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RESEARCH ARTICLE / ARAŞTIRMA YAZISI

The Mediator Role of Experiential Avoidance in the Relationship between Perceived Stress and Somatic Symptoms

Algılanan Stres ve Somatik Semptomlar Arasındaki İlişkide Deneyimsel Kaçınmanın Aracı Rolü

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Abstract:

Experiential avoidance is a coping strategy that is adopted so often when dealing with unwanted internal experiences, such as emotions, thoughts and memories. Experiential avoidance is associated with mental disorders, such as depression and PTSD, as well as the manifestation of somatic symptoms despite providing short-term relief. This study aimed to explore the mediator role of experiential avoidance in the relationship between perceived stress and somatic symptoms. Data were collected from 371 participants who filled out the survey on online platforms. The survey consisted of demographic form and scales for experiential avoidance, perceived stress and somatic symptoms. SPSS version 23 was used to analyse data. Pearson correlation, descriptive statistics and mediation analysis were employed. According to the research analysis, it was revealed that experiential avoidance had a mediator role in the relationship between perceived stress and somatic symptoms' intensity. Furthermore, three variables were significantly correlated with each other. Experiential avoidance as a coping strategy with perceived stress was a mediator for the manifestation of somatic symptoms burden. The results will guide mental health professionals and individuals with chronic somatic symptom burden, such as headaches, dizziness and fibromyalgia, to adopt more acceptance-based strategies in dealing with stressful situations.

Keywords: Perceived stress, Experiential avoidance, Somatic symptom, Mindfulness, Somatization, Fibromyalgia

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Öz:

Deneyimsel kaçınma; duygu, düşünce ve anılar gibi istenmeyen içsel deneyimlerle uğraşırken sıklıkla benimsenen bir başa çıkma stratejisidir. Deneyimsel kaçınma, kısa süreli rahatlama sağlamasına rağmen, depresyon ve TSSB gibi zihinsel bozuklukların yanı sıra bedensel semptomların ortaya çıkmasıyla da ilişkilidir. Bu çalışma, algılanan stres ile bedensel belirtiler arasındaki ilişkide deneyimsel kaçınmanın aracı rolünü araştırmayı amaçlamıştır**.** Hazırlanan anketi çevrimiçi platformlarda dolduran 371 katılımcıdan veri elde edilmiştir. Anket, deneyimsel kaçınma, algılanan stres ve bedensel semptomlara yönelik ölçekler ve demografik formdan oluşmaktadır. Elde edilen veriler SPSS versiyon 23 kullanılarak korelasyon analizi, betimsel analiz ve aracı rolü analiziyle değerlendirilmiştir. Araştırma analizine göre, algılanan stres ile bedensel belirtilerin yoğunluğu arasındaki ilişkide deneyimsel kaçınmanın aracı rolü olduğu ortaya çıkmıştır. Ayrıca üç değişkenin birbiriyle anlamlı düzeyde ilişkili olduğu bulunmuştur. Algılanan stresle başa çıkma stratejisi olarak deneyimsel kaçınma, somatik semptomların ortaya çıkmasında aracıdır. Sonuçlar, ruh sağlığı uzmanlarına ve baş ağrısı, baş dönmesi ve fibromiyalji gibi kronik somatik semptom yüküne sahip bireylere, stresli durumlarla başa çıkmada daha kabule dayalı stratejiler benimseme konusunda rehberlik edecektir.

Anahtar Kelimeler: Stres, Deneyimsel kaçınma, Somatik semptom, Somatizasyon, Fibromiyalji

Introduction

Lazarus & Folkman (1984) defined perceived stress as the beliefs and feelings of individuals about the amount of stress they are experiencing at a given point in time or over a period of time. Perceived stress is associated with feelings of uncontrollability and unpredictability in one's life, the amount of irritating hassles they have to experience, how often their life changes, and their perceived ability to cope with life problems and struggles. Perceived stress is not related to the types or frequencies of stressful events but rather the beliefs and attitudes of an individual towards stress and his/her ability to handle it. Different individuals might experience similar distressing life events; however, they might evaluate the impact and severity of those events to various extents due to factors, such as personality, resources for coping and support. Perceived stress is a reflection of interaction between an individual and the environment, which is considered threatening or overwhelming and affects well-being (Lazarus & Folkman, 1984).

Stress impacts mental well-being significantly and negatively. Higher levels of perceived stress are associated with an increased probability of mental disorders and physical problems (Cohen et al., 2007). Two disorders that are closely associated with stress are Post-Traumatic Stress Disorder (PTSD) and depression (Campbell et al., 2008). PTSD develops as a result of exposure to a significant stressor (APA, 2013). PTSD symptoms also cause increases in somatic symptoms, such as chronic pain, externalizing symptoms, such as substance abuse and internalizing symptoms like anxiety and depression (Miller et al., 2008).

Experiential avoidance refers to the unwillingness of an individual to stay in contact with a particular internal experience, such as bodily sensation, emotion, thought, memory, image or behavioural disposition. As a result, one might take further action to vary the form or frequency of these private experiences although this kind of avoidance leads to behavioural harm (Hayes et al., 2004). Kashdan et al. (2006) mention that experiential avoidance may occur on several occasions, such as while trying to reduce anxiety during a job interview. However, when adopted as a coping strategy with undesired internal experiences, experiential avoidance draws one back from moving towards valued goals, reduces contact with the present moment and leads to dysfunction in life. Although avoidance provides short-term reductions in undesired private experiences and relief, in the long term, it contributes to the development and maintenance of several mental health disorders, such as depression and anxiety disorders (Hayes et al., 1999). Additionally, experiential avoidance is closely related to somatization, where avoiding psychological or physical distress leads to experiencing somatic symptoms, such as headaches, muscle pain, nausea or fatigue (Jacobson et al., 2001; Mayorga et al., 2022).

Somatic symptoms refer to physical or bodily symptoms which might be related to a certain disease or labelled as medically unexplained symptoms without any apparent underlying medical cause (Fink & Rosendal, 2008). Somatic symptoms for medically unexplained conditions do not mean that symptoms are not real or perceived like other physical symptoms. For example, headaches are a common physical symptom experienced by almost everyone at some point in life. However, not all cases of headaches are attributed to a medical condition, such as a brain tumour. The vast majority of individuals experiencing headaches can tolerate while some of them look for medical care, considering it intolerable. Abdominal pain, nausea, heart palpitations, fatigue and dizziness are among other common somatic symptoms (Eriksen & Ursin, 2004). Somatization is defined as an expression of psychological and emotional distress as physical symptoms (Lipowski, 1968). Husain et al. (2007) define somatic symptoms as "persistent, severe, and distressing symptoms that cannot fully be explained by medical knowledge or whose severity cannot be accounted for after medical investigation" (p. 2). These definitions indicate that there are no detected medical causes underlying symptoms, but rather, they occur in emotional distress.

This study aims to understand the role of experiential avoidance in the relationship between perceived stress and somatic symptoms. The literature illustrates that emotional responses towards a stressing event or stimuli can be manifested as somatic symptoms. Thus, an association between perceived stress intensity and somatic symptoms is expected. On the other hand, literature related to experiential avoidance indicates that avoiding internal experiences, such as emotions and thoughts, intensifies the levels of distress. As a result, it is expected for experiential avoidance to have a mediator role in relationship between perceived stress and somatic symptoms as repressing negative emotions related to a stressful event will lead to higher levels of stress and manifestation as somatic symptoms due to repression. The proposed hypotheses of this study are as follows:

Hypothesis 1 (H1): There is a significant correlation between perceived stress and somatic symptoms

Hypothesis 2 (H2): There is a significant correlation between experiential avoidance and somatic symptoms

Hypothesis 3 (H3): There is a significant correlation between perceived stress and experiential avoidance

Hypothesis 4 (H4): Experiential avoidance has a mediator role between perceived stress and somatic symptoms.

The findings of study will help understand the role of experiential avoidance in experiencing somatic symptoms during stressful times as well as the relationship between perceived stress and somatization.

Materials and Methods

Participants and Procedure

The current study aims to determine the relationship between perceived stress and somatic symptoms as well as the role of emotional avoidance between them. Using convenience sampling technique, the online surveys including three scales for variables and demographic questions, were sent to participants using social media platforms. The surveys included informed consent to inform the participants regarding confidentiality, the aim of this study and voluntariness to consent. The ethical approval for this research was provided by the Girne American University ethical committee of the Faculty of Humanities. The date for approval is 01/02/2024, and the approval number is 2023-2024/-HUM07.

The sample size of this study was 371 adults with ages ranging between 18 and 76. 53% of the participants were male, while 46% were female. 54% of the participants mentioned their perceived income as average. This was followed by low-income and high-income participants consecutively, with percentages of 31% and 11%. In this study, 3% of the participants declared they had no income. 46% of 371 participants were married, and 43% of them were at single status while 9% were divorced, and 1% was widowed. A vast majority of the participants hold a bachelor's degree, with a percentage of 55%, which was followed by high school, master and doctoral degree holders with percentages of 27%, 15% and 3%.

Measurement Instruments

Perceived Stress Scale (PSS-14) is a tool used for measuring the intensity of psychological stress. The self-reported questionnaire is designed to determine to what extent respondents evaluate their lives as unpredictable and uncontrollable based on their answers. The internal consistency reliability for PSS-14 was 0.79, as calculated by Cronbach's alpha coefficient (Cohen et al., 1999). The scores for the 10-item scale range from 0 to 40, with higher scores indicating higher levels of psychological stress. The items are scored on a 5-item Likert scale, and questions 4,5,7, and 8 are reversed for scoring (0=never, 4=very often). In the current study, the Cronbach's alpha value was calculated as 0.78.

The Brief Experiential Avoidance Questionnaire (BEAQ) is a 15-item self-report inventory that measures experiential avoidance. The items are scored on a 6-point Likert scale ranging from 1=strongly disagree to 6=strongly agree. The scores range from 15 to 90 points, with higher scores indicating higher levels of avoidance from internal and private experiences. Item 6 is reversed while scoring. The inventory is reliable, with a Cronbach's alpha of 0.84 (Gamez et al. 2014). In the current study, the Cronbach's alpha value was calculated as 0.845.

Somatic Symptom Scale (SSS-8) is an 8-item inventory used for measuring somatic symptom burden. The scale is valid and reliable, with a Cronbach's alpha of 0.81. The items are scored on a 5-point Likert scale ranging between 0=not at all, and 4=very much. Higher scores indicate higher levels of somatic symptom burden (Gierk et al., 2014). In the current study, the Cronbach's alpha value was calculated as 0.855.

Analysis

The data in this study were managed and analysed using the SPSS IBM 29 statistical program and SPSS Process Macro 4.2 extension. The present study was conducted with correlational research design which aims to understand relationship and direction of association between two or more variables without manipulating or controlling any of them. The reverse items were recoded and outliers were detected and deleted using z-score (standard score) and Q-Q plot. The normality was investigated by evaluating the skewness and kurtosis values and histogram graphs. As the data distribution was normal, parametric tests were used to analyse the variables. To understand the relationship among variables and test hypothesis descriptive method of frequency analysis, Pearson correlation and mediation analysis were used. The mediation analysis was conducted according to the bootstrapping method of Hayes (2018).

Results

This section includes results of analysis for descriptive statistics, correlation analysis to understand relationship between variables and mediation analysis aiming to determine whether there was a mediating role of experiential avoidance in the relationship between perceived stress and somatic symptoms. The four hypotheses of this study were accepted according to the results obtained. Descriptive statistics for the research variables are presented in Table 1.

Table 1. Descriptive statistics regarding the skewness and kurtosis of data (n= 371)

	Min	Max	Mean	SS	Skewness	Kurtosis
Perceived Stress	0	40	16.71	10.03	.21	-.97
Experiential Avoidance	15	85	45.41	13.71	.17	-.47
Somatic Symptoms	0	32	8.98	7.20	.91	.29

Accordingly, the lowest value of the Perceived Stress variable was 0, while the highest value was 40. The mean value of the variable was 16.71 and the standard deviation was 10.03. For Experiential Avoidance, the lowest value was 15, while the highest value was 85. The mean of the variable was 45.41 and the standard deviation was 7.20. Somatic symptoms variable had a mean score of 8.98, while the standard deviation was calculated as 7.20.

Since the skewness and kurtosis coefficients of the research variables ranged from +2 to -2, it can be stated that the research variables had a normal distribution, and HOTEL therefore, parametric tests could be used (George and Mallery, 2010).

As shown in Table 2, the Perceived Stress variable was significantly related to both Somatic Symptoms ($r = .64$, $p < .01$) and Experiential Avoidance ($r = .54$, $p < .01$) variables.

Table 2. Results of correlation between perceived stress, experiential avoidance and somatic symptoms

		Perceived Stress	Experiential Avoidance	Somatic Symptoms
Perceived Stress	**Pearson Correlation**	1	,544**	,640**
	Sig.		,000	,000
	N	371	371	371
Experiential Avoidance	**Pearson Correlation**	,544**	1	,417**
	Sig.	,000		,000
	N	371	371	371
Somatic Symptoms	**Pearson Correlation**	,640**	,417**	1
	Sig.	,000	,000	
	N	371	371	371

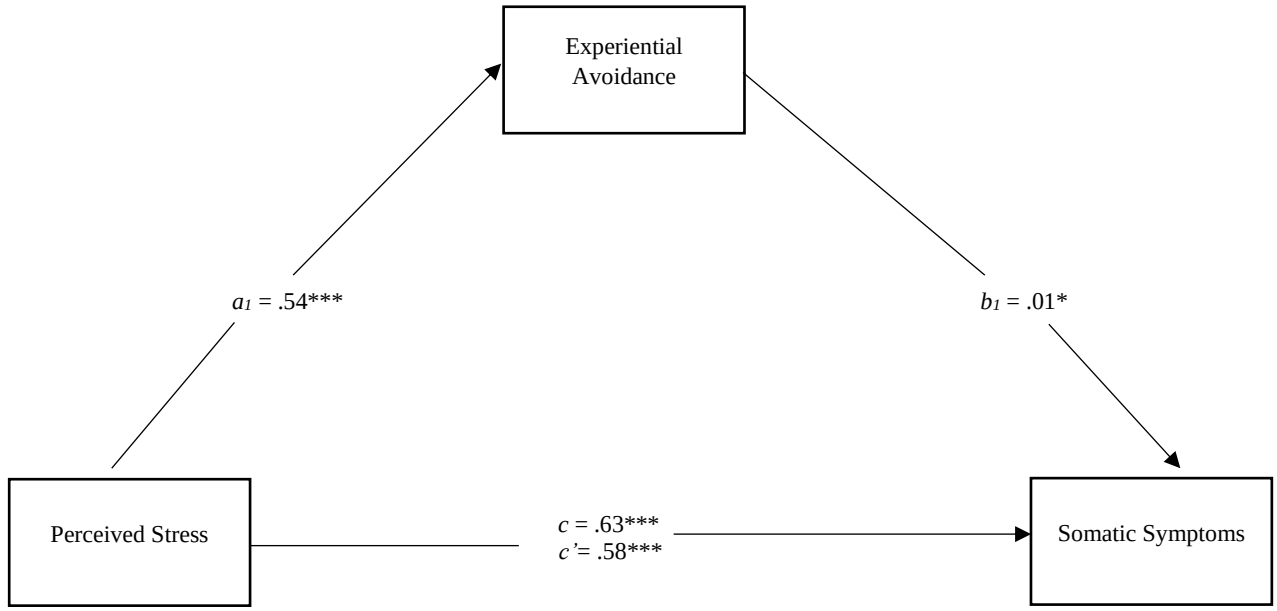
**. Correlation is significant at the 0.01 level

The somatic symptoms variable was significantly associated with Experiential Avoidance ($r=.42$, $p<0.01$).

According to the results obtained from correlation analysis, Hypothesis 1, Hypothesis 2 and Hypothesis 3 of the study were accepted as three variables were significantly related with each other.

When Figure 1 is examined, the model established is fit, and the explanatory variables together can explain 41% of the total variance of the Somatic Symptoms variable ($F(2;368) = 131$, $p < .001$, $R2 = .41$).

Figure 1. Mediation Model Findings



***p < .001, *p < .05. Standardized coefficients are reported

When the paths related to the model were examined, the Perceived Stress variable alone (path c) before the mediation variable was included in the model positively predicted the Somatic Symptoms variable (B = .63, t = 15.98, p < .001). After adding the mediator variable to the model, the positive predictive coefficient value of the Perceived Stress variable on the Somatic Symptoms variable decreased (B = .58, t = 12.34, p < .001). When the other paths in the model are examined, the Perceived Stress variable predicted the avoidance variable positively (B = .54, t = 12.44, p < .001). The Experiential Avoidance variable predicted the somatic variable positively (B = .01, t = 2.07, p < .05).

To determine whether the experiential avoidance variable mediated the relationship between perceived stress and the somatic symptoms variable, the confidence intervals for the indirect effects in the mediation model were examined, as shown in Table 3 (indirect effect's confidence intervals).

Table 3. Mediating Effects of Experiential Avoidance between Perceived Stress and Somatic Symptoms

			Confidence Interval (CI)	
	B	**S.E**	**Lower Level CI**	**Upper Levet CI**
Total Effect	.63	.02	.40	.51
Direct Effect	.58	.03	.35	.48
Indirect Effect	.04	.02	.01	.07

Indirect effects were examined in the model for the mediation effect. Accordingly, the relationship between perceived stress and somatic symptoms was mediated by experiential avoidance (B = .04, CI [.01, .07]), as the indirect effect of perceived stress on somatic symptoms does not include zero (Hayes, 2018)

As a result, the research hypothesis was accepted. It can be said that the relationship between perceived stress and somatic symptoms is mediated by experiential avoidance.

Discussion

This study revealed the positive relationship between perceived stress and somatic symptoms that intensified perceived stress was related to an increase in the burden of somatic symptoms. This finding is consistent with the previous studies conducted on the relationship between these variables. Brown (2004) identified somatic symptoms as physical symptoms without any organic basis and occurring as representations of emotional and psychological distress. The cross-sectional study of Hjern et al. (2007) indicated that school-related stressors, such as excessive workload and peer pressure, were associated with psychosomatic pain among college students. Additionally, Ursin (1997) mentioned that perceived stress has a role on development of subjective health complaints, including headaches, abdominal pain, musculoskeletal symptoms and difficulty in sleeping. Overall, perceived stress and somatic symptoms are closely related. When the distress experienced due to a negative event is not coped with or resolved efficiently, somatic symptoms in various parts of the body take place, influencing the functioning of life negatively.

Another finding of this study is the correlation between experiential avoidance and somatic symptoms, confirming the second hypothesis. The literature on experiential avoidance and somatic symptoms demonstrate the association between two variables. Bakhshaie et al. (2019) and Campbell et al. (2009) reported that experiential avoidance is a crucial factor in the severity of somatic pain and disability. Aldrich et al.'s (2000) study shows that avoiding internal experiences, such as pain and distress, leads to greater amount of psychological suffering and somatic symptoms. On the other hand, a lower level of avoidance is associated with less amount of fatigue and psychological distress among individuals with chronic fatigue (Jacobsen et al., 2001). Mayorga et al. (2022) conducted research to understand the role of experiential avoidance in pain perception among COVID-19 patients who already suffered from physical complaints. The result demonstrated that the level of avoidance was related to severity, intensity, and pain disability significantly and positively. Summing up, repression of internal experiences, such as thoughts, emotions, memories and pain, leads to increase in the severity of somatic burden in the body.

Perceived stress and experiential avoidance were significantly correlated. The quantitative study conducted by Farr et al. (2021) revealed that experiential avoidance and perceived stress are closely related. Furthermore, avoidance of internal experiences is explained as the core underlying process for the relationship between early life experiences and psychological distress acting as a mediator. The literature on thought repression explains the relationship between perceived stress and experiential avoidance in a way that avoiding existing distress or unwanted thoughts leads to an intensified amount of perceived stress in comparison to managing and accepting current private experiences (Clark et al., 1991; Gold & Wegner, 1995; Wegner et al., 1991). Compared to avoidance of perceived stress, an approach of understanding and acceptance is shown to be negatively associated with the intensity of distress experienced when faced with a stress-provoking event (Irons et al., 2006; Leary et al., 2007). This finding puts forward the paradoxical impact of avoidance on perceived stress.

The final finding of this study is experiential avoidance acting as a mediator in the relationship between perceived stress and somatic symptoms. Although three variables are significantly related to each other according to the literature, and this study, the process between perceived stress and somatic symptoms is missing. Perceived stress can be coped with as one has efficient emotion regulation strategies, such as acceptance and self-compassion, downregulating the distress (Gilbert, 2005; Macbeth & Gumley, 2012). Otherwise, in cases when one adopts experiential avoidance as a coping mechanism, the impact of stress perceived is intensified instead of being resolved and manifested as somatic symptoms in the form of repression.

Implications

The current study highlights the role of experiential avoidance in the relationship between perceived stress and somatic symptoms. Somatic distress includes various symptoms affecting physical as well as psychological well-being. Patients make visits to different types of medical services in the hope of finding solutions for their symptoms, which are not explained by an organic cause. As these people are unaware of the underlying causes of somatic symptoms, their time and money is wasted in pursuit for a solution. The initial step to cope with somatic symptoms should be informing individuals about the relationship between repressed perceived stress and somatization as the finding obtained in this study suggests. This will provide relief by eliminating other possible causes of pain and suffering. Furthermore, acquiring knowledge about effective emotion and stress regulation strategies instead of avoidance and repression might provide tools for reducing the intensity of distress and somatic symptoms as a result.

Limitations

The present study has some limitations. Firstly, it is correlational research, not experimental. Therefore, a causational interpretation cannot be provided, but the predictive role of the variable is confirmed. Second, the findings are based on data collected from a limited number of participants. Conducting research with larger sample sizes might increase the reliability of the findings. Third, between two variables of perceived stress and somatic symptoms, other mediator variables might have a role, such as emotion regulation, early childhood experiences and genetic makeup. The research can be replicated with various mediator variables. Finally, conducting the research in different cultures might be crucial to generalizing results.

Declarations

Ethics Approval and Consent to Participate

This study obtained ethical approval from the Ethics Committee of Girne American Univerity with application number 2023-2024/-HUM017, date: 01/02/2024. Ethical rules were followed during this study, and consent forms were obtained from participants.

Publication Permission

Not applicable.

Availability of Data and Materials

Not applicable.

Conflict of Interest

The authors declare that they have no conflict of interest.

Financing

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Author Contributions

EE contributed to the conceptualization, writing of the method, data collection, analysis, and interpretation of data, as well as literature review and revision of content.

References

Aldrich, S., Eccleston, C., & Crombez, G. (2000). Worrying about chronic pain: vigilance to threat and misdirected problem solving. *Behaviour research and therapy*, *38*(5), 457-470.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Bakhshaie, J., Kauffman, B. Y., Viana, A. G., Garza, M., Ochoa-Perez, M., Lemaire, C., & Zvolensky, M. J. (2017). Synergistic effects of pain intensity and experiential avoidance in relation to anxiety symptoms and disorders among economically disadvantaged latinos in a community-based primary care setting. *Journal of anxiety disorders*, *48*, 54-62.

Campbell, R., Greeson, M. R., Bybee, D., & Raja, S. (2008). The co-occurrence of childhood sexual abuse, adult sexual assault, intimate partner violence, and sexual harassment: A mediational model of posttraumatic stress disorder and physical health outcomes. *Journal of Consulting and Clinical Psychology*, *76*(2), 194–207. https://doi.org/10.1037/0022-006x.76.2.194

Campbell, L. C., Andrews, N., Scipio, C., Flores, B., Feliu, M. H., & Keefe, F. J. (2009). Pain coping in Latino populations. *The Journal of Pain*, *10*(10), 1012-1019.

Cohen, S., Kamarck, T., & Mermelstein, R. (1994). Perceived stress scale. *Measuring stress: A guide for health and social scientists*, *10*(2), 1-2.

Cohen, S., Janicki-Deverts, D., & Miller, G. E. (2007). Psychological stress and disease. *Jama*, *298*(14), 1685-1687.

Eriksen, H. R., & Ursin, H. H. (2004). Subjective health complaints, sensitization, and sustained cognitive activation (stress). *Journal of Psychosomatic Research*, *56*(4), 445-448. doi:10.1016/S0022-3999(03)00629-9

Farr, J., Ononaiye, M., & Irons, C. (2021). Early shaming experiences and psychological distress: The role of experiential avoidance and self-compassion. *Psychology and Psychotherapy: Theory, Research and Practice*, *94*(4), 952-972.

Fink, P., & Rosendal, M. (2008). Recent developments in the understanding and management of functional somatic symptoms in primary care. *Current Opinion in Psychiatry*, *21*(2),182–188. https://doi.org/10.1097/yco.0b013e3282f51254

Gámez, W., Chmielewski, M., Kotov, R., Ruggero, C., Suzuki, N., & Watson, D. (2014). The brief experiential avoidance questionnaire: development and initial validation. *Psychological assessment*, *26*(1), 35.

George, D., & Mallery, P. (2018). Descriptive statistics. In *IBM SPSS Statistics 25 Step by Step* (pp. 126-134). Routledge.

Gierk, B., Kohlmann, S., Kroenke, K., Spangenberg, L., Zenger, M., Brähler, E., & Löwe, B. (2014). The somatic symptom scale–8 (SSS-8): a brief measure of somatic symptom burden. *JAMA internal medicine*, *174*(3), 399-407.

Gilbert, P. (2005). Social Mentalities: A Biopsychosocial and Evolutionary Approach to Social Relationships.

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). Acceptance and commitment therapy: An experiential approach to behaviour change. New York, NY US: Guilford Press.

Hayes, A. F., & Aut, V. X. X. (2018). Introduction to Mediation, Moderation, and Conditional Process Analysis a Regression-Based Approach Andrew f. Hayes; Series Editor's Note by Todd d. Little.

Hjern, A., Alfven, G., & Östberg, V. (2008). School stressors, psychological complaints and psychosomatic pain. *Acta paediatrica*, *97*(1), 112-117.

Husain, K., Browne, T., & Chalder, T. (2007). A Review of Psychological Models and Interventions for Medically Unexplained Somatic Symptoms in Children. *Child and Adolescent Mental Health*, *12*(1), 2–7. https://doi.org/10.1111/j.1475-3588.2006.00419.x

Irons, C., Gilbert, P., Baldwin, M. W., Baccus, J. R., & Palmer, M. (2006). Parental recall, attachment relating and self-attacking/self-reassurance: Their relationship with depression. *British Journal of Clinical Psychology*, *45*(3), 297-308.

Jacobson, N. S., Martell, C. R., & Dimidjian, S. (2001). Behavioral activation treatment for depression: returning to contextual roots. *Clinical Psychology: science and practice*, *8*(3), 255.

Lazarus, R. S. & Folkman, S. (1984). Stress, appraisal, and coping. Springer: New York.

Leary, M. R., Tate, E. B., Adams, C. E., Batts Allen, A., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: the implications of treating oneself kindly. *Journal of personality and social psychology*, *92*(5), 887.

Lee, E. H. (2012). Review of the psychometric evidence of the perceived stress scale. *Asian nursing research*, *6*(4), 121-127.

Lipowski, Z. J. (1968). Review of Consultation Psychiatry and Psychosomatic Medicine. *Psychosomatic Medicine*, *30*(4), 395–422.
https://doi.org/10.1097/00006842-196807000-00005

MacBeth, A., & Gumley, A. (2012). Exploring compassion: A meta-analysis of the association between self-compassion and psychopathology. *Clinical psychology review*, *32*(6), 545-552.

Mayorga, N. A., Manning, K. F., Derrick, J. L., Viana, A. G., Garey, L., Nizio, P., ... & Zvolensky, M. J. (2022). Evaluating experiential avoidance in terms of COVID-19 fear and pandemic emotional distress symptoms among Latinx adults. *Cognitive therapy and research*, *46*(2), 358-366.

Miller, M. W., Fogler, J. M., Wolf, E. J., Kaloupek, D. G., & Keane, T. M. (2008). The internalizing and externalizing structure of psychiatric comorbidity in combat veterans. *Journal of Traumatic Stress*, *21*(1), 58–65. Portico. https://doi.org/10.1002/jts.20303

Ursin, H. (1997). Sensitization, somatization, and subjective health complaints. *International journal of behavioral medicine*, *4*, 105-116.