered at a single state university, their literacy about suicide, and their stigmatizing attitudes. We recommend carrying out studies with different groups of university students to obtain more detailed information that could lead to generalizing findings on university students' level of knowledge about suicide and their stigmatizing attitudes.

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