Abstract: In the last decade, a large volume of research has highlighted the importance of identifying risk and protective factors of self-injury behaviors in military installations. The purpose of this study was to investigate the fitness of the functional PTSD-based model of self-injury behaviors among soldiers residing in Iran military installations. Four hundred man soldiers residing in Tehran military installations that committed self-injury behaviors completed Self-Harm Inventory (SHI), Multidimensional Scale of Perceived Social Support (MSPSS), PTSD Checklist (PCL), and Ruminative Response Scale (RRS). Correlation analyses showed positive associations between PTSD symptoms, rumination, and self-injury. A negative correlation was found between social support and self-injury (p < 0.0005). Path analysis revealed that PTSD symptoms were positive predictors of self-injury and had direct and indirect effects on these behaviors, mediated by increased rumination and decreased social support (p < 0.05). The results of this study revealed that rumination and social support in the relationship between PTSD symptoms and self-injury have a mediating role, so in order to prevent and treat self-harm behaviors, interventions that decrease rumination and increase perceived social support of soldiers are recommended.

Subjects: Health Psychology; Psychiatry & Clinical Psychology - Adult; Allied Health

ABOUT THE AUTHOR
The authors' activities in recent years aimed at advancing the understanding of how emotional and cognitive disturbance cause people to behave in ways that are harmful to themselves, with an emphasis on non-suicidal self-injurious behaviors. The research reported in this paper relates to the wider project; a Ph.D. dissertation which includes cognitive and emotional models of self-injurious behaviors with an emphasis on pathological and bio-personality structures. Also, in this wider project, the effectiveness of functional model based intervention on reducing self-injurious behaviors has been studied and its results will be released shortly.

PUBLIC INTEREST STATEMENT
In the last decade, a large volume of research has highlighted the importance of identifying risk and protective factors of self-injurious behaviors in military installations. One of the most important risk factors in this regard is exposure to severe stress that is beyond the individual's tolerance. Other researchers previously uncovered the direct role of severe stress on the development of self-injurious behaviors, and this manuscript aims to investigate the mediator roles of negative thoughts and social support. In this manuscript, we show that negative thoughts and social support in the relationship between severe stress and self-injury have a mediating role. That is, those who encountered severe stress in military installations if they are attacked by negative thoughts and have not adequate social support, are likely to commit self-injurious behaviors.
1. Introduction

It is believed that all living beings have an intrinsic motivation to protect themselves. This is the intrinsic effort or drive for survival and adaptation, and scholars and philosophers have long described human and animal behavior based on this principle. The evolutionary perspective to human growth is imbedded in this principle. However, there are still some questions about this aspect of human behavior. However, there are occasions during which people exhibit behaviors counter to this organizing principle. One such phenomenon that is in direct conflict with the tendency for self-preservation is self-injurious behavior. Self-injurious behaviors refer to the direct and intentional harm to the body without suicide intention (Nock, 2010). For a long time, self-injury has been considered as a special indicator of suicidal intent that occurs mainly in suicidal behaviors and any injuries that a person enters into his or her body were linked into the intention to end his or her life (Bentley et al., 2017). This stereotypical view led to typically classifying self-injury as a symptom of various mental disorders, such as depression or borderline personality disorder (Messer & Fremouw, 2008; Suyemoto, 2009/1998). However, recent research on non-clinical population has shown that, especially under stressful conditions, self-injury can be widespread and reveals as an independent phenomenon with its own social, personality, and biological etiology (Janis & Nock, 2009).

Scientific, clinical, and social interest in the phenomenon of self-injury has grown dramatically. Probably one of the reasons for the increased attention to the phenomenon of self-injury is the growing prevalence of this issue in the past few years (Stewart et al., 2017). Epidemiology surveys estimate the prevalence rates of self-injury between 4 and 13 percent of the general population (Brown & Plener, 2017). Self-injury is most prevalent in adolescents and young adults, with those between the ages of 18 and 25 considered the most at-risk group (Carroll, Metcalfe, Gunnell, & Gluud, 2014; Reis, Ramiro, & Camacho, 2017). Estimates of the prevalence of self-injury among adolescents and young adults were between 13 to 45 percent and 7 to 29 percent, respectively (Rinnewitz et al., 2018) and among the adolescent and young adult clinical samples, the prevalence of self-injury is between 40 and 60 percent (Tatnell, Kelada, Hasking, & Martin, 2014).

In recent decades, an increase in self-injury has similarly been observed in military populations, with corresponding interest in examination of the factors affecting self-injury. The prevalence of self-injury among young service members in military installations is estimated to range between 4 and 28 percent, which is higher than the general population (Bryan, Bryan, May, & Klonsky, 2015). Some researchers believe that a network of intertwined personality, environmental, psychosocial, and social factors affects the person living in military installations and the elements, relationships, and function of this complex network determine the likelihood of attempting self-injury behaviors (Nock et al., 2013). The negative outcomes of self-injurious behaviors in military installations have communicated the need to better understand factors associated with self-injury in this population, as well as formulating sound interventions to prevent it and increase the psychosocial adjustment of high-risk individuals (Bryan, Rudd, Wertenberger, Young-McCaughon, & Peterson, 2015).

Researchers who specialize in self-injurious behaviors view stressful and disturbing environmental experiences the first leading variable to self-injurious behavior among people living in military installations. These experiences are caused as a result of excessive military punishments, violent behaviors of commanders and getting away from the relaxing atmosphere of the family, and shape one’s view of the military installations (Bryan & Bryan, 2014). The result of these changes in their views is witnessed in the widespread pathological symptoms among soldiers who engage in self-harm. According to research, psychiatric illness is common among those who engage in self-injurious behaviors in military installations with 65% of them having a mental illness. The disorders most commonly associated with self-injury in military service members are depression, post-traumatic stress disorder, and borderline personality disorder (Bryan, Bryan, May, & Klonsky, 2015).
One of the most useful tools to assess if people are affected by a stressful military installation is the symptoms of post-traumatic stress (PTSD). Posttraumatic stress disorder includes a set of symptoms developed after experiencing a life traumatic incident that met the DSM-5 criteria for a traumatic event. Symptoms may include flashbacks, nightmares, and severe anxiety, as well as uncontrollable negative thoughts and reactivity about the event. The patient avoids of trauma-related stimuli (trauma-related thoughts, or feelings, trauma-related external reminders) after the trauma. The individuals may respond to this experience by fear and helplessness, intrusive, and recurrent images of the incidents (Sadock & Sadock, 2011). Recent research has shown that difficult military training and helplessness feeling due to difficult preps and punishments, can be experienced as trauma and may raise PTSD symptoms in soldiers (Nouri, Fathi, Salimi, Azad, & Esmaeli, 2011). Military duty at an early age is accompanied by cognitive, behavioral, organizational, cultural, and ethnic changes; therefore, it may produce profound mental pressure on some soldiers, potentially affecting their psychological status (Gibbons, Brown, & Hur, 2012). Sometimes, the major stresses during the military service period and living in the military installations can be a major threat for one’s life, because some soldiers consider living under military installations pressures so difficult and overwhelming that they prefer to harm themselves as a better alternative (Braswell & Kushner, 2012). Therefore, the stresses of the military installations and the PTSD symptoms experienced by the individual may create a unique status that is one of the underlying causes of their self-injury behaviors (Asarnow et al., 2011).

One of the approaches to exploring the causes of self-injurious behaviors is the functional approach. This approach explains the factors that create and sustain self-injurious behaviors in terms of the psychological function that it brings to the individual. From a functional point of view, self-injury behaviors are created and maintained because they provide a temporary solution to intrapersonal problems (such as cognitive and emotional disturbances) and interpersonal problems (such as communication problems and conflicts) (Nock, 2010). In fact, intrapersonal and interpersonal problems can be considered as mediators between the primary factors (PTSD symptoms) and self-injurious behavior (Tatnell et al., 2014). According to the functional approach, people who are in an unfavorable environment when they experience intrapersonal or interpersonal problems resort to self-injury as a temporary and available solution to relieve the stress caused by these problems. Because this temporary solution decreases the stress, that will be reinforced and continued (Bentley, Nock, & Barlow, 2014).

An intrapersonal factor that affects the formation and continuity of self-injury behaviors, is cognitive tensions and in particular, rumination (Selby, Franklin, Carson-Wong, & Rizvi, 2013). Ruminating is defined as a resistant and recurring thought that circles a subject. These thoughts automatically enter into consciousness and distract attention from the topics and current goals (Jacobs et al., 2014). Voon, Hasking, and Martin define rumination in people who exhibit self-injurious behaviors as thoughts of self-blame and self-criticism (Voon, Hasking, & Martin, 2014). Also, Selby, Connell, and Joiner refer to rumination as one of the important cognitive components of disturbances that cause self-injury (Selby, Connell, & Joiner, 2010).

According to the functional approach, self-injury behaviors that occur during rumination can be sustained and strengthened by reducing or stopping these annoying thoughts. On the other hand, if rumination has self-blaming content, self-injury also brings a sense of satisfaction to the person and increases the process of reinforcement. Therefore, rumination with the creation of cognitive disturbance leads the person to use self-injury as an ineffective, but quick and available coping strategy (Selby & Joiner, 2013). In this regard, Selby, Franklin, Carson-Wong, & Rizvi (2013) examined the role of rumination and emotional disturbance in committing self-harm behaviors and concluded that emotional disturbances lead to disturbing rumination, and individuals self-injure to get rid of this annoying cognitive disturbance by diverting their attention from the sad thoughts (Selby et al., 2013).

In addition to the intrapersonal factors, there are interpersonal factors that also are considered in the functional model as a mediator between the primary factors (PTSD symptoms) and self-injury behaviors. Bryan, Bryan, May, and Klonsky by studying the psychological situation of...
people living in military installations concluded that some military personnel became involved with interpersonal problems due to the feeling of loneliness and lack of social support. The lack of social support, which may show itself as emotional disturbances, increased irritability, mood swings, and interpersonal distress accompanied by anger and hostility, can lead to self-injury behaviors in residents of military installations (Bryan, Bryan, May, & Klonsky, 2015). Therefore, one of the interpersonal factors that have a significant impact on self-injury behaviors, especially for those experiencing persistent stress, is social support (Claes et al., 2015). Claes et al. defined social support as having the affection, assistance, and attention of family members and others (Claes et al., 2015). It is assumed that social support acts as a mediator between the pressures of life and the psychological state. Due to the lack of satisfaction of the soldiers' emotional needs in the military installations as well as particular stresses of military training era, social support plays an important role in reducing the soldiers' tension and anxiety (Pietrzak et al., 2010). In a study, Claes et al. (2015) by differentiating between intrapersonal and interpersonal factors examined the role of social support and psychopathology symptoms in self-injury behaviors. They concluded that each of these factors, both independently and in interaction with another, was involved in committing self-injury behaviors. They note that self-injury behaviors in the absence of social support are activated through a social rewards process, in such a way that the individual wounds himself to gain social support (Claes et al., 2015). So interpersonal variable that is considered as a mediator between the primary factors (PTSD symptoms) and self-injury behaviors, is social support.

In summary, as mentioned above, risk factors or predictors of self-injury behaviors can be classified into three groups: primary factors (PTSD symptoms), intrapersonal factors (rumination), and interpersonal factors (social support). Considering the characteristics of each of the above-mentioned factors and how these factors are related to the formation of self-injury behaviors, it can be predicted that simultaneous examination of these factors that have not been taken into account could be useful in clarifying the ambiguities of the issue of self-injury in Iranian soldiers and preventing this destructive event. Therefore, the purpose of this study was to investigate the fitness of the functional PTSD-based model of self-injury behaviors among soldiers residing in Iran military installations.

2. Materials and methods

2.1. Subjects

Participants were 400 male soldiers residing in Tehran military installations. The primary inclusion criterion was commander-documented self-injurious behaviors (In a one-hour session, the commanders were trained about self-injurious behaviors). Exclusion criteria were severe mental illness and a history of admission to the psychiatric hospital. The sample members voluntarily participated in the research and all participants were asked to sign the written consent before entering the research. Soldiers were aged between 19 and 30 years (M = 22.76 years, SD = 2.40 years). Ninety-one percent of participants were single and 9% were married. Education level of 2.3% of participants was primary, 21.5% Junior, 40.3% Diploma, 12.8% associate, 20.3% bachelor, and 3% master. All sample members had the same rank that was the rank of elementary soldiers. Elementary soldiers include soldiers who have completed a two-month training course and now they are undergoing military service in military installations.

Before and during research implementation, this study was reviewed and approved by the University of Social Welfare and Rehabilitation Science ethics committee. According to the ethical standards of the American Psychiatric Association (APA) in this research, the participants were informed about the research and its conditions, such as the timing of the evaluation, random selection, the confidentiality of their personal information and the right to withdraw from the research at any time they wish, and their informed consent was obtained.
3. Materials

3.1. Self-harm inventory (SHI)

The Self-Harm Inventory (SHI) was developed by Sansone, Wiederman, & Sansone (1998). It is a one-page, 22-item, yes/no, self-report questionnaire that explores respondents’ histories of self-harm. Each item in the inventory is preceded by the phrase, “Have you ever intentionally, or on purpose...” Individual items include, “cut yourself, burned yourself, hit yourself, scratched yourself,” and, “prevented wounds from healing.” There are three eating-disorder items (i.e., “exercised an injury on purpose, starved yourself to hurt yourself, abused laxatives to hurt yourself”), two high-lethal items (i.e., “overdosed, attempted suicide”), and three items relating to medical issues (i.e., “prevented wounds from healing, made medical situations worse, abused prescription medication”). All endorsements are pathological, and the SHI total score is simply the sum of “yes” responses, with a maximum possible score of 22. As examples of the Cronbach’s Alpha values obtained for the SHI, Sansone and his colleagues (Sansone, Reddington, Sky, & Wiederman, 2007) reported Cronbach’s alpha values of 0.89 for a sample of 52 women (aged from 24 to 70 years), Sansone and his colleagues (Sansone, Butler, Dakroub, & Pole, 2006) reported Cronbach’s alpha values of 0.90 for a sample of 57 women and 36 males (average age of 41.8 years) and Sansone and his colleagues (Sansone, Songer, & Sellbom, 2006) reported Cronbach’s alpha values of 0.80 for a sample of 46 males and 61 females (aged between 18 and 65 years). In this study, the scale was found to have good reliability. The Cronbach’s alpha for this study was 0.84.

3.2. Multidimensional scale of perceived social support (MSPSS)

The MSPSS is a 12-item scale that measures perceived support from Family, Friends, and a Significant Other (Zimet, Dahlem, Zimet, & Farley, 1988). Respondents answer items on a 7-point Likert-type scale (very strongly disagree to very strongly agree). The reliability and validity of the MSPSS have been demonstrated across several populations. Canty-Mitchell and Zimet found this scale to be a reliable measure for use with African American adolescents. The internal reliability coefficients for Family, Friends, and Special Person were 0.91, 0.89, and 0.91, respectively. The entire 12-item scale received a coefficient of 0.93 (Canty-Mitchell & Zimet, 2000). In the Brown study with an adult sample (average age of 19 years), the full 12-item MPSS demonstrated excellent internal consistency reliability with a coefficient alpha of 0.93. The Cronbach’s reliability coefficients for the subscales of the MPSS ranged from 0.91 to 0.94 (Brown, 2008). In this study, the full 12-item MPSS demonstrated good internal consistency reliability with a coefficient alpha of 0.89.

Terms used to describe sources of social support in the MSPSS were specifically designed to allow respondents to interpret items in ways most relevant to themselves. For example, the items measuring support from a significant other refer to a “special person,” which may be interpreted variously to mean a boyfriend/girlfriend, teacher, counselor, etc. The use of more specific terms could have weakened the scale (e.g., asking about a boyfriend/girlfriend presumes the existence of a romantic relationship).

3.3. PTSD checklist (PCL)

The PCL was developed by Weathers, Litz, Huska, & Keane (1993). This checklist provides a point-to-point correspondence between individual items and the DSM-IV diagnostic symptom criteria for PTSD (Weathers, Litz, Herman, Huska, & Keane, 1993). The PCL has been shown to have very good internal consistency (alpha = 0.94) and temporal stability (retest r = 0.88, 1-week interval), and it correlates strongly (i.e., r > 0.75) with other measures of PTSD symptomatology (Ruggiero, Del Ben, Scotti, & Rabalais, 2003). The diagnostic efficiency in two clinical samples (motor vehicle accident victims and sexual assault victims), using the CAPS as the criterion, has also been found to be quite good (i.e., For the PCL as a whole, the correlation with the CAPS was 0.929 and diagnostic efficiency was 0.90 versus CAPS) (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996). Each participant was instructed to focus on one traumatic event that they experienced in the past six months. The traumatic event must have been accompanied by feelings of fear and helplessness.
3.4. Ruminative response scale (RRS)

The ruminative response scale was developed by Nolen-Hoeksema & Morrow (1991). This scale includes 22 items describing responses to depressed mood that are self-focused, symptom-focused, and focused on the possible causes and consequences of dysphoric mood. Each item is rated on a Likert scale ranging from 1 (almost never) to 4 (almost always). Total scores can thus range from 22 to 88. The RRS has demonstrated good reliability and validity as a measure of rumination (Nolen-Hoeksema & Morrow, 1991; Yook, Kim, Suh, & Lee, 2010).

4. Statistical analysis

Data analyzed using PASW (version 21 SPSS) and LISREL 8.80. To examine the correlations between variables, Pearson correlation coefficients were used. To specify the mediating roles of rumination and social support in the relationship between PTSD symptoms and self-injury, path analysis was conducted. The covariance matrix used as database for the path analysis and the method of estimating were maximum likelihood.

5. Results

5.1. Descriptive statistics and correlations

Table 1 presents the Descriptive statistics and Cronbach's alphas of the research variables.

Participants presented with a variety of self-harm methods: 79.5% had a history of cutting or were currently cutting, 53.1% had a history of hitting or were currently hitting, 9% had a history of banging on their head or were currently banging on their head and 4.6% had a history of making medical situations worse such as not taking medication at the time of fever or severe illness.

Table 2 presents the correlation matrix of the research variables. Self-injury had a positive correlation with PTSD symptoms and rumination and a negative correlation with social support. Also there was a positive correlation between PTSD symptoms and rumination and a negative correlation between rumination and social support.

5.2. Path analysis

As shown in Figure 1, the model consists of an exogenous variable (i.e., PTSD symptoms) and three endogenous variables (i.e., rumination, social support, and self-injury). The paths were determined considering the proposed model. To specify the significance of the mediator sequence, Sobel test

| Variables | Cronbach’s α | M   | SD   |
|-----------|--------------|-----|------|
| PTSD symptoms | 0.79 | 36.16 | 9.07 |
| Rumination | 0.81 | 37.92 | 9.39 |
| Social support | 0.89 | 4.44 | 0.940 |
| Self-injury | 0.84 | 4.40 | 2.32 |

| Variables | 1 | 2 | 3 | 4 |
|-----------|---|---|---|---|
| 1. PTSD symptoms | 1 |   |   |   |
| 2. Rumination | 0.195** | 1 |   |   |
| 3. Social support | -0.053 | -0.128* | 1 |   |
| 4. Self-injury | 0.406** | 0.485** | -0.266** | 1 |

Note: p < .05; * p < .0005; **
was used. The Sobel test assesses the significance of the mediation effect (i.e., mediating roles of rumination and social support in the relationship between PTSD symptoms and self-injury) according to the significance of the relationship between the predictor and the mediator variable (i.e., PTSD symptoms and rumination or PTSD symptoms and social support) and that of the mediator and the dependent variable (i.e., rumination and self-injury or social support and self-injury) (Preacher & Hayes, 2008).

Before the model was tested, the normality of data distribution was investigated. Skewness varied from —0.08 for social support to 0.29 for self-injury and Kurtosis ranged from —0.05 for social support to —0.51 for self-injury. Therefore, there was no violation of normal distribution. The model tested to specify mediating roles of rumination and social support in the relationship between PTSD symptoms and self-injury (Figure 1).

The results of path analysis showed that the present research model has a suitable and adequate fit to the data. Model fit indices are presented in Table 3.

As shown in Table 3, $\chi^2$ was not significant which suggests adequate fitness of the model. Also, RMSEA was 0.007, and since it is less than 0.1, another reason for adequate fitness of the model was obtained. Also, CFI and NFI were obtained to be 0.96 and 0.97, respectively. These indices for satisfactory fit models are between 0.9 and 0.99. Another index that represents the fit of the research model is the SRMR and when this index is smaller, the model better fits to the data.

As shown in Figure 1, the path between PTSD symptoms and rumination ($\beta = 0.52$) was positive and significant ($p < 0.01$) and the path between rumination and self-injury ($\beta = 0.44$) was positive and significant ($p < 0.01$). While the path between PTSD symptoms and social support ($\beta = -0.14$) was negative and significant ($p < 0.05$) and the path between social support and self-injury

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Table 3. Model fit indices

| Fit indices | When is the model fit? | Amount in the present study | Conclusion |
|-------------|------------------------|----------------------------|------------|
| $\chi^2$    | Not significant        | $\chi^2 = 2.28$, $p = .548$ | Adequate fitness |
| GFI         | Equal to or greater than 0.9 | 0.94 | Adequate fitness |
| RMSEA       | Smaller than 0.1        | 0.007 | Adequate fitness |
| NFI         | Larger than 0.9         | 0.97 | Adequate fitness |
| CFI         | Larger than 0.9         | 0.96 | Adequate fitness |
| SRMR        | The closer to zero      | 0.012 | Adequate fitness |
\( (\beta = -0.33) \) was negative and significant \((p < 0.01)\). Also, the paths between PTSD symptoms and self-injury \((\beta = 0.37) \) were positive and significant \((p < 0.01)\).

The significance of the mediating roles of rumination and social support in the relationship between PTSD symptoms and self-injury was assessed by the Sobel test. The indirect effect of the PTSD symptoms on self-injury through rumination, was significant which showed that rumination has a mediator role in the association between PTSD symptoms and self-injury \((p < .001)\). Also, the indirect effect of the PTSD symptoms on self-injury through social support, was significant which showed that social support has a mediator role in the association between PTSD symptoms and self-injury \((p < .05)\).

### 6. Discussion

The purpose of this study was to investigate the fitness of the functional PTSD-based model of self-injury behaviors among soldiers residing in Iran military installations. The results showed that rumination and social support in the relationship between PTSD symptoms and self-injury have a mediating role. As predicted, PTSD symptoms affected the formation of cognitive disturbances and in particular rumination, thereby indirectly affecting people’s tendency to self-injury behaviors. Therefore, PTSD symptoms are a positive predictor of rumination and self-injury behaviors. The findings also suggest that PTSD symptoms are associated with lower social support and, by disrupting social support, may lead to self-injury behaviors.

The results of path analysis indicated that the mediator role of rumination and social support in relation between symptoms of PTSD and self-injury behaviors is significant. Rumination under the influence of PTSD symptoms increases self-injury behaviors and experience less social support that is due to PTSD symptoms, causes the formation of self-injury behaviors. So, rumination positively predicted self-injury behaviors and social support, negatively predicted these behaviors.

These findings are in line with the results of previous research that noted to the mediator role of rumination and social support for self-injury behaviors. Borders et al. (2012) studied the moderator role of rumination in the associations between PTSD and self-injury behaviors and consistent with the findings of this study, concluded that veterans with more PTSD symptoms reported more self-injury behaviors. Moreover, rumination significantly interacted with PTSD symptoms, such that PTSD symptoms only predicted self-injury behaviors for veterans with moderate to high levels of rumination (Borders, McAndrew, Quigley, & Chandler, 2012). Selby et al. (2013) examined the role of rumination and emotional disturbance in committing self-harm behaviors and concluded that emotional disturbances lead to annoying rumination, and individuals self-injure to get rid of this annoying cognitive disturbance by diverting their attention from the sad thoughts. They also point out that those who experience emotional excitability (such as those with PTSD symptoms) report poorer emotional processing and higher levels of rumination (Selby et al., 2013).

In a study that investigated the relationship between post-traumatic stress disorder symptoms and self-harm behaviors, the results showed that PTSD symptoms predict, even after several years, self-injury behaviors. The researchers explained the reasons for the long-term effects of PTSD symptoms on the tendency to self-injury behaviors in relation to the active process of sadness that occurs after a traumatic event. In this period that is characterized by low mood, a person with PTSD symptoms experiences the traumatic event in a variety of ways (in rumination, dreams, and as quasi–illusory symptoms). These experiences, which include the cognitive, emotional, and behavioral aspects of the individual’s psychological world, are unbearable and predispose to self-injury behaviors because self-injury behaviors for a short time eliminate cognitive and emotional disturbance (Lang & Sharma-Patel, 2011).

Claes et al. (2015) examined the role of social support and psychopathology symptoms in self-injury behaviors. By differentiating between intrapersonal and interpersonal factors, they concluded that each of these factors, both independently and in interaction with another, was involved in committing self-injury behaviors. Their results also showed that the psychopathology symptoms
lead to more intrapersonal problems and less social support, which was also observed in the results of the present study (Claes et al., 2015). Nock et al. (2013) explored and explained the role of social support in committing self-injury behaviors in military installations. They point out that the lack of social support has a lot of pressure on soldiers who show psychopathology symptoms, such as PTSD symptoms. Because, following the self-injury behaviors, the perpetrator transmits to the medical services for receiving medical services or receives initial support from his relatives, self-injury behavior is strengthened and its re-occurrence probability is increased (Nock et al., 2013). In this regard, Klonsky and Moyer pointed out that those who committed to self-harm behaviors, compared to the peer control group, had higher scores in the conversion disorder scale that indicate the physicalization of psychic symptoms to attract others’ support (Klonsky & Moyer, 2008).

In summary, the results of this study revealed that in military personnel, rumination, and social support in the relationship between PTSD symptoms and self-injury have a mediating role. When a soldier experiences a trauma, probably he will have to live in a prolonged period of uncertainty about temporary or permanent damage caused by the trauma at the military installation. The cognitive and emotional disturbances associated with the trauma can lead to rumination and interpersonal problems which restricts a person’s social support. Subsequently, the decline in social support can be a major source of stress and it may underlie the inability to adapt to living at military installations. For some soldiers, this incompatibility with the circumstance and widespread experience of cognitive-emotional disturbances may provide the basis for the formation of self-injury behaviors at the military installations.

The findings of this study support the issue that in military installations, people with psychopathology symptoms, cognitive disturbance, and poor social support, are more likely to be involved in self-injury behaviors when exposed to a negative emotional state. However, further researches should be done on soldiers to make definitive conceptualizations about the relationships between these variables. In this study, time since trauma exposure was not specified. Also, absence of time periods associated with the scales could be potentially misinterpreted by participants and the chronology of PTSD and self-injurious behaviors may influence the directionality of findings. Other limitations of the present study were that only self-report measures were used, the results may not generalize to other soldier populations and potential confounding variables such as comorbidity or age were not considered. On the other hand, lack of strong literature about rumination and social support in Iranian military personnel is among the limitations of the research.

Given the importance of the attention to the psychological state of military personnel, it is highly recommended to carry out other studies in this regard for more generalization. Due to the heavy pressure they bear, patients with self-injury behaviors need to receive adequate support interventions at the time they experience the limitations of military installations. Interventions that can increase social support in military installations include communication skills training, self-expression training, training for the commanders about the psychological needs of soldiers and interventions based on emotion-focused group therapies. Since the findings of the present study indicate the mediator role of rumination in the relationship between PTSD symptoms and self-injury behaviors, it is suggested that considering rumination can be useful in the interventions done to reduce self-injury behaviors. In these interventions, some skill training is provided to modify distorted cognition that most important, is cognitive restructuring. In cognitive reconstruction, the situations during which the individual has succeeded in reducing the discomfort caused by rumination without any self-injury behaviors are reinforced and strengthened (Selby et al., 2010). Also, considering the mediator role of social support in the relationship between PTSD symptoms and self-injury behaviors, interventions that increase the perceived social support of soldiers are recommended. Research has shown that the promotion of perceived social support is associated with a reduction in the impact of PTSD symptoms on cognitive and emotional disturbances and, subsequently, less self-injury behaviors (Laffaye, Cavella, Drescher, & Rosen, 2008).
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