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## ORIGINAL ARTICLES

# Military psychological distress-virtues model

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**Abstract:** *Background and Aim:* Military personnel, parallel to appropriate personality traits to the military environment, need virtues and character strengths (CS) that contain values appropriate to the environment. We designed a model that examines the impact of comprehensive virtues and CS in reducing psychological distress.

*Methods:* The present study is an SEM study. The sample community is an available example of 410 persons of military men in Tehran. We used a demographic information questionnaire, Kessler Psychological Distress Scale (K-10), and Virtues Inventory in Action (VIA-120).

*Results:* findings showed virtues and CS of wisdom, justice, humanity, and transcendence (except for spirituality) are significantly related to psychological distress. With increasing CS, psychological distress in employees decreased, but with increasing virtues, psychological distress in employees increased. The virtues and CS of temperance and courage were not significantly associated with psychological distress.

*Conclusions:* According to the results of this study, military services should pay more attention to the virtues and CS effective in reducing staff distress and strengthening these traits in them.

**Keywords:** Military personnel, Psychological distress, Virtues, Character Strengths

## INTRODUCTION

Psychological distress is a mental health outcome embodied by psycho-physiological and behavioral symptoms that are not specific to a given mental pathology. It includes symptoms of anxiety, depressive reactions, irritability, declining intellectual capacity, tiredness, sleepiness, and may lead to premature morbidity and mortality and Low-efficiency organizations [1]. A review of texts related to the psychological distress in military personnel showed that studies conducted in this area are more focused on personality traits and behavior. Such as hardiness and adjustment [2], sleep, resilience [3], perceived support, substance use, suicidal ideation [4], self-compassion and morale injury [5], negative life events [6], and like that. In military psychology, analytical and practical intelligence,

motivational factors, and personality (for example that low conscientiousness and high extraversion in the big 5-personality model) are considered a predictor of the outcomes of performance in military colleges. Personality is about differences between individuals and how one reacts to circumstances, but these characters do not address values and have limitations in predicting successful military personnel [7]. So, other variables have been incorporated into the network of predictive variables because of theoretical advances in military psychology and the evolution of the institutional function of the military [8]. One of that is positive military psychology with the assumption that the military being a positive institution consists of

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pathology-free mentally and physically fit soldiers who share positive traits, positive emotions, and positive relations. Therefore, it is imperative to identify, nurture and optimize all those positive aspects of a soldier which can strengthen him for better operational effectiveness, adjustment, and optimal functioning [9]. According to positive military psychology, Virtues and strengths can be more suitable predictors for successful military personnel and institution [7]. Military doctrine has affirmed that character and values are critical for successful military environments [10]. An individual expresses his or her values through one's CS. This has been found to play an important role in leadership, adaptability, and achievement [11]. Therefore, CS is an important factor for being resilient applicants to high-risk organizations [12].

A soldier must not only have the courage and aggressiveness for combat operations but also cultivate the empathy and compassion necessary to treat noncombatants and enemy prisoners humanely [13]. In addition, virtue ethics as being the best way of enhancing the chances of soldiers behaving morally because the rules or codes of conduct imposed from above, lack flexibility, and leave less room for personal integrity. changes in the military's environment have led to a shift from traditional tasks to more complex tasks, and especially in today's missions, one could expect that the proper virtues are not solely the martial ones [14].

Gordon Allport's theory argued that character belonged to philosophy and not psychology, and denied any connection between the character's strengths and the personality concept. Later, Peterson and Seligman's research on positive psychology from 2004 sparked a renewed interest in the concepts of character and CS (15). Peterson and Seligman formulated a taxonomy of 24 "CS within six different virtues" based on Confucian, Taoist, Buddhist, Hindu, Greek, Judeo-Christian, and Muslim writings concerning virtue [16].

Wisdom and knowledge – cognitive CS that entail the acquisition and use of knowledge (creativity, curiosity, open-mindedness, love of learning, perspective), Courage – emotional CS that involve the exercise of will to accomplish goals in the face of opposition, external or internal (authenticity, bravery, persistence, zest), humanity – interpersonal CS that involve tending and befriending others (kindness, love, and social intelligence), justice – civic CS that underlie healthy community life (fairness, leadership, citizenship), temperance-CS that protect against excess (forgiveness, modesty, prudence, self-regulation) and Transcendence – CS that forge connections to the larger universe and provide meaning (appreciation of beauty, gratitude, hope, humor, spirituality) [17].

CS are personality traits that are positively valued, and represent different routes to the superordinate virtues [18]. The relationship between virtues and PTG in different countries demonstrated these three virtues (Interpersonal, Vitality, and Cautiousness) were positively related to life with satisfaction and flourishing, as well as negatively related to depression, anxiety, psychological distress, and pathology Internet use [19].

A review of the literature on virtues and CS showed that many studies have been done on the relationship between psychological well-being and virtues. We found no study to examine the role of a complete list of virtues and character strength in causing psychological distress. More subjective/psychological well-being can be achieved by applying CS [20].

Studies explored a significant positive relationship between the three virtues (Interpersonal, Vitality, and Cautiousness) and life satisfaction [21] and psychological well-being and enhanced mental health among diverse populations in western and eastern cultures. In a study, CS use is a unique predictor of subjective well-being, but not the health-related quality of life. The VIA strengths of hope and zest were significant positive predictors of life satisfaction [22].

A Structural equation modeling study that specifies the predictive effects of some CS (Seven CS of critical thinking, emotional intelligence, gratitude, forgiveness, hope, spirituality, and zest) in a depression on individuals with major depression, demonstrated an indirect effect on depression through the mediation of dysfunctional attitudes, negative affect, and happiness. CS had negative effects on dysfunctional attitudes and positive effects on happiness [23].

According to Leontopoulou & Triliva (2012), Wisdom, courage, and transcendence were each highly and positively correlated with the wellbeing subscales of environmental mastery, purpose in life, and self-acceptance. Good physical and mental health were positively predicted different aspects of wellbeing and CS; nevertheless, mental health was a stronger predictor of wellbeing and CS than physical health.

Positive psychology interventions that involve the enhancement of strengths are found to increase well-being and decrease depression effectively, as suggested by a meta-analysis of 51 studies (Sin and Lyubomirsky, 2009). Indeed, empirical findings suggest that having a good character through the use of strengths is inversely related to depression, suicidal ideation, and substance abuse, whilst the use of strengths can have a buffering effect against stress, reduce the disability caused by mental disorders and

contribute to their prevention. Wright and Lopez (2005) proposed that strengths constitute important resources for mental health improvement and as such their enhancement should be incorporated into the health and well-being interventions [24].

Based on an international sample of 238 adults, general CS underuse and overuse were related to negative outcomes, while optimal use was related to positive outcomes. The overuse of social intelligence and modesty, and underuse of zest, humor, self-regulation, and social intelligence were associated with social anxiety. Using discriminant analysis, this combination successfully resorted 87.3% of the participants into those that do and do not have clinical levels of social anxiety. These findings suggest that strengths are multifaceted, providing novel insight into the role that sub-optimal-use facets play in undesirable outcomes, providing a glimpse of psychopathology through the lens of positive psychology [25].

Exploring psychological distress through the lens of virtues and CS allows for understanding individual differences and kinds of virtues and characteristics that help decrease psychological distress in people. As mentioned, we did not find a comprehensive study that examines the wide range of negative emotions (distress) based on all the virtues and strengths. Studies have focused more on the role of some of the strengths and ignored the role of the six virtues of Seligman and Patterson. The concept of psychological distress without any diagnostic label can help identify and assess people at risk for psychological problems. Therefore, the authors decided to examine the role of each of the virtues and characteristics in reducing psychological distress. The purpose of this study is to investigate the model of psychological distress based on virtues and CS.

## METHOD

The present study is a cross-sectional study. The sample community is an example of all the military men in Tehran. Sample in the present study, the military organizations of Tehran have been selected by available sampling. The sample size in this study is 384 people, which has been done by available sampling based on the Cochran sample size formula:

$$n = \frac{Z^2 pq}{d^2}$$

In this formula:  $z = 1.96$ ;  $p = q = 0.5$ ; and  $d$  (error value) = 0.05. To compensate for possible errors and increase the test power, the sample size was increased by 410 units [26].

**Demographic information questionnaire:** This questionnaire will be designed by the researcher and

includes information such as age, education, work experience, marital status.

**Kessler Psychological Distress Scale (K-10):** The Kessler Psychological Distress Scale (2002), identifies mental disorders in the general population. Questions on this scale are scored as a Likert scale from always (0) to never (4). This scale doesn't target a specific psychological disorder, but generally, identify the level of anxiety and depressive symptoms that a person has experienced over the past few weeks. Various studies have shown that the K-10 questionnaire has good validity and reliability. Studies on K-10 show a strong correlation between high scores on the Kessler Psychological Distress Questionnaire and the diagnosis of mood and anxiety disorders by the International Composite Diagnostic Interview Form (CIDI). There is also a less but significant relationship between questionnaire scores and other psychiatric disorders [27].

**Virtues Inventory in Action (VIA-120):** Seligman and Patterson prepared a short form of 120 that includes 6 virtues of wisdom, courage, humanity and love, justice, temperance, and transcendence. Each of the moral virtues contains several CS that is measured by 5 questions, and are complemented on a Likert scale from very similar to me (5) to opposite to me (1), and dimensionally each point Show the strength of character. The 120-item scale is fully consistent with the original English form VIA-240 in terms of reliability, validity, and factor structure [28]. The reliability and validity of this scale were assessed and confirmed by Namdari [29].

## RESEARCH PROCESS

To implement the questionnaires, first, the necessary permits were obtained from the relevant centers and then the command of each unit was coordinated. Questionnaires were distributed among the staff and the necessary explanations were given on how to answer and confidentiality of the answers. After completing the answer, questionnaires were collected.

## Result

Descriptive findings of demographic variables showed the mean and standard deviation of the age and work experience (years of work in the organization) of the participants, respectively are  $36.72 \pm 7.02$  and  $17.35 \pm 6.19$ . In addition, 20% were married and 30% were single. 32% had one child, 20% had two children and the rest had more than two children. Almost 14% had a diploma, 56% had a bachelor's degree, 20% had a master's degree, and 10% had a doctorate. 60% worked in the morning shift, 30% in variable work shifts, and 10% in the evening shift.

## Measurement Model

In measurement model a): Internal consistency (Cronbach's alpha and Composite reliability), convergent validity (Indicator reliability, Average Variance Extracted) (in Table 1), and discriminant validity were suitable. According to Table 1, all values CR and AVE are in the appropriate ranges.

Discriminant validity showed that all variables had appropriate HTMT. Also, according to the Fornell-Larcker scale, each variable had more variance in common with its variable than the other. In Figure 1 the model of psychological distress of military personnel based on the virtues and CS is shown.

**Table 1:** Cronbach's alpha, Composite reliability and Average Variance Extracted for virtues and CS

Virtues (second order variables)	CS (First order variables)	Cronbach's alpha	CR	AVE
Wisdom	---		0.893	0.736
Wisdom	Creativity	0.618	0.796	0.566
	Curiosity	0.706	0.819	0.532
	Open-mindedness	0.700	0.816	0.529
	Love of learning	0.762	0.841	0.516
	Perspective	0.618	0.796	0.566
Courage	---		0.893	0.672
	Orginity	0.731	0.832	0.553
	Persistence	0.786	0.854	0.541
	Bravery	0.579	0.778	0.541
	Vitality	0.764	0.841	0.515
Humanity	---		0.900	0.695
	Kindness	0.719	0.826	0.543
	Love	0.629	0.777	0.563
	Social intelligence	0.728	0.831	0.55
Justice	---		0.901	0.770
	Fairness	0.615	0.795	0.564
	Leadership	0.515	0.755	0.507
	Teamwork	0.705	0.819	0.531
Temperance	---		0.893	0.736
	Forgiveness	0.742	0.836	0.561
	Modesty	0.534	0.763	0.517
	Prudence	0.716	0.824	0.54
	Self-regulation	0.401	0.765	0.621
Transcendence	---		0.955	0.782
	Appreciation of beauty	0.668	0.818	0.601
	Gratitude	0.753	0.835	
	Hope	0.769	0.839	0.511
	Humor	0.755	0.835	0.506
	Spirituality	0.821	0.873	0.579

Table 2 shows path coefficients of virtues and CS with the psychological distress of military personnel. According to

this table, virtues, and CS of wisdom, justice, humanity, and transcendence (except for spirituality) are significantly

related to psychological distress. With increasing CS, psychological distress in employees decreased, but with increasing virtues, psychological distress in employees increased. The virtues and CS of temperance and courage were not significantly associated with psychological distress.

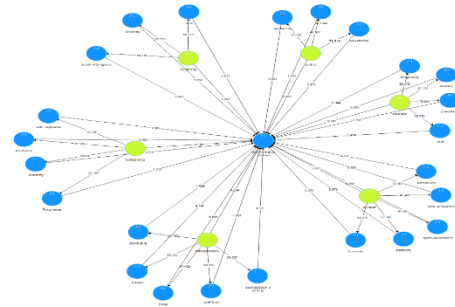


Figure1: Military psychological distress-virtues model

Table 2: The path coefficients of virtues and CS with the psychological distress

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
originality -> psychological distress	-0.287	-0.389	0.275	1.044	0.297
curiosity -> psychological distress	-5.938	-0.579	1.100	5.399	0.000
forgiveness -> psychological distress	-0.160	-0.136	0.127	1.258	0.209
modesty -> psychological distress	-0.028	0.014	0.128	0.216	0.829
appreciation of beauty -> psychological distress	-3.357	-0.812	0.774	4.337	0.000
bravery -> psychological distress	-0.091	-0.158	0.232	0.393	0.694
citizenship -> psychological distress	-5.834	-0.789	1.750	3.333	0.001
courage -> psychological distress	0.774	1.072	0.970	0.797	0.426
creativity -> psychological distress	-6.579	-0.796	1.201	5.476	0.000
fairness -> psychological distress	-4.621	-0.742	1.352	3.418	0.001
gratitude -> psychological distress	-5.333	-1.328	1.221	4.367	0.000
hope -> psychological distress	-5.516	-1.622	1.200	4.595	0.000
humanity -> psychological distress	10.598	2.516	3.123	3.393	0.001
humor -> psychological distress	-4.111	-0.885	0.991	4.148	0.000
justice -> psychological distress	12.501	1.852	3.717	3.363	0.001
kindness -> psychological distress	-3.981	-0.826	1.219	3.266	0.001
leadership -> psychological distress	-3.935	-0.527	1.193	3.299	0.001
love -> psychological distress	-3.887	-1.081	1.075	3.615	0.000
love of learning -> psychological distress	-7.009	-0.987	1.247	5.620	0.000
open-mindedness -> psychological distress	-6.131	-0.775	1.101	5.568	0.000
perspective -> psychological distress	-4.680	-0.527	0.866	5.401	0.000
persistence -> psychological distress	-0.268	-0.359	0.337	0.796	0.426
prudence -> psychological distress	-0.064	-0.011	0.163	0.393	0.695
self- regulation -> psychological distress	-0.170	-0.181	0.109	1.562	0.119
social intelligence -> psychological distress	-4.270	-0.979	1.276	3.347	0.001
spirituality -> psychological distress	-0.073	-0.069	0.071	1.029	0.304
temperance -> psychological distress	0.274	0.146	0.363	0.755	0.451
transcendence -> psychological distress	14.920	3.529	3.483	4.284	0.000
wisdom -> psychological distress	25.036	3.165	4.535	5.520	0.000
zest -> psychological distress	-0.421	-0.531	0.283	1.489	0.137

The most common measure used to evaluate the structural model is value R2 and Stone-Geisser's Q<sup>2</sup>. The value of R2 equal to 0.75, 0.50, or 0.25 for the endogenous latent variables can be described as a general rule as strong, moderate, and weak, respectively. For Stone-Geisser's Q<sup>2</sup> if

the value of Q2 for an endogenous structure achieves three values of 0.02, 0.15, and 0.35, it indicates the weak, medium, and strong predictive power of the structure with its related exogenous structures [30]. Table 3 shows these values for virtues and CS.

**Table 3:** Values of R<sup>2</sup> and Q<sup>2</sup> for virtues and CS

Virtues (second-order variables)	CS (First order variables)	R Square	R Square Adjusted	Q <sup>2</sup>
Wisdom	----	0.78	0.78	0.27
	Creativity	0.74	0.74	0.34
	Curiosity	0.67	0.67	0.39
	Open-mindedness	0.67	0.67	0.33
	Love of learning	0.66	0.66	0.31
	Perspective	0.59	0.59	0.32
Courage	----	0.84	0.84	0.33
	Originality	0.65	0.65	0.38
	Persistence	0.77	0.77	0.35
	Bravery	0.68	0.68	0.36
	Zest	0.67	0.67	0.33
Humanity	----	0.79	0.79	0.31
	Kindness	0.78	0.78	0.39
	Love	0.73	0.73	0.35
	Social intelligence	0.77	0.77	0.39
Justice	----	0.76	0.76	0.26
	Fairness	0.72	0.72	0.39
	Leadership	0.64	0.64	0.31
	Citizenship	0.83	0.83	0.41
Temperance	----	0.74	0.74	0.23
	Forgiveness	0.62	0.62	0.27
	Modesty	0.63	0.63	0.31
	Prudence	0.58	0.58	0.30
	Self-regulation	0.48	0.48	0.28
Transcendence	----	0.85	0.85	0.29
	Appreciation of beauty	0.59	0.59	0.34
	Gratitude	0.77	0.77	0.36
	Hope	0.76	0.76	0.36
	Humor	0.58	0.58	0.26
	Spirituality	0.47	0.47	0.24

## DISCUSSION

Findings of this study showed, the CS of wisdom, including, creativity, curiosity, love of learning, open-mindedness,

perspective, played a mediating role in reducing psychological distress. The research literature is consistent with our findings. Creativity led to looking at problems from different perspectives, establishing new solutions and

connections, flexibility in the thought process, increasing their connection to the unknown [31], brainstorming phenomenon, and reducing workplace stresses [32]. Studies show that curiosity and open-mindedness with the tendency to tolerate potentially different opinions [33], new knowledge and information, the choice of diverse and different perspectives, the ability to use a balanced and objective mentality when participating in problem-solving [32]. Open-minded people think logically because they can accept all possible logical perspectives and come up with a better solution [34]. Curiosity with openness to the experience is associated with self-regulation, cognitive development, school and university learning, job performance, interpersonal communication, personal growth, and well-being [35].

In this study, justice's CS, including citizenship, fairness, and leadership had a significant role in reducing distress. "good citizens" have higher levels of social trust and a more positive view of human nature, score low on alienation and ethnicity [36], organizational citizenship behavior is likely to be formally associated with organizational rewards and helps the organization promote a positive social and psychological climate. Beyond their duties, employees find it more attractive to engage and inform about the organization, to talk and encourage others, to volunteer to take on additional responsibilities in the workplace, with the help and guidance of co-workers [37]. Also, supervisor-nurse relationships, teamwork, and wellbeing explain almost half of the nurses' commitment to the hospital, as well as half of the intention to leave the hospital [38]. About fairness, people with higher fairness in career advancement show more parental role, respect, and commitment to others, care, and understanding in relationships [36]. Employees' perceptions of fairness lead to more positive variables such as job satisfaction, organizational commitment, productivity, and organizational citizenship behavior, work results, or attitudes and work behaviors [39]. Also, according to Seligman and Peterson (2004) people with leadership power are more likely to be promoted in their jobs and feel more well-being [36].

In addition, findings of this study indicated a significant role of transcendence CS (except spirituality) including appreciation of beauty, hope, humor, and gratitude with psychological distress. The use of these CS led to reducing psychological distress. This finding is consistent with the research literature. Research has shown that appreciation of beauty is positively correlated with openness to experience, extraversion, and agreement [40], life satisfaction, positive impact, and post-traumatic growth [41].

Depression was negative and gratitude was a positive

predictor of psychological well-being [42], and negatively related to several negative emotional [43]. Also, expressed higher mood gratitude with fewer depressive symptoms, and PTSD. About humor, higher levels of humor were associated with fewer depressive symptoms [44] low anxiety and depression, and anti-production behaviors in the workplace, and increased organizational citizenship behaviors, moderating role between organizational stressors and organizational citizenship behaviors. The use of humor leads to mental flexibility and intellectual stimulation and reduces the threat by restoring the situation against the destructive effects of stressors [45]. Our findings showed spirituality had not been significantly associated with psychological distress. Spirituality is positively associated with happiness and meaningful living. Many studies have shown that spirituality and religiosity are more closely linked to greater physical and mental health. For example, a meta-analysis concluded that more religiosity was associated with fewer depressive symptoms, with no evidence that age, gender, or ethnicity influenced the relationship. According to Einsliecht et al., belief in religion modulates anxiety [8].

Also, our study showed there is a positive and significant relationship between CS of love and humanity including kindness, love, and social intelligence, and psychological distress. This result is consistent with the literature. In the study of the effect of parental attachment and the language of love on resilience, it was found that secure attachment and receiving love from parents lead to more resilience. Parents' loving language, affirmative words, and supportive actions significantly build resilience by creating emotional, motivational, and practical resources [46]. The results of a study showed that spiritual care with the faith-hope-love model has had positive results for the patient [47]. Also confirmed that there is a significant relationship between health and love and faith. Multidisciplinary research evidence argues that different religions have one thing in common, at least in terms of one main message: that life means loving one another. The definition of love, in its essence, is an expression of generosity and altruism. Likewise, love can influence not only positive psychology and existentialism but also the fanatical and fundamentalist views and practices that still exist in the world today [48]. Regarding social intelligence, the results of a study showed that social intelligence can protect young people from the psychological damage of being victimized by peers [49]. Findings [50] showed that there is a significant relationship between social intelligence and depression. Also, a significant relationship was found between social skills and social awareness, but no statistically significant relationship was observed between social information processing and



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the level of depression. Also, important relationships between social desirability and social intelligence in smoking status have been found [51].

Other CS in the virtues of courage (courage, originality, perseverance, and vitality) and temperance (forgiveness, modesty, prudence, and self-regulation) were not significantly associated with psychological distress. The results of the most relevant research showed that each of these positive characteristics can affect psychological well-being and positive emotions and results. Research in these studies has shown, for example, that high self-control leads to thought control, emotion regulation, psychological well-being, greater academic achievement, better interpersonal relationships, and ultimately greater adaptation and low self-control, in contrast to many social problems, obesity, and Drug use, crime, shopping, and procrastination [52]. The constructive relationship between forgiveness and health through direct mechanisms may be accomplished by controlling the cognitive process of rumination, and the resulting negative emotions, such as anger or resentment or indirect effect, may be mediated through distinct variables such as health behavior, performance between Individuals develop social support and mental health and are associated with low suicidal behavior and depressive symptoms [53]. We reason that the virtues of temperance and courage and the CS of them, can logically and intuitively be incorporated into the nature of the military job and be considered as an inseparable feature of this job. Therefore, increasing it cannot affect reducing psychological distress.

In the present study, all six virtues (significant including wisdom, justice, and transcendence) and non-significant (humanity, courage, and temperance) were positively associated with psychological distress. That is, with the increase of these virtues, the level of psychological distress of the employees increased. The positive association of virtues with psychological distress is a strange consequence, given that according to Seligman and Peterson, virtues lead to well-being and ultimately self-fulfillment [36]. Based on our hypotheses, the relationship between virtues and psychological distress was expected to be negative. According to these findings, while the results of the first-order variables of CS were negative with psychological distress, but the increase in the virtues of wisdom, humanity,

justice, and excellence in the sample led to more distress and suffering. According to Rosch et al. (1976), CS has a "natural classification" that manifests itself in practice conveniently and clearly. Experimental studies support this idea and show that cognitive processes also have a more specific efficiency when they have a primary and natural surface content. While CS at the abstract levels is called virtues and their performance is more complex [36]. According to early texts in this field, if we consider distress or suffering as opposed to happiness, any person who has a virtuous life will be happy. But according to Bloomfield, virtue does not guarantee happiness, and the ethics of virtue involves worries about oneself and others [54]. Suffering is included in the theoretical framework of virtue and is an inseparable part of virtue. Virtues have the appropriate structure to maintain different types of values. The connection between suffering and virtue already exists in the history of philosophy and theology, albeit sporadically. Suffering plays a key role in the proper functioning of groups or groups and their wisdom. In addition, suffering is very important in a group or social virtues such as justice and love and individual virtues such as faith [28].

#### **Limitation**

Our sample in this study included only men. These people mostly had administrative work and were somewhat away from the hardships of military life, such as being sent to war zones. Of course, they experience some limitations and difficulties of working in military services.

#### **CONCLUSION**

According to the results of this study, military organizations should pay more attention to the ethical virtues effective in reducing staff distress and strengthening these traits in individuals.

#### **Ethical considerations**

*This article is a part of a doctoral dissertation approved with IR.BMSU.REC.1399.341 Ethics Code. The online version of the application is available at the following address and is open to the public: <https://ethics.research.ac.ir/IR.BMSU.REC.1399.341>. Target individuals were informed about the purpose of the study and their right to withdraw from the study at any point. Participants were free to withdraw from the study at any point. All interviews were kept confidential.*

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