

# Assessment of private security guards by Suicide Probability Scale and Brief Symptom Inventory

## *Valutazione delle guardie di sicurezza privata attraverso la Suicide Probability Scale e la Brief Symptom Inventory*

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**SUMMARY. Aim.** The aim of the present study was to investigate the influence of suicide probability and relevant sociodemographic features and to provide information for preventing suicide in private security guards working under the stressful conditions and continuous exposure to the negative and traumatic life events. **Methods.** 200 private security guards and 200 personnels of Ankara University participated in the study. A sociodemographic information questionnaire, the Suicide Probability Scale (SPS) and the Brief Symptom Inventory (BSI) were used to collect the data. **Results.** Gender, marital status, income, religious beliefs, experiencing a life-threatening situation, history of a suicide attempt, smoking and not having a chronic disease caused statistically significant differences in the scores for SPS between the private security guards group and the controls. Moreover there was a statistically significant positive correlation between the total scores of the subscales of SPS and the total scores of BSI. **Conclusions.** Like police officers and gendarmes, private security guards are at high risk of committing and attempting suicide because of being at stressful work settings and also suffering from secondary trauma. It is required that they should be aware of their tendency to commit suicide and have regular psychiatric screenings.

**KEY WORDS:** private security guards, social security, suicide, Suicide Probability Scale, Brief Symptom Inventory.

**RIASSUNTO. Scopo.** Lo scopo di questo studio è stato quello di investigare l'influenza della probabilità di suicidio, con le sue caratteristiche sociodemografiche, e di procurare i dati per la prevenzione del suicidio tra le guardie di sicurezza privata che lavorano in condizioni di stress, essendo a contatto ininterrottamente con eventi negativi e traumatici di vita durante il loro lavoro. **Metodi.** Hanno partecipato allo studio 200 guardie di sicurezza privata e 200 persone dell'Università di Ankara. Per raccogliere i dati sono stati utilizzati un questionario riguardante le condizioni sociodemografiche dei partecipanti, la Suicide Probability Scale (SPS) e la Brief Symptom Inventory (BSI). **Risultati.** Genere, stato civile, stipendio, credenze religiose, vivere una situazione di pericolo di vita, passato di tentativi di suicidio, fumare e non avere una malattia cronica hanno causato statisticamente una differenza significativa sui punteggi di SPS tra il gruppo di guardie di sicurezza privata e quello di controllo. In aggiunta, c'è stata una correlazione positiva statisticamente significativa tra i punteggi totali delle sottoscale di SPS e quelli di BSI. **Conclusioni.** Allo stesso modo degli agenti di polizia e dei gendarmi, le guardie di sicurezza privata sono ad alto rischio di commettere e tentare il suicidio trovandosi in condizioni stressanti di lavoro e anche soffrendo del trauma secondario. È necessario che essi siano consapevoli della propria tendenza al suicidio e avere controlli psichiatrici regolari.

**PAROLE CHIAVE:** guardie di sicurezza privata, sicurezza sociale, suicidio, Suicide Probability Scale, Brief Symptom Inventory.

## INTRODUCTION

Private security is essential to ensuring the security and safety of students and property, as well as securing intellectual property and sensitive corporate information on university campuses. As all over the world, the private security industry is a crucial component of security and safety in the university settings. Thus, private security is responsible not only for protecting students, employees and properties, but also many other functions<sup>1</sup>. In this regard, security services in Turkey are considered as one of the primary roles of public

management. As many private and public institutions need private security guards (PSGs) equipped with sufficient knowledge and skills, the appropriate laws have been adopted. The private security services completing public security services have been introduced. Current estimations that over 150.000 PSGs work in Turkey.

In Turkey, Private Security Services Act and its implementing regulations were put in place in 2004 in order to fulfill the complementary nature of private security services in Turkish public safety. PSGs companies need to receive permission from the Interior Ministry in order to operate in the

## Suicide probability of private security guards

field. Those who want to work in the field must have accurate education about the matters as x-ray machine safety, public transportation facilities, and informing the public security forces of dangerous situations. Also, PSGs have the duties and responsibilities of crime scene and evidence preservation. The application age for being a PSG is 18 years old. The applicant has to have completed at least 8 years of elementary education and show a health report from a commission which consists of a psychiatrist, ophthalmologist, neurologist and an otolaryngologist. The applicant also has to successfully complete a minimum of 120 hours of private security training. Authorization for possession and carrying of weapons can only be given by the competent authority of the commission to certain PSGs who are required to be armed. PSGs will be punished for any crimes they commit as public officials in connection with their duties<sup>2,3</sup>.

Suicide refers to the act of ending one's own life consciously and intentionally. However, it is a multifaceted phenomenon encompassing various scientific disciplines such as forensic medicine, psychiatry, psychology, sociology, social anthropology, law, philosophy and theology. Community screenings have shown that frequencies of suicides range between 0.1 and 30 in every 100.000 people<sup>4,6</sup>. Data from the WHO reveals that suicide attempts are the twelfth leading cause of death worldwide<sup>5,6</sup>. According to data in 2012, the crude rate of suicide attempts resulting in death was 4.29 in 100.000 people. There is also a gender difference in these cases. In Turkey, 28% of those committing suicide were female and 72% were male<sup>7</sup>. Therefore, suicide attempts are an important public health problem and affected by personal characteristics<sup>8,9</sup>. Eskin<sup>10</sup> has conducted research with university student population to investigate the characteristics of the students and suicide probability. Following Eskin's studies, Atli studied suicide probability and the characteristics involved in suicide attempts and suicidal ideation in psychiatric population. Atli studied depressed outpatients for suicide probability<sup>11-13</sup>. Suicide probability may change by age and sociodemographics<sup>11</sup>.

In the present study the probability of suicide tendencies of PSGs was studied. There is currently no research dealing with the subject. Therefore we believe that the results of the study may lead to more studies being conducted in the field. The aims of the present study are to investigate variables likely to affect suicide probability, to reveal the relevant sociodemographics, to give an insight into psychology and to discuss forensic dimensions of suicides in the PSGs population, and to facilitate taking appropriate preventive measures.

## MATERIALS AND METHODS

### Participants

The study was conducted with a sample of 200 PSGs and 200 personnel of Ankara University of the same age, sex and characteristics (total 400 participants; 312 males-88 females with the age range between 25-65 years old) working at the different campuses of Ankara University, Ankara, Turkey. Sociodemographical characteristics of the participants were presented in Table 1.

Table 1. Sociodemographic characteristics of PSGs and controls.

| Sociodemographic characteristics |                                                | PSGs |      | Controls |      |
|----------------------------------|------------------------------------------------|------|------|----------|------|
|                                  |                                                | n    | %    | N        | %    |
| Age groups                       | 25-30 years old                                | 151  | 75.5 | 134      | 78   |
|                                  | 31-40 years old                                | 39   | 19.5 | 59       | 29.5 |
|                                  | 41-65 years old                                | 10   | 5    | 7        | 3.5  |
| Gender                           | Male                                           | 156  | 78   | 156      | 78   |
|                                  | Female                                         | 44   | 22   | 44       | 22   |
| Marital status                   | Married                                        | 123  | 61.5 | 119      | 59.5 |
|                                  | Single                                         | 70   | 35   | 74       | 37   |
|                                  | Widow, widower, divorced                       | 7    | 8    | 7        | 8    |
| Education                        | High School                                    | 173  | 86.5 | 170      | 85   |
|                                  | Vocational school (2 years university program) | 18   | 9    | 26       | 13   |
|                                  | University                                     | 9    | 4.5  | 4        | 2    |
| Income                           | 500 TL or lower (Approximately 300 \$)         | 54   | 27   | 74       | 37   |
|                                  | 500 TL or higher (Approximately 300 \$)        | 146  | 73   | 126      | 63   |

### Measures

- *Sociodemographic Information Questionnaire*: it was created by the researchers in order to obtain the sociodemographic characteristics of the participants.
- *Suicide Probability Scale (SPS)*: It is a 36 item, self-report, four-point Likert scale developed by Cull and Gill<sup>14</sup>. It was designed to determine behavioral, cognitive, and sensory aspects of suicide and to evaluate the risk of suicide. The scale was adapted into Turkish by Eskin in 1993<sup>11,15</sup>. The Cronbach's alpha value of the scale was .95 and test retest reliability coefficient is .89. After Eskin's study, Atli<sup>12-14</sup> was studied the scale in the clinical sample in Turkey. Eskin also used the scale to compare Swedish and Turkish high school and university student samples in terms of their suicidal tendencies. The SPS is a commonly used scale both in clinical populations and also normal populations in Turkey.
- *Brief Symptom Inventory (BSI)*: BSI is a self-rating five-point inventory developed by Derogatis to screen various psychological symptoms<sup>16,17</sup>. It was created by selecting 53 items with the highest discriminatory power out of 90 items of Symptom Checklist-90 (SCL-90) and allows one to reliably screen various psychiatric symptoms. Higher scores for the scale show a higher frequency of symptoms. In three different studies, Cronbach Alpha internal consistency coefficients of the scale ranged from 0.95 to 0.96 and the coefficients for the subscales ranged from 0.55 to 0.86. An analysis made by using the total scores showed that the scale had a significant discriminatory power.

### Procedure

The measures were administered individually to the participants in their working place. The operational definition of the PS-

Gs' responsibilities working in the university campuses in Turkey are performing campus security, protecting property, facilities, citizens, staff and students; coordinating activities with law enforcement officers, and performing related work as required. Therefore to work in a Turkish university campus means that the PSG is responsible for physical security, personnel security, information systems security, investigations, loss prevention, risk management, legal aspects, emergency and contingency planning, fire protection, crisis management, disaster management, counterterrorism, competitive intelligence, executive protection, violence in the workplace, crime prevention.

The statistical analysis was performed by using Statistical Package Program for Social Sciences (SPSS) 16.0. Man-Whitney U test with Kruskal Wallis, T-test and Multiple Regression Analysis were used for testing the hypotheses.

## RESULTS

The mean age of the sample was  $29.03 \pm 4.63$  years, the mean age of the PSGs was  $29.50 \pm 5.13$  years and the mean age of the controls was  $28.56 \pm 4.04$  years.

There was not a significant difference in total scores for SPS, scores for the subscales of SPS and scores for BSI between different age groups of the PSGs and the controls ( $p > 0.05$ ). The t- test pointed out that there were statistically significant difference between the total scores of the subscales of the PSGs group and control group ( $p = .000$ ,  $p < .001$ ) (Table 2). In Table 3, results of Mann-Whitney U test performed to determine differences in scores for SPI and BSI between genders are presented. The Mann-Whitney U test performed to see probable gender differences between the PSGs group and control group.

The test pointed out the statistical difference only in the subscale of SPS namely "love of life living" ( $z = -.34$ ,  $p = 0.000$ ) and the BSI ( $z = -4.09$ ,  $p = .000$ ) total scores (Table 3). The two group BSI scores and the SPS and the scores of subgroup of SPS were compared the Mann-Whitney U test. According to gender, the Mann-Whitney U test pointed out a statistically significant difference between "breaking connection to the life" the subgroups of Private Guard Group ( $z = 0.34$ ,  $p = 0.000$ ). There is also a significant difference between total BSI scores and the within group of PGG ( $z = 4.09$ ,  $p = 0.00$ ) (Table 3).

Table 2. Distribution of Scores for Negative Self and Burnout, Depressive Situation, Anger, SPS and BSI by PSGs and Controls (based on T Test Results).

|                           | PSGs  |       | Controls |      | T      | p                 |
|---------------------------|-------|-------|----------|------|--------|-------------------|
|                           | Mean  | SD    | Mean     | SD   |        |                   |
| Negative self and burnout | 39.12 | 7.57  | 22.23    | 3.09 | 20.570 | <b>&lt;0.001*</b> |
| Depressive Situation      | 13.70 | 3.84  | 8.87     | 1.59 | 16.424 | <b>&lt;0.001*</b> |
| Anger                     | 15.49 | 3.16  | 12.45    | 1.74 | 11.917 | <b>&lt;0.001*</b> |
| Total SPS scores          | 68.30 | 11.94 | 48.55    | 4.67 | 21.794 | <b>&lt;0.001*</b> |
| Total BSI scores          | 44.15 | 31.87 | 9.45     | 6.13 | 15.122 | <b>&lt;0.001*</b> |

\* $p < 0.001$

In Table 4, results of Kruskal-Wallis test carried out to determine differences in scores for the scales in terms of marital status are shown. The Kruskal-Wallis test was performed to compare the suicide probability inventory and its subscales and BSI scores, in terms of marital status. The test pointed out a statistically significant difference between the subgroups of SPS and BSI ( $\chi^2 = 6.01$ ,  $p = 0.04$ ). The test also pointed out another statistically difference between the total scores of Anger Scale and BSI ( $\chi^2 = 8.13$ ,  $p = 0.17$ ) (Table 4).

Both the PSGs and the controls were divided into subgroups based on their characteristics determined by using the sociodemographic information form and they were compared in terms of effects of religious beliefs, having time to spend with family, working in shifts, having previous suicidal attempts, and receiving professional help on suicides. The PSGs who think that religious beliefs may prevent suicides had significantly higher scores for negative self and burnout ( $z = -2.415$ ,  $p = 0.016$ ) and anger ( $z = -2.472$ ,  $p = 0.013$ ) and significantly higher total SPS scores ( $z = -2.254$ ,  $p = 0.024$ ) than those who do not. In the control group, there was not a significant difference ( $p > 0.05$ ) in these parameters between the participants who think that religious beliefs may prevent suicides and those who do not.

The PSGs who think that they do not have sufficient time to spend with their families had significantly higher scores for negative self and burnout ( $z = -2.878$ ,  $p = 0.004$ ), depressive situation ( $z = -2.810$ ,  $p = 0.005$  and anger ( $z = -3.449$ ,  $p = 0.001$ ) and significantly higher total scores for suicidal probability ( $z = -3.387$ ,  $p = 0.001$ ). The PSGs who reported that working in shifts causes problems had significantly higher scores for negative self and burnout ( $z = -0.337$ ,  $p = 0.004$ ), depressive situation ( $z = -1.645$ ,  $p = 0.005$ ) and anger ( $z = -0.289$ ,  $p = 0.001$ ) significantly higher total SPS scores ( $z = -0.896$ ,  $p = 0.001$ ), and BSI scores ( $z = -2.229$ ,  $p = 0.026$ ). They had the highest scores for SPS and BSI. Table 5 shows results of a Mann-Whitney U test performed to determine whether previous experiences of life threatening events had an impact. Dealing with negative self and burn out subscales ( $z = -3.45$ ,  $p = .001$ ), the test pointed out a statistical difference especially in the total score of SPS ( $z = -3.07$ ,  $p = .002$ ). Additionally, the mean score of PSGs who experienced a life-threatening event in their professional lives were higher than the other groups. The statistically significant difference was found between negative self perception and the subgroup of burnout ( $z = -3.45$ ,  $p = 0.001$ ) and SPS total scores ( $z = -3.07$ ,  $p = 0.002$ ).

In addition, the PSGs who reported having previous suicidal attempts had significantly higher scores for negative self and burnout ( $z = -2.750$ ,  $p = 0.006$ ) and anger ( $z = -2.569$ ,  $p = 0.009$ ) and significantly higher total SPS scores ( $z = -2.813$ ,  $p = 0.005$ ). The PSGs who reported not receiving professional help from psychologists and psychiatrists in the presence of psychological problems had significantly higher scores for negative self and burnout ( $z = -2.894$ ,  $p = 0.004$ ), depressive situation ( $z = -2.042$ ,  $p = 0.041$ ) and anger ( $z = -2.065$ ,  $p = 0.039$ ) and significantly higher total SPS scores ( $z = -3.165$ ,  $p = 0.002$ ). The PSGs who reported having received psychiatric support had significantly higher scores for negative self and burnout ( $z = -2.593$ ,  $p = 0.010$ ) and significantly higher total BSI scores ( $z = -2.375$ ,  $p = 0.018$ ).

The PSGs who are smokers had significantly higher scores for anger ( $z = -3.247$ ,  $p = 0.001$ ) and significantly higher total SPS scores ( $z = -1.965$ ,  $p = 0.049$ ). The PSGs with chronic dis-

*Suicide probability of private security guards*

Table 3. Distribution of Scores for Negative Self and Burnout, Depressive Situation, Anger, SPS and BSI by Genders (based on Mann-Whitney U Test Results)

|                           |          | Male | Female |       |    |      |       |        |                    |
|---------------------------|----------|------|--------|-------|----|------|-------|--------|--------------------|
|                           |          | N    | Mean   | SD    | n  | Mean | SD    | Z      | P                  |
| Negative Self and burnout | PSGs     | 156  | 38     | 7.08  | 44 | 40   | 8.83  | -1.885 | 0.059              |
|                           | Controls | 156  | 27     | 3.14  | 44 | 27   | 2.92  | -0.099 | 0.921              |
| Depressive Situation      | PSGs     | 156  | 13     | 3.97  | 44 | 13   | 3.32  | -0.342 | <b>0.001*</b>      |
|                           | Controls | 156  | 13     | 1.53  | 44 | 9    | 1.62  | -3.220 | 0.732              |
| Anger                     | PSGs     | 156  | 15     | 2.76  | 44 | 15.5 | 4.14  | -1.656 | 0.098              |
|                           | Controls | 156  | 13     | 1.75  | 44 | 12   | 1.66  | -1.482 | 0.138              |
| Total SPS scores          | PSGs     | 156  | 66.5   | 11.09 | 44 | 68.5 | 14.31 | -1.270 | 0.204              |
|                           | Controls | 156  | 48     | 4.77  | 44 | 49   | 4.26  | -0.508 | 0.611              |
| Total BSI scores          | PSGs     | 156  | 29     | 28.94 | 44 | 62.5 | 34.92 | -4.094 | <b>&lt;0.001**</b> |
|                           | Controls | 156  | 9      | 6.04  | 44 | 11   | .20   | -1.922 | 0.055              |

\*p<0.05, \*\*p<0.001

Table 4. Distribution of Scores for Negative Self and Burnout, Depressive Situation, Anger, SPS and BSI by Marital Status (Based on Kruskal Wallis Test Results).

|                           |          | Married |      |       | Single |      |       | Divorced |      |       |          |               |
|---------------------------|----------|---------|------|-------|--------|------|-------|----------|------|-------|----------|---------------|
|                           |          | n       | Mean | SD    | n      | Mean | SD    | n        | Mean | SD    | $\chi^2$ | p             |
| Negative self and burnout | PSGs     | 123     | 38   | 7.30  | 70     | 38   | 7.53  | 7        | 44   | 11.39 | 1.704    | 0.426         |
|                           | Controls | 119     | 27   | 3.20  | 74     | 27   | 2.82  | 7        | 25   | 3.69  | 1.878    | 0.391         |
| Depressive Situation      | PSGs     | 123     | 14   | 3.80  | 70     | 13   | 3.91  | 7        | 13   | 4.22  | 0.280    | 0.869         |
|                           | Controls | 119     | 9    | 1.59  | 74     | 8    | 1.60  | 7        | 8    | 0.89  | 2.448    | 0.294         |
| Anger                     | PSGs     | 123     | 14   | 2.66  | 70     | 15   | 3.45  | 7        | 18   | 5.53  | 6.019    | <b>0.049*</b> |
|                           | Controls | 119     | 12   | 1.70  | 74     | 13   | 1.77  | 7        | 12   | 1.46  | 4.126    | 0.127         |
| Total SPS scores          | PSGs     | 123     | 67   | 11.14 | 70     | 66.5 | 12.41 | 7        | 73   | 18.21 | 1.915    | 0.384         |
|                           | Controls | 119     | 48   | 4.78  | 74     | 49   | 4.31  | 7        | 46   | 5.33  | 3.251    | 0.197         |
| Total BSI scores          | PSGs     | 123     | 33   | 31.69 | 70     | 34   | 31.20 | 7        | 80   | 25.72 | 8.130    | <b>0.017*</b> |
|                           | Controls | 119     | 9    | 6.15  | 74     | 11   | 5.84  | 7        | 9    | 7.40  | 5.059    | 0.080         |

\*p<0.05

Table 5. Distribution of Scores for Negative Self and Burnout, Depressive Situation, Anger, SPS and BSI by Experiencing a Life Threatening Event (based on Mann-Whitney U Test Results).

|                           | Yes | No   |       |      |     |     |      |       |      |     |        |        |
|---------------------------|-----|------|-------|------|-----|-----|------|-------|------|-----|--------|--------|
|                           | n   | Mean | SD    | Min. | Max | n   | Mean | SD    | Min. | Max | z      | p      |
| Negative Self and burnout | 55  | 41   | 7.81  | 25   | 65  | 145 | 37   | 7.16  | 21   | 63  | -3.457 | 0.001* |
| Depressive situation      | 55  | 14   | 4.14  | 7    | 23  | 145 | 13   | 3.69  | 7    | 27  | -1.616 | 0.106  |
| Anger                     | 55  | 15   | 3.65  | 10   | 30  | 145 | 15   | 2.94  | 10   | 27  | -0.930 | 0.353  |
| Total SPS scores          | 55  | 72   | 12.70 | 44   | 113 | 145 | 65   | 11.27 | 45   | 110 | -3.078 | 0.002* |
| Total BSI scores          | 55  | 48   | 32.87 | 1    | 134 | 145 | 31   | 31.33 | 0    | 143 | -1.623 | 0.105  |

\*p<0.05



eases had significantly higher scores for negative self and burnout ( $z=-2.347$ ,  $p=0.019$ ) and significantly higher total BSI scores ( $z=-3.137$ ,  $p=0.002$ ).

The PSGs having unexpected anger had significantly higher scores for negative self and burnout ( $z=-3.198$ ,  $p=0.003$ ) and anger ( $z=-3.266$ ,  $p=0.000$ ) and significantly higher SPS scores ( $z=-3.708$ ,  $p=0.001$ ).

## DISCUSSION

The aims of the present study were to investigate variables affecting suicide probability, to reveal the relevant sociodemographics, to give an insight into psychology, to discuss forensic dimensions of suicides in the PSGs population, and to facilitate taking appropriate preventive measures.

The results pointed out that gender, marital status, income, religious beliefs, smoking, and not having a chronic disease caused statistically significant differences in the total scores of SPS between the PSGs and the control group as the personnel of Ankara University serving the public. There have been few studies on suicidal tendency in law enforcement such as PSGs, policemen, and genderma<sup>17,18</sup>. It has been reported that suicidal ideation is affected by sociodemographic characteristics<sup>5</sup>. Gender factor plays a critical role in suicidal behavior<sup>10,15</sup>. In fact, it has been shown that completed suicides are more frequently in males, while suicidal thoughts and attempts are more common in females<sup>11,19,20</sup>. In our study, we found that females had significantly higher scores for depression items of the BSI and the females also have statistically significant higher total BSI scores. It has been reported that suicidal behavior is also associated with marital status. Singles and widows have a higher tendency to commit suicide than married people. Additionally, divorced males living alone and with a family history of suicides are the highest risk group<sup>21,22</sup>. In the present study, the divorced PSGs had higher total scores for SPS and BSI than married and single ones, which supports the association between suicidal probability and marital status.

In a study performed in ten European countries, a low education level is a risk factor for suicides in males<sup>23</sup>. Most of the people committing suicide have been reported to have a low level of education<sup>24</sup>. In a study carried out in Brazil, suicides were reported not to be associated with socioeconomic status. Rather, education and economic factors simultaneously interplaying were considered as real causes of suicides<sup>22</sup>. In the current study, the university graduates had lower total scores for SPS than high school and vocational school graduates and the vocational school graduates had the highest total scores for SPS and BSI.

Research conducted so far indicates an association between suicides and unemployment and a high prevalence of suicides among people with low socioeconomic status<sup>25</sup>. It has been postulated in several studies that financial difficulties create stress and increase the feeling of hopelessness about the future<sup>26</sup>. In a study, it has been noted that household income is mainly protective in women<sup>27</sup>. Consistent with the literature, in the present study, the PSGs with a monthly income of lower than 500 Turkish Liras (approximately \$300) had higher total scores for SPS and higher scores for the sub-scale depressive situation.

In the present study, the PSGs who perceived religious be-

liefs to be protective against suicides had higher scores for negative self and burnout, depressive situation, anger, and total scores for SPS and BSI. In fact, the meaning of suicide changes from community to community. For example, committing suicides is severely reproached in Islam and Christianity, while ceremonial suicides are acceptable in Shintoism popular in Japan. In many studies, religion has been reported to be either preventive or a risk factor for committing suicides<sup>28,29</sup>.

Several studies have also revealed that traumatic events such as accidents, natural disasters, and a recent death of a loved person increase the probability of committing suicide<sup>10</sup>. Parallel with this, we also found that a recent experience of a life threatening event created a significant difference in scores for negative self and burnout and total scores for SPS. People suffering from traumatic events should be tracked not only for post traumatic stress syndrome (PTSD) but also for suicidal ideation and suicidal attempts<sup>30,31</sup>.

In this study, the PSGs with a history of suicide attempts and those not receiving professional help in the presence of psychological problems had higher scores for SPS and the PGS receiving psychiatric support before had higher scores for SPS and BSI. Consistent with the literature, we found that previous suicide attempts are risk factors. In fact, it has been reported in the literature that history of suicide attempts and psychiatric diseases can be considered an indication for a tendency to commit suicide<sup>28</sup>. The psychiatric diseases leading to the highest rate of suicides are depressive disorders<sup>32</sup>.

In the present study, the PSGs who were smokers had higher scores for SPS and the PSGs with chronic diseases had higher scores for SPS and BSI. Glassman et al. noted that the amount of smoking was directly related to severity of depression symptoms<sup>33</sup>. In a study on American National Guard soldiers, it was reported that smoking had a correlation with increased suicidal ideation<sup>18</sup>. One study showed a relationship between smoking and committing suicide similar to that between smoking and coronary heart disease. Several prospective studies also revealed an increased risk of committing suicide dependent on the dose of smoking and a high rate of committing suicides among smokers after correcting the potential factors contributing to suicides such as income, race, myocardial infarction, diabetes, and alcohol abuse<sup>32</sup>. It has been shown that hypoxia-related conditions like chronic obstructive pulmonary disease and asthma cause a decrease in serotonin synthesis and are associated with an increase in the incidence of suicides<sup>34</sup>. It has also been reported that physical illnesses cause depression, trigger or exacerbate psychiatric diseases, and lead to judgment disorder, impulsivity, and suicidal behavior by creating organic mental disorders which cause perceptive-cognitive and emotional changes. Presence of a chronic physical disease is a risk factor for committing suicide in all age groups. This risk considerably increases in elderly patients<sup>25</sup>. So that the risk of suicides can be reduced, both physical illnesses and psychiatric disorders should be considered as a whole and treated in the quickest and the most effective way<sup>35</sup>.

It has been noted in the literature that aggression is the most important element of communication problems and as important as depression in some suicide behaviors<sup>36,37</sup>. Anger has been reported to be a predictive factor for suicidal attempts<sup>28</sup>. The results of the present study are compatible with the evidence in the literature that anger increases the proba-

### *Suicide probability of private security guards*

bility of committing suicide. In this study, we found a significant positive correlation between scores for SPS and its subscales and scores for BSI and its subscales. In other words, as scores for BSI increased so did the suicide probability of the PSGs. This study showed a significant positive correlation between scores for SPS and BSI and revealed that as scores for BSI increased so did the probability of suicides. It is striking that the PSGs had considerably higher scores for SPS than the controls.

In the backward regression model in which the dependent variable was total scores for SPS and the independent variables were subscales of BSI, scores for hostility and BSI were found to be predictive. In a prospective study, anger and hostility were reported to be associated with suicide attempts and lethal accidents in psychiatric patients attempting to commit suicide<sup>33,38</sup>. In a study, male psychiatric patients displaying aggressive behavior and those having attempted to commit suicide had significantly higher levels of hostility and depression than those not displaying violence<sup>32</sup>. Clearly, all above mentioned evidence is supported by the finding of the present study.

Studies on PSGs, soldiers, and policemen, all of whom are similar in terms of carrying a gun, have revealed that these occupations cause a lot of stress and difficulties. However, to our knowledge, although the number of PSGs has been increasing both in our country and in the world, there have not been studies on PSGs in sufficient number and with satisfactory results. The role they have been playing in provision of safety in the private sector has been considerably increasing and therefore, it seems that it will become an important item in the agenda of discussions in both social and scientific circles.

It is of great importance to determine causes of suicides and cultural features of the society in which suicides occurred and to learn about and understand sociodemographic characteristics of the individuals living in a given society so as to be able to evaluate, take measures against, and prevent suicide attempts. Here have been few studies on suicides among such risk groups as soldiers and policemen, and further research is needed on these groups as well as on PSGs, especially since the number of these professionals has increased dramatically recently. It is so critical that research on these risk groups provide solutions to the problem of suicide in these high-risk professions.

Attempts to prevent suicides have been supported by the United Nations since 1980s. It has been recommended that people with risky occupations should be given comprehensive appropriate education and training, provided with psychiatric screenings, and offered psychiatric support<sup>12</sup>. Obtaining accurate data on all injury deaths is vital for prevention of suicides.

This study's limitations are as follows: study sample is small to generate the results. The self-report measures should be administered via group sessions to control some confounding variables. Semi-structured interviews for every single participant could not be performed in the present study to fulfill the results on suicidal ideation and mental health symptoms properly.

### **CONCLUSIONS**

In Turkey, to become a PSG, a person has to fulfill the qualifications required by the article 10 of Private Security Services Law and has to obtain a full-fledged medical hospi-

tal report. It can be easily estimated that PSGs are not provided regular psychiatric screenings in their workplace settings. The regular psychiatric screening and provision of regular counseling may have a critical role in the prevention of suicide attempts and potential completed suicides among PSGs. Like police officers and gendarmes, PSGs are also at high risk of committing and attempting suicide because of being in stressful work settings and also suffering from secondary trauma. It is important that they should be made aware of their tendency to commit suicide and have regular psychiatric screenings. Additionally due to the critical working conditions of PSGs, their employee rights should be reviewed in terms of the issues mentioned above.

Finally, the findings of the present study also provide some data for preventive measures. Future research may address these issues.

*Conflict of interests:* the authors declare they have no competing interests.

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