Psychometric Properties of the Stress Mindset Measure in an Iranian Sample

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Abstract

This research aimed to study the psychometric properties of the Stress Mindset Measure (SMM) in a non-clinical sample of the Iranian population. The Stress Mindset Measure is a psychometrically robust scale consisting of 8 items to assess whether individuals hold a stress-is-enhancing or stress-is-debilitating mindset. To evaluate the psychometric properties of this measure, we recruited 161 men and 239 women from the University of Tehran community. Results indicated that the Persian version of the Stress Mindset Measure has satisfactory reliability and validity indexes. Moreover, we found that the stress-is-debilitating mindset is positively associated with stress, depression, and anxiety. However, this mindset has been found to have no significant relationship with cognitive strategies of emotion regulation and life satisfaction. Also, findings showed no significant correlation between the stress-is-enhancing mindsets and the other variables. The results of this study suggest that the Persian SMM has adequate psychometric properties to assess stress mindsets.

Keywords: Stress Mindset, Stress Mindset Measure, Psychometric properties, Reliability, Validity

Introduction

Stress is defined as an experienced tension when individuals perceive that the demands from external events are beyond their coping capacity (Lazarus & Folkman, 1984; Lovallo, 2015). The substantial body of research depicting the detrimental effects of stress has spurred a decidedly negative cultural narrative around stress, proposing that stress must be reduced or removed (Crum et al., 2020). Over the years, stress has been cited for causing cardiovascular diseases (Juster, McEwen, & Lupien, 2010), brain aging (Jefferson et al., 2010), and cognitive impairments (Schwabe & Wolf, 2010). However, the new line of research in the science of stress has shed light on the positive outcomes of stress by introducing the concept of stress mindsets. (Crum et al., 2013; Keller et al., 2012; Nabi et al., 2013). Mindsets are lenses that filter and categorize the information people receive every day. Mindsets determine how individuals experience, understand and respond to the surrounding stimuli (Dewek, 2013). Stress mindset, a recently-introduced concept, refers to the belief about whether stress is enhancing or debilitating for cognitive, emotional and performance outcomes. This concept shifts our attention to the fundamental role of the belief and attitude towards the effects of stress on various aspects of our well-being. Correlational studies and randomized controlled trials on stress mindsets have demonstrated that stress-is-enhancing mindset-believing that stress increases health, vitality, learning, growth, and performance- is linked to reduced symptoms of anxiety and depression, improved self-reported health and energy levels, greater life satisfaction, and performance at work (Crum et al., 2013, 2017). On the other side of the continuum, there is the stress-is-debilitating mindset, which holds the belief that stress negatively affects performance, health, and well-being. Stress-is-debilitating mindset is more prevalent in individuals (Clark,2003; Kinman & Jones, 2005) since the mass

media constantly underpins the negative ramifications of stress (Cohen et al., 2007). Specifically, research studies have revealed that the extent to which people believe that stress is debilitating is positively correlated with the rate of mortality and morbidity (Keller et al., 2012; Nabi et al., 2013). Conversely, further studies have displayed constructive consequences of stress (Podsakoff, LePine, & Lepine, 2007). For instance, it has been shown that introducing a stress-is-enhancing mindset improves physiological functioning (Jamieson et al., 2010; Jamieson, Mendes & Nock, 2013), as well as to escalate self-reported health and work performance (Crum et al., 2013).

One of the implications of this recent notion towards stress is that individuals can be placed on the spectrum of stress mindset with the stress-is-enhancing mindset on one side and the stress-is-debilitating on the other side. Further research studies have manipulated the stress mindset with the mission of increasing the extent to which people adhere to a stress-is-enhancing mindset (Crum et al., 2013, 2017). In their pioneering study, Crum et al. (2017) found that activating a stress-is-enhancing mindset increases dehydroepiandrosterone sulfate secretion, cognitive flexibility, positive affect, and attention toward positive stimuli. One of the crucial implications of this study is that stress mindset can be manipulated through straightforward interventions. These interventions may be applicable to non-clinical issues such as managing stress during a pandemic (Hagger, Keech, & Hamilton, 2020). Also, Crum et al. (2013) have elucidated that stress is not always enhancing, but it can be utilized to be enhancing. This notion is in line with the theory of mindsets, describing mindsets as individuals' beliefs about fundamental attributes such as intelligence and personality- whether the person considers them to be fixed or malleable (Dweck, Chiu, & Hong, 1995; Dweck & Yeager, 2019). Studies have revealed that when people change their mindsets from fixed to growth, they experience improvements in their functions and achievements (Yeager et al., 2019).

Whether we want to manipulate the stress mindset or conduct a correlational study, we first need to determine the individuals' position on the stress mindset spectrum. To this end, we need to use the Stress Mindset Measure (SMM). The stress mindset measure determines the subjective meaning people ascribe to stress and decide how stress affects their health, well-being, and performance (Crum et al., 2013). The SMM consists of eight items that assess to what extent the participants agree or disagree with a series of statements about the consequences of stress for health, vitality, learning and growth, performance, and productivity (Crum et al., 2013). The SMM has been validated and explored in various samples, such as college students (Crum, Akinola, Martin & Fath, 2017; Goyer, Akinola, Grunberg & Crum, 2019), firm employees (Crum et al., 2013; Crum et al., 2019), and Navy SEALs (Smith, Young, & Crum, 2020). Crum et al. (2013) created two versions of the measure in the validation study of SMM. The first version consisted of beliefs about the general nature of stress (SMM-G), while the second one consisted of stress when a specific stressor was present (SMM-S). These two versions were shown to be internally consistent (Cronbach's alpha for the SMM-G was 0.86 and for the SMM-S was 0.80) and the confirmatory factor analyses confirmed the single structure of SMM.

In the present study, we aimed to provide a fluent Persian translation of SMM and study the psychometric properties of the measure in the Iranian population. Our questions were 1) Could SMM be efficiently adapted to the Iranian context? 2) Is the Persian version of SMM a valid and reliable instrument for measuring the stress mindset? To answer these questions, we hired 400 participants and analyzed the data for inter-item correlations, confirmatory factor analysis, internal consistency reliability, and factorial invariance.

Method

Participants

A total sample of 400 individuals was recruited from the University of Tehran community. 239 of the participants were women (59.8%) and 161 were men (40.3%). The mean age of the participants was 31.89 (SD= 10.80). After giving consent and answering some demographic questions, participants responded to the Stress Mindset Measure (SMM) questions.

Translation

All SMM items were translated into Persian using the standard back translation technique (Brislin, 1970). Specifically, the first and the second authors translated the SMM into Persian from the original English version. In the next step, two independent translators translated the SMM back into English. Before using the translated measure in the research procedure, we sent the translation files to the mind and body lab at Stanford University, directed by Alia Crum, the creator of the SMM. After being confirmed and published on the mind and body lab website, we used the Persian translation in the study.

Measures

In the present research, we used three other measures to investigate the criterion and concurrent validity of the Farsi version of the Stress Mindset Measure. For this purpose, we used the following measures:

1) Stress Mindset Measure (SMM; Crum, Salovey, & Achor, 2013). In the SMM, participants are asked to show their agreement or disagreement to the eight items of the stress mindsets on a 5-point Likert scale (from 0= strongly disagree to 4= strongly agree). Four items assess

the stress-is-enhancing mindsets and the four others assess the stress-is-debilitating mindset. Cronbach's alpha for this measure is .87.

2) Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985; Farsi version: Bayani, Kouchaki, & Goudarzi, 2007). This scale uses five items and a 7-point Likert scale (from 1= strongly disagree to 7= strongly agree) to assess the reported level of satisfaction in life. The reported Cronbach's alpha for the Farsi version is .83.

3) Depression Anxiety Stress Scales-21 (DASS-21; Lovibond & Lovibond, 1995; Farsi version: Samani & Jokar, 2007). In this scale, the participants report the presence of depression, anxiety, and stress symptoms over the previous week using a Likert scale (from 0= did not apply to me at all to 3= applied to me very much or most of the times). In the study conducted by Samani & Jokar (2007), the scales demonstrated high internal consistency levels (*a*= .81, *a*= .74, and *a*= .78 respectively).

4) Emotion Regulation Questionnaire (ERQ; Gross & John, 2003; Farsi version: Qasempour, Ilbeigi, & Hassanzadeh, 2012). This 10-item self-report questionnaire assesses the use of cognitive reappraisal and expressive suppression as common strategies to alter emotions. Participants respond to each item using a 7-point Likert scale (1= strongly disagree to 7= strongly agree).

Results

First, we examined the inter-item correlations among the eight SMM items. After reversing the negative items, the findings indicated that the inter-item correlations ranged from .31 to .62 (see table 1). Results reveal that there is reasonable item homogeneity and SMM items measure the same concept.

Table 1. Stress Mindset Measure inter-item correlations

Item NO.	1	2	3	4	5	6	7	8
1	1							
2	.328**	1						
3	.436**	.378**	1					
4	.317**	.527**	.378**	1				
5	.394**	.469**	.469**	.551**	1			
6	.360**	.479**	.442**	.532**	.484**	1		
7	.460**	.411**	.489**	.610**	.622**	.497**	1	
8	.461**	.484**	.357**	.574**	.444**	.533**	.476**	1

To test the construct validity of the measure, we conducted confirmatory factor analysis using Amos version 24. According to the suggested model designed by Crum et al. (2013), we created a first-order single-factor model, in which all the eight items loaded on a single stress mindset factor. Next, we tested a first-order two-factor model based on the two elements of the SMM (see figure 1). Four items (q2, q4, q6, q8) loaded on a factor that evaluated stress-is-enhancing mindset. The other four items (q1, q3, q5, q7) loaded on a factor that measures the stress-is-debilitating mindset. We used various indexes to assess the fitness of the models. First, we analyzed the Chi-square ratio. The Chi-square ratios lower than 3 indicate the goodness of fit of the model (Kline, 2010). Also, we examined other indexes such as the expected cross-validation index (ECVI; Schreiber et al., 2006); Tucker-Lewis index (TLI; Tucker & Lewis, 1973), the goodness of fit index (GFI; Joreskog & Sorbom, 1984), the comparative fit index (CFI; Bentler, 1990), and the standardized root mean-square residual (SRMR; Hu & Bentler, 1995). According to Hu and Bentler (1999), SRMR values below .08 indicate a good model fit. Further, CFI, GFI, and TLI values greater than .90 showed acceptable model fit, whereas values higher than .95 display great model fit. It should

be noted that ECVI is mainly used to compare various models and the smaller values indicate better model fit.

The results showed that the Chi-square ratio was higher than 3 for both models due to the big sample size. For the single-factor model, CFI, GFI, and TLI values were greater than .90, which indicates a good model fit. Also, CFI and GFI values for the two-factor model were .96, indicating a great model fit. Given that for the two-factor model, CFI, TLI, and GFI values were higher than .90, SRMR value was less than .08, and ECVI values were smaller than the first-factor model, it can be concluded that the fit indices for the two-factor model are better than the single-factor model (see table 2).
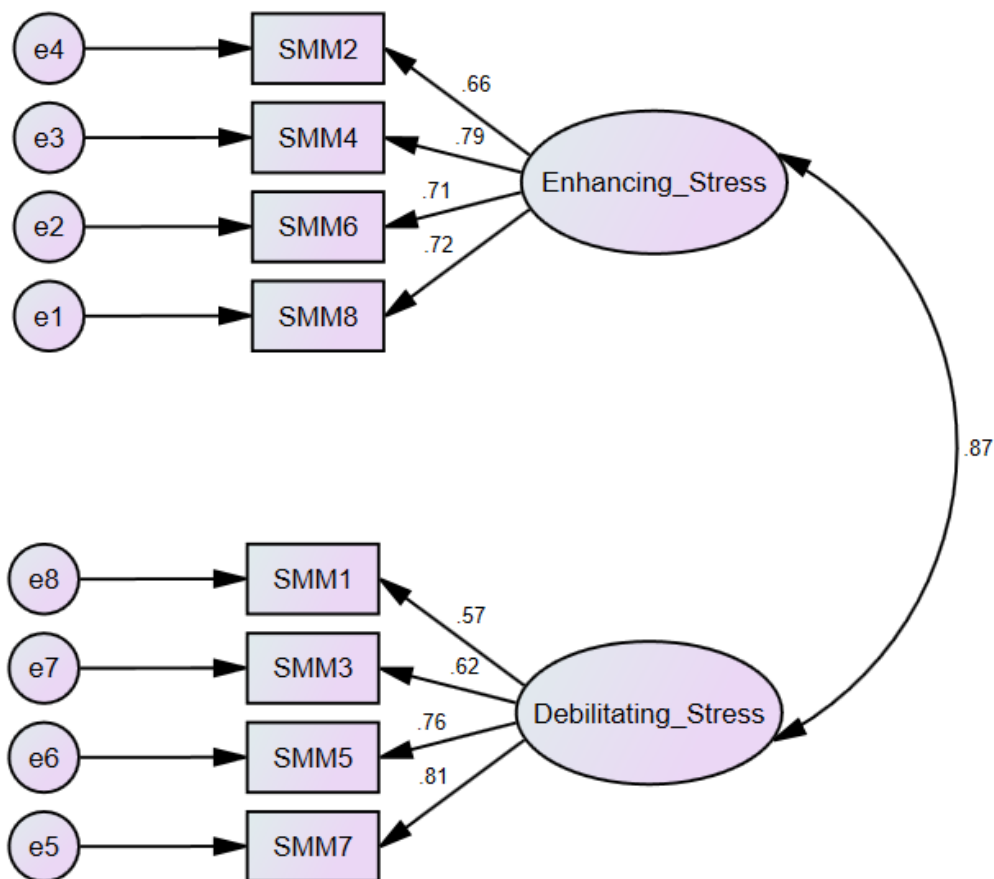

Figure 1. The two factor model for the Persian version of the Stress Mindset Measure

Table 2. Fit indices in confirmatory factor analysis for a single-factor and a two-factor model of the Stress Mindset Measure.

Model	χ^2	p	df	χ^2/df	CFI	TLI	GFI	SRMR	ECVI
Single-factor	100.70	.000	20	5.03	.937	.911	.941	.101	.334
Two-factor	65.22	.000	19	3.43	.964	.947	.961	.078	.250

We calculated the Cronbach's alpha coefficient to evaluate the internal consistency reliability of the two factors and the total score of the SMM. The total alpha score for the SMM was .87, which indicates high internal consistency reliability. Also, the alpha coefficient for the stress-is-enhancing mindset was .81 and for the stress-is-debilitating mindset was .78 indicating great internal consistency.

To investigate the factorial invariance of the SMM, we employed multi-group confirmatory factor analysis between men and women. We used three models of invariance for the analysis. The configural model considers the structure and pattern of the factors constant. In the metric model, factor loadings between groups are considered equivalent as well as the structures. As it is apparent in table 3, Chi-square is not significant when comparing the metric model with the configural model. Also, the ΔCFI value is lower than the cut point, which is .01, indicating metric factorial invariance between men and women. In the scalar model, the intercepts between two groups are considered equivalent, as well as the structure and factor loadings. Chi-square not being significant and the small values of ΔCFI in the scalar model compared to the metric model shows the scalar factorial invariance in men and women (see table 3).

Table 3. Factorial invariance across gender for the SMM model.

Model	χ^2	df	CFI	Model Comparison	$\Delta\chi^2$	Δdf	sig	ΔCFI
1. configural	86.82	38	.960	-	-	-	-	-
2. metric	94.20	44	.958	2 vs. 1	7.38	6	p = ns	.002
3. scalar	100.12	50	.959	3 vs. 2	5.92	6	P = ns	.001

In the final step, we tested the correlation of the SMM items with the pertinent positive and negative concepts (see table 4). Results show that the stress-is-debilitating mindset is positively associated with stress, depression, and anxiety. However, this mindset has been found to have no significant relationship with cognitive strategies of emotion regulation and life satisfaction. Also, findings displayed no significant correlation between the stress-is-enhancing mindsets and the other variables.

Table 4. Bivariate correlations between DAS, ERQ and SWLS with the SMM subscales

Model	Enhancing Stress	Debilitating stress
Depression	-.053	.163[**]
Anxiety	-.040	.197[**]
Stress	-.085	.233[**]
Cognitive reappraisal	.044	.053
suppression	-.053	.094
Satisfaction With Life	.075	-.068

Discussion

The current research aimed to examine the psychometric properties of SMM in Iran in order to pave the way for researchers to study stress mindsets in the Iranian population. The results depicted that the Persian translation of the stress mindset measure conveys the concepts that the creators of the measure intended. However, our findings showed a different structure of the stress mindset measure in Iran. Contrary to the single stress mindset factor that Crum et al. (2013) proposed, we identified two factors. These factors indicated individuals' beliefs about the effects of stress, whether stress-is-enhancing or stress-is-debilitating. In other words, we found that these two mindsets are independent rather than the constituents of a universal stress mindset. The reversed items used for the stress-is-debilitating factor could explain this finding. Studies have revealed that utilizing positive and reversed items simultaneously hinders the unidimensionality of the scale due to secondary sources of variance (Suarez-Alvarez et al., 2018). In this vein, the results of a study investigating the psychometric properties of the SMM in a Greek sample have also identified two factors instead of a single stress mindset factor (Karampas et al., 2020).

Also, we found adequate configural, metric, and scalar invariance of the instrument in the analysis of factorial invariance. These results show that the Persian Stress Mindset Measure evaluates the stress mindset with the exact structure and meaningfully across men and women and the total sample.

Moreover, findings revealed that the stress-is-debilitating mindset is positively associated with stress, depression, and anxiety, meaning that people who hold a stress-is-enhancing mindset are more likely to suffer from the symptoms of these disorders. More specifically, the stress-is-debilitating mindset had the strongest correlation with the stress symptoms. Stress-is-enhancing mindset, on the other hand, was not associated with the symptoms of mental disorders. These

findings are in line with the previous research revealing that individuals with a stress-is-debilitating mindset (not a stress-is-enhancing mindset) are at a higher risk of experiencing mental health concerns (Huebschmann & Sheets, 2020; Keech et al., 2018).

This study has several limitations. First, we collected data in the university setting and the findings may reflect attitudes of a subset of the Iranian population. Second, questions about participants' ethnicity and cultural background were not included. Such information could be regarded as a limitation since there are multiple ethnicities and linguistic backgrounds in Iran. Future research could investigate the psychometric properties of SMM in other cultures and languages in Iran as well as other Persian-speaking countries like Tajikistan and Afghanistan. Another line of research would be examining the psychometric properties of SMM in other countries for cross-cultural comparisons. After establishing the reliability and validity of SMM in various countries, the SMM may serve as a psychometrically sound measure to assess stress mindset in research and clinical settings.

Conclusion

In conclusion, the results of the present study indicate that the Persian version of the Stress Mindset Measure (SMM) can be used as a valid and reliable instrument to measure the stress mindset in the Iranian population. Also, our findings corroborate the notion that the stress mindset can determine the psychological symptoms that individuals experience when they are stressed.

Disclosure Statement

The authors report no conflict of interests.

Data Availability Statement

The data and materials that support the findings of this study are openly available in figshare at

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References

Bayani, A. A., Kouchaki, A. M., & Goudarzi, H. (2007). Validity and reliability of the scale of life satisfaction. *Iranian Journal of Psychology*, *3*(11), 259-265.

Bentler, P. M. (1990). Comparative fit indexes in structural models. Psychological bulletin, 107(2), 238. https://doi.org/10.1037/0033-2909.107.2.238

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of cross-cultural psychology*, *1*(3), 185-216. https://doi.org/10.1177%2F135910457000100301

Clark, A. M. (2003). 'It's like an explosion in your life…': lay perspectives on stress and myocardial infarction. *Journal of Clinical Nursing*, *12*(4), 544-553. https://doi.org/10.1046/j.1365-2702.2003.00740.x

Crum, A. J., Akinola, M., Martin, A., & Fath, S. (2017). The role of stress mindset in shaping cognitive, emotional, and physiological responses to challenging and threatening stress. *Anxiety, stress, & coping*, *30*(4), 379-395. https://doi.org/10.1080/10615806.2016.1275585

Crum, A. J., Jamieson, J. P., & Akinola, M. (2020). Optimizing stress: An integrated intervention for regulating stress responses. *Emotion*, *20*(1), 120. https://dx.doi.org/10.1037%2Femo0000670

Crum, A. J., Salovey, P., & Achor, S. (2013). Rethinking stress: the role of mindsets in determining the stress response. *Journal of personality and social psychology*, *104*(4), 716. https://doi.org/10.1037/a0031201

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of personality assessment*, *49*(1), 71-75. https://doi.org/10.1207/s15327752jpa4901_13

Dweck, C. S. (2013). *Self-theories: Their role in motivation, personality, and development*. Psychology press.

Dweck, C. S., & Yeager, D. S. (2019). Mindsets: A view from two eras. *Perspectives on Psychological science*, *14*(3), 481-496. https://doi.org/10.1177/1745691618804166

Dweck, C. S., Chiu, C. Y., & Hong, Y. Y. (1995). Implicit theories and their role in judgments and reactions: A word from two perspectives. *Psychological inquiry*, *6*(4), 267-285. https://doi.org/10.1207/s15327965pli0604_1

Goyer, J. P., Akinola, M., Grunberg, R., & Crum, A. J. (2018). Evaluation of a stress mindset intervention to improve performance and wellbeing in underrepresented minority college students at a selective institution. *Manuscript in preparation*.

Gross, J.J., & John, O.P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. Journal of Personality and Social Psychology, 85, 348-362. https://doi.org/10.1037/0022-3514.85.2.348

Hagger, M. S., Keech, J. J., & Hamilton, K. (2020). Managing stress during the coronavirus disease 2019 pandemic and beyond: Reappraisal and mindset approaches. *Stress and Health*. https://doi.org/10.1002/smi.2969

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural equation modeling: a multidisciplinary journal, 6(1), 1-55. https://doi.org/10.1080/10705519909540118

Hu, L.-T., & Bentler, P. M. (1995). Evaluating model fit. In R. H. Hoyle (Ed.), Structural equation modeling: Concepts, issues, and applications (pp. 76–99). Sage Publications, Inc.

Huebschmann, N. A., & Sheets, E. S. (2020). The right mindset: stress mindset moderates the association between perceived stress and depressive symptoms. *Anxiety, Stress, & Coping*, *33*(3), 248-255. https://doi.org/10.1080/10615806.2020.1736900

Jamieson, J. P., Mendes, W. B., & Nock, M. K. (2013). Improving acute stress responses: The power of reappraisal. *Current Directions in Psychological Science*, *22*(1), 51-56. https://doi.org/10.1177%2F0963721412461500

Jamieson, J. P., Mendes, W. B., Blackstock, E., & Schmader, T. (2010). Turning the knots in your stomach into bows: Reappraising arousal improves performance on the GRE. *Journal of experimental social psychology*, *46*(1), 208-212. https://doi.org/10.1016/j.jesp.2009.08.015

Jefferson, A. L., Himali, J. J., Beiser, A. S., Au, R., Massaro, J. M., Seshadri, S., ... & Manning, W. J. (2010). Cardiac index is associated with brain aging: the Framingham Heart Study. *Circulation*, *122*(7), 690-697. https://doi.org/10.1161/CIRCULATIONAHA.109.905091

Joreskog, K. G. (1984). LISRELVI. Analysis of linear structural relationships by the method of maximum likelihood.

Juster, R. P., McEwen, B. S., & Lupien, S. J. (2010). Allostatic load biomarkers of chronic stress and impact on health and cognition. *Neuroscience & Biobehavioral Reviews*, *35*(1), 2-16. https://doi.org/10.1016/j.neubiorev.2009.10.002

Karampas, K., Pezirkianidis, C., & Stalikas, A. (2020). Psychometric properties of the Stress Mindset Measure (SMM) in a Greek sample. *Psychology*, *11*(08), 1185. https://doi.org/10.4236/psych.2020.118079

Keech, J. J., Hagger, M. S., O'Callaghan, F. V., & Hamilton, K. (2018). The influence of university students' stress mindsets on health and performance outcomes. *Annals of Behavioral Medicine*, *52*(12), 1046-1059. https://doi.org/10.1093/abm/kay008

Keller, A., Litzelman, K., Wisk, L. E., Maddox, T., Cheng, E. R., Creswell, P. D., & Witt, W. P. (2012). Does the perception that stress affects health matter? The association with health and mortality. *Health psychology*, *31*(5), 677. https://doi.org/10.1037/a0026743

Kinman, G., & Jones, F. (2005). Lay representations of workplace stress: What do people really mean when they say they are stressed?. *Work & stress*, *19*(2), 101-120. https://doi.org/10.1080/02678370500144831

Kline, R. B. (2010). Principles and Practice for Structural Equation Modelling (3rd Eds).

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer publishing company.

Lovallo, W. R. (2015). *Stress and health: Biological and psychological interactions*. Sage publications. https://doi.org/10.4135/9781452233543

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour research and therapy*, *33*(3), 335-343. https://doi.org/10.1016/0005-7967(94)00075-U

Nabi, H., Kivimäki, M., Batty, G. D., Shipley, M. J., Britton, A., Brunner, E. J., ... & Singh-Manoux, A. (2013). Increased risk of coronary heart disease among individuals reporting adverse impact of stress on their health: the Whitehall II prospective cohort study. *European heart journal*, *34*(34), 2697-2705. https://doi.org/10.1093/eurheartj/eht216

Podsakoff, N. P., LePine, J. A., & LePine, M. A. (2007). Differential challenge stressor-hindrance stressor relationships with job attitudes, turnover intentions, turnover, and withdrawal behavior: a meta-analysis. *Journal of applied psychology*, *92*(2), 438. https://doi.org/10.1037/0021-9010.92.2.438

Qasempour, A., Ilbeigi, R., & Hassanzadeh, Z. (2012). Psychometric characteristics of Grass and Jan's emotional regulation questionnaire in an Iranian sample. In *6th Gilan University Student Mental Health Conference* (pp. 722-24).

Samani, S., & Joukar, B. (2007). A study on the reliability and validity of the short form of the depression anxiety stress scale (DASS-21).

Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. The Journal of educational research, 99(6), 323-338. https://doi.org/10.3200/JOER.99.6.323-338

Schwabe, L., & Wolf, O. T. (2010). Learning under stress impairs memory formation. *Neurobiology of learning and memory*, *93*(2), 183-188. https://doi.org/10.1016/j.nlm.2009.09.009

Smith, E. N., Young, M. D., & Crum, A. J. (2020). Stress, mindsets, and success in Navy SEALs special warfare training. *Frontiers in psychology*, *10*, 2962. https://doi.org/10.3389/fpsyg.2019.02962

Suárez Álvarez, J., Pedrosa, I., Lozano, L. M., García Cueto, E., Cuesta Izquierdo, M., & Muñiz Fernández, J. (2018). Using reversed items in Likert scales: A questionable practice. *Psicothema, 30*. https://doi.org/10.7334/psicothema2018.33

Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. Psychometrika, 38(1), 1-10. https://doi.org/10.1007/BF02291170

Yeager, D. S., Hanselman, P., Walton, G. M., Murray, J. S., Crosnoe, R., Muller, C., ... & Dweck, C. S. (2019). A national experiment reveals where a growth mindset improves achievement. *Nature*, *573*(7774), 364-369. https://doi.org/10.1038/s41586-019-1466-y

Zumbo, B. D., Gadermann, A. M., & Zeisser, C. (2007). Ordinal versions of coefficients alpha and theta for Likert rating scales. *Journal of modern applied statistical methods*, *6*(1), 4. https://doi.org/10.22237/jmasm/1177992180