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The contribution of the components of self-compassion and self-judgment in depressive symptomatology and psychological health in patients with chronic physical disease

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ABSTRACT

The current study aimed at examining the potential role of self-compassion and self-judgment components on depressive symptomatology and psychological health in people with a diagnosis of chronic physical disease. The sample included 223 participants with a diagnosis of chronic physical disease, aged between 18 and 45 years, who completed an online survey. The tested model showed an excellent fit to the empirical data and path analysis results indicated that mindfulness, self-judgment, and isolation have a significant impact on depressive symptomatology (explaining 40% of its variance) and also on psychological health (explaining 45% of its variance). This study shed some light on the role of both self-compassion and self-judgment components, suggesting the importance of the promotion of mindfulness skills and the reduction of self-judgment and feelings of isolation in people with chronic physical disease. These findings seem to support the development of more effective interventions for the promotion of psychological health and reduction of depressive symptoms in people diagnosed with a chronic physical disease.

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Chronic physical disease; depressive symptomatology; psychological health; self-compassion; self-judgment

Introduction

The prevalence of chronic disease has globally considerably increased as a result of higher life expectancy, improved living conditions, and medical and technological advances (Busse et al., 2010; Helgeson & Zajdel, 2017). Due to its features (e.g., life-long treatments, chronic relapsing symptomatology, and its uncertainty and unpredictability; Goodheart & Lansing, 1997) chronic disease is usually associated with physical, social, and psychological functioning impairment (e.g., Forestier et al., 2019), illness-related shame (Kellett & Gilbert, 2001; Trindade et al., 2017) and stigma (O'Donnell & Habenicht, 2021).

People with chronic physical disease tend to present lower quality of life (e.g., Coutinho et al., 2019; Pinto-Gouveia et al., 2013), greater loneliness and social isolation (Christiansen et al., 2021) and are at higher risk of developing significant levels of anxiety and depression (e.g., Clarke & Currie, 2009; Lotfaliany et al., 2018; Pinto-Gouveia et al.,

2013). Furthermore, there is evidence that depression contributes to disease activity, promoting more aggressive symptomatology (e.g., in cancer, inflammatory bowel disease; Kochar et al., 2017), through its association with increased immune system activation (e.g., Reiche et al., 2005). In turn, increased disease symptomatology tends to further increase depression levels, leading to a self-perpetuating cycle (Duivis et al., 2011). Therefore, it is important to underline the beneficial effects of complementarity between medical treatment and psychological interventions on disease activity, mental and physical health, and QoL in people with physical chronic disease (e.g., Clarke & Currie, 2009).

A growing body of evidence has shown the benefits of cultivating self-compassion in the context of chronic physical disease, particularly in mental and physical health (e.g., MacBeth & Gumley, 2012; Sirois et al., 2015). Self-compassion is an emotion process that seems to play a protective role against stress-related inflammation (e.g., Breines et al., 2014) and psychological distress in several medical conditions (e.g., Gillanders et al., 2015; Trindade & Sirois, 2021). Also, self-compassion has been associated with positive outcomes in these samples, such as well-being and QoL (Hughes et al., 2021; Kirby et al., 2017; MacBeth & Gumley, 2012). The development of self-compassion thus seems to be an important therapeutic goal to consider when intervening in chronic patient populations (Sirois & Rowse, 2016).

According to Neff (2003b), self-compassion implies a kind and a non-judgmental understanding attitude when confronted with pain, personal failures, or in face of challenging life events (such as an illness), while taking a broad perspective. The model proposed by Neff (2003a), conceptualize self-compassion by the interaction of six components: self-kindness (being kind and understanding towards one's own suffering and failures, rather than being self-judgmental); common humanity (the recognition that suffering is part of the larger human experience, instead of having a sense of isolation), and mindfulness (which entails a balanced, non-judgmental and acceptance approach to the emotions and thoughts that arise from painful life experiences, putting one's own situation into a larger perspective; rather than over-identification). Based on this definition, Neff (2003a) developed the Self Compassion Scale (Neff, 2003a), which assesses self-compassion as a continuum of these six dimensions, from positive (self-kindness, common humanity, mindfulness) to negative (self-judgment, isolation, over-identification). Critics argue that the use of a total score of the scale as an overall indicator of self-compassion is not justified, supporting that this measure allows the assessment of two distinct processes: a positive one (self-compassion) and a negative one (self-judgment; Costa et al., 2015; López et al., 2015; Muris & Petrocchi, 2017).

This study aimed to explore the contribution of the components of self-compassion (self-kindness, common humanity, mindfulness) and of self-judgment (self-judgment, isolation, over-identification) to explain depressive symptoms and psychological health in people with chronic physical disease.

Materials and methods

Participants

The sample comprised 223 Portuguese participants (196 women and 27 men). The mean age was 38.53 ($SD = 11.82$), ranging from 18 to 65. The mean of completed years of

education was 13.97 ($SD = 2.88$). Concerning marital status, the majority of participants were married (51.1%). Description of sociodemographic variables and the chronic physical diseases self-reported by participants are presented in Table 1.

Measures

Self-Compassion Scale (SCS; Costa et al., 2015; Neff, 2003a) was designed to assess self-compassion through the combination of three positive (self-kindness, common humanity, mindfulness) and three negative components (self-judgment, isolation, over-identification). Portuguese validation study showed good internal consistency both for self-compassion ($\alpha = .91$) and self-judgment dimension ($\alpha = .89$). In our study, these self-compassion and self-judgment dimensions also presented good reliability ($\alpha = .89$ and $.92$, respectively).

World Health Organization Brief Quality-of-Life Assessment Scale (WHOQOL-BREF; Canavarró et al., 2007; The WHOQOL GROUP, 1998) is a 26-items instrument of subjective QoL that considers four specific domains: physical, psychological, social relationships, and environment health, with higher scores revealing a higher perceived QoL. WHOQOL-BREF presented good psychometric adequacy in the original (α between $.66$ and $.84$) and Portuguese validation (α between $.67$ and $.87$) studies. Considering the aim of this study, only the psychological health domain was used ($\alpha = .87$).

Table 1. Sociodemographic variables and chronic diseases reported by participants (N = 223).

Sociodemographic variables		
	<i>M</i>	<i>SD</i>
Age	38.53	11.82
Years of education	13.97	2.88
	<i>n</i>	<i>%</i>
Gender		
Male	27	12.10
Female	196	87.90
Marital Status		
Single	87	39.0
Married	114	51.10
Divorced	17	7.6
Widowed	3	1.3
Other	2	0.9
Chronic diseases (grouped by organ system)	<i>n</i>	<i>%</i>
Neoplasms	3	1.34
Cardiovascular diseases	13	5.83
Respiratory diseases	32	14.35
Kidney diseases	18	8.07
Gastrointestinal diseases	14	6.28
Liver diseases	3	1.34
Neurological diseases	2	0.90
Blood and Endocrine diseases	27	12.11
Gynaecological diseases	23	10.31
Rheumatic and musculoskeletal diseases	157	70.40
Neuromuscular diseases	2	0.90
Skin diseases	12	5.38
Sense organ diseases	1	0.45

Depression, Anxiety and Stress Scale-21 (DASS-21; Lovibond & Lovibond, 1995; Pais-Ribeiro et al., 2004) measures symptoms of depression, anxiety, and stress, through 21-items rated on a 4-point Likert scale (0 = 'did not apply to me at all'; 3 = 'applied to me very much/most of the time'). In this study, only the depression subscale was used ($\alpha = .92$). DASS-21 presented excellent internal consistency, in the original ($\alpha = .91$) and its Portuguese version ($\alpha = .85$).

Procedures

This research was conducted in conformity with all the ethical and deontological requirements inherent to scientific research. Thirty-two Portuguese chronic patients' associations were contacted via email and were asked to advertise the study through its mailing lists and social networks. The invitation included a text with information regarding the aims of the study, voluntary nature of participation and confidentiality of data, and a link to the online survey. Of the contacted associations, seven agreed to collaborate in sample recruitment.

The initial sample was composed of 239 participants. However, considering the aims of the study, 16 participants were excluded: 14 older than 65, 1 did not mention a disease, and 1 with a psychiatric disease.

Data analyses

Descriptive and correlational analyses were conducted using the software IBM SPSS 22.0 (SPSS IBM; Chicago, IL), to explore the associations between the components of self-compassion and self-judgment, depression, and psychological health (Cohen et al., 2003).

A path analysis was performed, using the software AMOS (v. 23.0), to explore the contribution of self-compassion and self-judgment components in depression and psychological health. This form of structural equation modelling allows the examination of structural relationships and simultaneously analyses direct and indirect paths (Schumacker & Lomax, 2004). To estimate all model path coefficients, the Maximum Likelihood method was used, and effects with $p < .050$ were considered statistically significant. The following goodness-of-fit indices were used to analyse the adjustment of the model to empirical data: Chi-square (χ^2), revealing a good fit when the value is not significant (Hair, 2010); Normed chi-square (CMIN/df), with values < 5 indicating a good global adjustment of the model; the Comparative Fit Index (CFI) and the Tucker Lewis Index (TLI), with values greater than .95 suggesting a very good fit; and Root-Mean Square Error of Approximation (RMSEA), with values $< .05$ showing a good fit to empirical data (Kline, 2005). The bootstrap procedure (with 5000 samples) was used to create a corrected CI of 95% (bias-corrected CI's) around the standardized estimates of total, direct and indirect effects. In this analysis, when the confidence interval does not include zero, the effects are considered statistically significant ($p < .05$; Kline, 2005).

Results

Descriptive and correlation analyses

Descriptive and correlation analyses referring to the study's variables are presented in Table 2. Results showed that self-kindness and mindfulness were negatively and moderately associated with depression. Common humanity presented a significant (albeit weak) negative association with depression. Self-judgment, isolation, and over-identification showed positive strong correlations with depression. Regarding psychological health, the components of self-compassion showed positive moderate associations with this outcome. In contrast, the components of self-judgment showed negative strong correlations with psychological health. Self-kindness presented positive strong associations with both common humanity and mindfulness, and negative moderate correlations with the three components of self-judgment (the same pattern of correlation was observed in mindfulness). While common humanity was positively and strongly correlated with mindfulness, negative weak associations were found between common humanity and the components of self-judgment. In turn, the components of self-judgment correlate positively and strongly with each other. Finally, depression was negatively and strongly associated with psychological health.

Path analysis

The initial model aimed at exploring whether self-compassion and self-judgment's components would contribute in explaining depression and psychological health. The model was first analysed through a fully saturated model (i.e., zero degrees of freedom), which comprised 44 parameters. However, analyses indicated that 6 paths were not significant: the direct effect of self-kindness ($b_{\text{self-kindness}} = .28$; $SE_b = .55$; $Z = .50$; $p = .616$); common humanity on depression ($b_{\text{common humanity}} = -.44$; $SE_b = .45$; $Z = -.97$; $p = .333$); and over-identification ($b_{\text{over-identification}} = .38$; $SE_b = .64$; $Z = .60$; $p = .548$) on depression; the direct effect of common humanity on psychological health ($b_{\text{common humanity}} = 1.13$; $SE_b = 1.86$; $Z = .61$; $p = .543$); and also the direct effect of over-identification ($b_{\text{over-identification}} = 2.41$; $SE_b = 1.79$; $Z = 1.34$; $p = .179$); and self-kindness ($b_{\text{self-kindness}} = 2.89$; $SE_b = 1.51$; $Z = 1.91$; $p = .056$) on psychological health. These paths were eliminated, and the model was readjusted.

Table 2. Means (M), Standard Deviations (SD) and correlations between study variables (N = 223).

	M (SD)	1.	2.	3.	4.	5.	6.	7.
1. Self-kindness	3.04 (.79)	-	-	-	-	-	-	-
2. Common humanity	3.31 (.75)	.59***	-	-	-	-	-	-
3. Mindfulness	3.27 (.76)	.66***	.66***	-	-	-	-	-
4. Self-judgment	2.82 (.85)	-.40***	-.22***	-.34***	-	-	-	-
5. Isolation	2.86 (.90)	-.34***	-.22***	-.36***	.75***	-	-	-
6. Over-identification	2.89 (.85)	-.39***	-.22***	-.40***	.79***	.75***	-	-
7. Depression	6.03 (5.79)	-.32***	-.28***	-.36***	-.58***	.57***	.54***	-
8. Psychological health	61.86 (20.42)	.43***	-.33***	.45***	.58***	-.59***	-.52***	-.73***

Note. *** $p < .001$

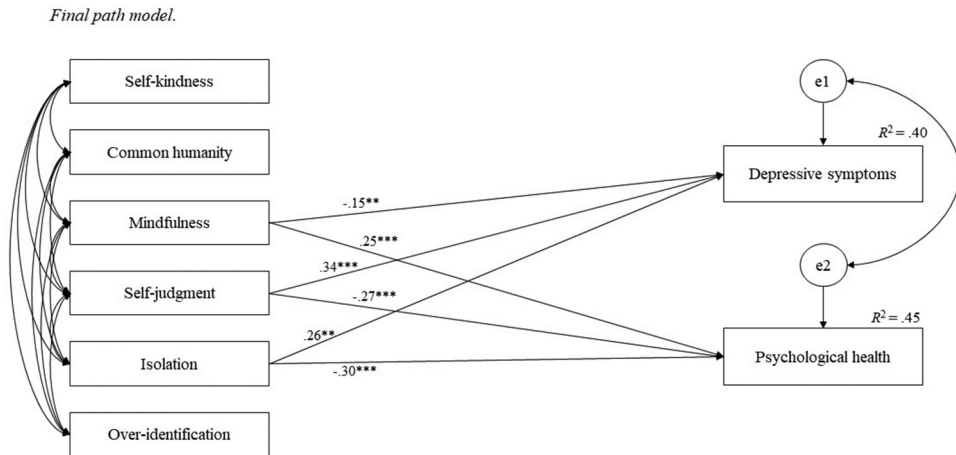


Figure 1. Final path model. Note: Self-compassion (self-kindness, common humanity, mindfulness) and self-judgment components (self-judgment, isolation, over-identification) were assessed by the SCS. Depressive symptoms and psychological health were assessed by DASS-21 and WHOQOL-BREF scales, respectively (N = 223). ** $p < 0.01$; *** $p < 0.001$.

The final model (Figure 1) presented excellent model fit indices [$\chi^2_{(6)} = 7.35$; CMIN/df = 1.23, $p = .290$; TLI = .99; CFI = 1.0; RMSEA = .03, 95% CI = .00 to .10, $p = .598$] and explained 40% of depression and 45% of psychological health variance.

The analysis of direct effects showed that all path coefficients were statistically significant ($p < .05$). Specifically, self-judgment had a direct effect of .34 on depression ($b_{\text{self-judgment}} = 2.32$; $SE_b = .54$; $Z = 4.30$; $p < .001$) and of $-.27$ on psychological health ($b_{\text{self-judgment}} = -6.47$; $SE_b = 1.83$; $Z = -3.54$; $p < .001$); mindfulness had a direct effect of $-.15$ on depression ($b_{\text{mindfulness}} = -1.15$; $SE_b = .43$; $Z = -2.71$; $p = .007$) and of .25 on psychological health ($b_{\text{mindfulness}} = 6.72$; $SE_b = 1.44$; $Z = 4.66$; $p < .001$); isolation had a direct effect of .26 on depression ($b_{\text{isolation}} = 1.63$; $SE_b = .52$; $Z = 3.17$; $p = .002$) and of $-.30$ on psychological health ($b_{\text{isolation}} = -6.74$; $SE_b = 1.74$; $Z = -3.88$; $p < .001$).

Overall, the model revealed that of the components of self-compassion, only mindfulness significantly accounted for depressive symptoms and psychological health. Of the components of self-judgment, both self-judgment and isolation both significantly contributed to the explanation of depressive symptoms and psychological health.

Discussion

This study intended to add evidence to literature about the differential contribution of the components of self-compassion (self-kindness, common humanity, mindfulness) and self-judgment (self-judgment, isolation, over-identification) to explain depressive symptoms and psychological health in a sample of people with chronic physical disease.

Correlation results corroborate prior studies by showing that self-judgment and self-compassion were, respectively, positively and negatively linked to psychopathological symptoms, such as depression (e.g., Hughes et al., 2021; MacBeth & Gumley, 2012; Muris & Petrocchi, 2017). Common humanity showed a weak association with depression. This result is in line with the data of the meta-analysis conducted by Muris and Petrocchi

(2017), which state that this component seems to play a less relevant role in the explanation of psychopathology. Regarding psychological health, our results are also in accordance with literature (e.g., Pinto-Gouveia et al., 2013).

Path analysis' results seem to suggest that, among all components of self-compassion, it is only mindfulness which has a significant negative effect on depressive symptoms. In turn, the dimensions of self-judgment and isolation were positively linked to depressive symptoms. Finally, mindfulness has a positive role on explaining psychological health, and self-judgment and, isolation represented a negative effect on this outcome. These results demonstrate that taking a mindful and balanced stance of personal suffering and difficult emotional experiences seem to relate to decreased depressive symptoms and increased psychological health, as has been highlighted in literature (e.g., Keng et al., 2011). Also, Pinto-Gouveia et al. (2013) found that self-compassion (against self-judgment) may have a protective role in patients with chronic health conditions, increasing their perception of a better QoL (including psychological health). Nevertheless, being harshly judgmental to oneself in times of suffering, allied to feelings of separateness and isolation, seem to enhance depression, and, thus, can lead to decreased psychological health. Indeed, self-judgment and feelings of isolation have been shown to be highly linked with depression (e.g., Bolwby, 1980).

Limitations should be noted when interpreting these results. Firstly, the cross-sectional design prevents us from establishing causal relations between variables. Future studies should consider replication of this study with an experimental or longitudinal design. Another important limitation is related to the sample's recruitment process. Data was collected through an online survey, composed of self-report measures that may have compromised the representativeness of the sample, and thus limited the generalizations of these findings. Therefore, future studies should use other recruitment (e.g., in hospitals) and assessment (e.g., interviews) methodologies. Additionally, the sample size and the unequal proportion of female and male participants constitute another limitation. Thus, the results should be replicated in larger and more homogeneous samples in terms of gender. No less important is the fact that this study did not include a comparison of results with a non-clinical sample, which does not allow robust evidence of results. Finally, given the high heterogeneity regarding diagnoses, it seems important for future studies to explore these results in homogeneous samples, considering the specificities of some diseases.

Although based on cross-sectional data, our findings yield some important clinical implications, suggesting the importance of developing a mindful stance towards personal difficulties (e.g., illness-related ones) and painful experiences, through the promotion of mindfulness, and particularly highlighting the importance of reducing self-judgment and feelings of isolation in patients suffering from chronic physical disease. In recent years, literature has highlighted the growing evidence of the effectiveness of mindfulness-based interventions, especially in the context of chronic physical illness, namely in managing depressive symptoms and promoting QoL and psychological health (e.g., Bohlmeijer et al., 2010; Mansor et al., 2022). Thus, the current findings seem to provide particularly relevant data for psychological interventions developed for chronic patients as it adds a new layer of understanding of the role of both self-compassion and self-judgment components in explaining depressive symptoms and psychological health in the context of chronic physical disease.

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Availability of data

Due to the nature of this research, participants of this study did not agree for their data to be shared publicly, so supporting data is not available.

References

- Bohlmeijer, E., Prenger, R., Taal, E., & Cuijpers, P. (2010). The effects of mindfulness-based stress reduction therapy on mental health of adults with a chronic medical disease: A meta-analysis. *Journal of Psychosomatic Research*, 68(6), 539–544. <https://doi.org/10.1016/j.jpsychores.2009.10.005>
- Bowlby, J. (1980). *Attachment and loss: Vol. 3: Loss, separation, and depression*. Basic Books.
- Breines, J. G., Thoma, M. V., Gianferante, D., Hanlin, L., Chen, X., & Rohleder, N. (2014). Self-compassion as a predictor of interleukin-6 response to acute psychosocial stress. *Brain, Behavior, and Immunity*, 37, 109–114. <https://doi.org/10.1016/j.bbi.2013.11.006>
- Busse, R., Blümel, M., Scheller-Kreinsen, D., & Zentner, A. (2010). Tackling chronic disease in Europe: Strategies, interventions and challenges. *Observatory Studies*, 20. <https://doi.org/10.1558/poth.v0i4.65>
- Canavarro, M. C., Simões, M. R., Vaz Serra, A., Pereira, M., Rijo, D., Quartilho, M., . . . Carona, C. (2007). WHOQOL-Bref Instrumento de Avaliação da Qualidade de Vida da Organização Mundial de Saúde. In M. R. Simões, M. M. Gonçalves, & L. S. Almeida (Eds.), *Avaliação Psicológica: 46 Instrumentos válidos para a população portuguesa* (Vol. III, pp. 77–100). Quarteto.
- Christiansen, J., Lund, R., Qualter, P., Andersen, C. M., Pedersen, S. S., & Lasgaard, M. (2021). Loneliness, social isolation, and chronic disease outcomes. *Annals of Behavioral Medicine*, 55(3), 203–215. <https://doi.org/10.1093/abm/kaaa044>
- Clarke, D. M., & Currie, K. C. (2009). Depression, anxiety and their relationship with chronic diseases: A review of the epidemiology, risk and treatment evidence. *The Medical Journal of Australia*, 190(7Suppl), S54–S60. <https://doi.org/10.5694/j.1326-5377.2009.tb02471.x>

- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Erlbaum.
- Costa, J., Marôco, J., Pinto-Gouveia, J., Ferreira, C., & Castilho, P. (2015). Validation of the psychometric properties of the self-compassion scale. Testing the factorial validity and factorial invariance of the measure among borderline personality disorder, anxiety disorder, eating disorder and general populations. *Clinical Psychology & Psychotherapy*, 23(5), 460–468. <https://doi.org/10.1002/cpp.1974>
- Coutinho, M., Trindade, I. A., & Ferreira, C. (2019). Experiential avoidance, committed action, and quality of life: Differences between college students with and without chronic illness. *Journal of Health Psychology*, 1359105319860167. <https://doi.org/10.1177/1359105319860167>
- Duivis, H. E., de Jonge, P., Penninx, B. W., Na, B. Y., Cohen, B. E., & Whooley, M. (2011). Depressive symptoms, health behaviors, and subsequent inflammation in patients with coronary heart disease: Prospective findings from the heart and soul study. *The American Journal of Psychiatry*, 168(9), 913–920. <https://doi.org/10.1176/appi.ajp.2011.10081163>
- Forestier, B., Anthoine, E., Reguiat, Z., Fohrer, C., & Blanchin, M. (2019). A systematic review of dimensions evaluating patient experience in chronic illness. *Health and Quality of Life Outcomes*, 17(19), 1–13. <https://doi.org/10.1186/s12955-019-1084-2>
- Gillanders, D. T., Sinclair, A. K., MacLean, M., & Jardine, K. (2015). Illness cognitions, cognitive fusion, avoidance and self-compassion as predictors of distress and quality of life in a heterogeneous sample of adults, after cancer. *Journal of Contextual Behavioral Science*, 4(4), 300–311. <https://doi.org/10.1016/j.jcbs.2015.07.003>
- Goodheart, C., & Lansing, M. (1997). *Treating people with chronic disease: A psychological guide*. American Psychological Association.
- Hair, J. et al. (2010). *Multivariate data analysis* (7 ed.). Prentice Hall.
- Helgeson, V. S., & Zajdel, M. (2017). Adjusting to chronic health conditions. *Annual Review of Psychology*, 68(1), 545–571. <https://doi.org/10.1146/annurev-psych-010416-044014>
- Hughes, M., Brown, S. L., Campbell, S., Dandy, S., & Cherry, M. G. (2021). Self-compassion and anxiety and depression in chronic physical illness populations: A systematic review. *Mindfulness*, 12(7), 1597–1610. <https://doi.org/10.1007/s12671-021-01602-y>
- Kellett, S., & Gilbert, P. (2001). Acne: A Biopsychosocial and evolutionary perspective with a focus on shame. *British Journal of Health Psychology*, 6(1), 1–24. <https://doi.org/10.1348/135910701169025>
- Keng, S. L., Smoski, M. J., & Robins, C. J. (2011). Effects of mindfulness on psychological health: A review of empirical studies. *Clinical Psychology Review*, 31(6), 1041–1056. <https://doi.org/10.1016/j.cpr.2011.04.006>
- Kirby, J. N., Tellegen, C. L., & Steindl, S. R. (2017). A meta-analysis of compassion-based interventions: Current state of knowledge and future directions. *Behavior Therapy*, 48(6), 778–792. <https://doi.org/10.1016/j.beth.2017.06.003>
- Kline, R. B. (2005). *Principles and practice of structural equation modelling* (3rd ed.). Guilford Press.
- Kochar, B., Barnes, E. L., Long, M. D., Cushing, K. C., Galanko, J., Martin, C. F., and Sandler, R. S. (2017). Depression is associated with more aggressive inflammatory bowel disease. *The American Journal of Gastroenterology*, 113(1), 80–85. <https://doi.org/10.1038/ajg.2017.423>
- López, A., Sanderman, R., Smink, A., Zhang, Y., van Sonderen, E., Ranchor, A., & Schroevers, M. J. (2015). A reconsideration of the Self-Compassion Scale's total score: Self-compassion versus self-criticism. *PloS One*, 10(7), e0132940. <https://doi.org/10.1371/journal.pone.0132940>
- Lotfaliany, M., Bowe, S. J., Kowal, P., Orellana, L., Berck, M., & Mohebbi, M. (2018). Depression and chronic diseases: Co-occurrence and communality of risk factors. *Journal of Affective Disorders*, 241, 461–468. <https://doi.org/10.1016/j.jad.2018.08.011>
- 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](https://doi.org/10.1016/0005-7967(94)00075-u)

- 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. <https://doi.org/10.1016/j.cpr.2012.06.003>
- Mansor, M., Chong, M. C., Chui, P. L., Hamdan, M., & Lim, C. C. (2022). Effect of mindfulness intervention on anxiety, distress, and depression for chronic diseases: A scoping review. *Psychology, Health & Medicine, 1*–13. <https://doi.org/10.1080/13548506.2022.2124288>
- Muris, P., & Petrocchi, N. (2017). Protection or vulnerability? A meta-analysis of the relations between the positive and negative components of self-compassion and psychopathology. *Clinical Psychology & Psychotherapy, 24*(2), 373–383. <https://doi.org/10.1002/cpp.2005>
- Neff, K. D. (2003a). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity, 2*(2), 85–101. <https://doi.org/10.1080/15298860309032>
- Neff, K. D. (2003b). The development and validation of a scale to measure self-compassion. *Self and Identity, 2*(3), 223–250. <https://doi.org/10.1080/15298860309027>
- O'Donnell, A. T., & Habenicht, A. E. (2021). Stigma is associated with illness self-concept in individuals with concealable chronic illnesses. *British Journal of Health Psychology, 27*(1), 136–158. <https://doi.org/10.1111/bjhp.12534>
- Pais-Ribeiro, J. L., Honrado, A., & Leal, I. (2004). Contribuição para o estudo da adaptação portuguesa das Escalas de Ansiedade, Depressão e Stress (EADS) de 21 itens de Lovibond e Lovibond. *Psicologia, Saúde & Doenças, 5*(2), 229–239. <http://scielo.mec.pt/pdf/psd/v5n2/v5n2a07.pdf>
- Pinto-Gouveia, J., Duarte, C., Matos, M., & Fráguas, S. (2013). The protective role of self-compassion in relation to psychopathology symptoms and quality of life in chronic and in cancer patients. *Clinical Psychology & Psychotherapy, 21*(4), 311–323. <https://doi.org/10.1002/cpp.1838>
- Reiche, E., Morimoto, H., & Nunes, S. (2005). Stress and depression-induced immune dysfunction: Implications for the development and progression of cancer. *International Review of Psychiatry, 17*(6), 515–527. <https://doi.org/10.1080/02646830500382102>
- Schumacker, R., & Lomax, R. (2004). *A beginner's guide to structural equation modeling* (2nd ed.). Erlbaum.
- Sirois, F. M., Kitner, R., & Hirsch, J. K. (2015). Self-compassion, affect, and health-promoting behaviors. *Health Psychology, 34*(6), 661–669. <https://doi.org/10.1037/hea0000158>
- Sirois, F. M., & Rowse, G. (2016). The role of self-compassion in chronic illness care. *Journal of Clinical Outcomes Management, 23*(11), 521–527. <https://self-compassion.org/wpcontent/uploads/2018/05/Sirois2016.pdf>
- The WHOQOL GROUP. (1998). Development of the World Health Organization WHOQOL-BREF quality of life assessment. *Psychological Medicine, 28* (3), 551–558. <https://doi.org/10.1017/S0033291798006667>
- Trindade, I. A., Ferreira, C., & Pinto-Gouveia, J. (2017). Chronic illness-related shame: Development of a new scale and novel approach for IBD patients' depressive symptomatology. *Clinical Psychology & Psychotherapy, 24*(1), 255–263. <https://doi.org/10.1002/cpp.2035>
- Trindade, I. A., & Sirois, F. M. (2021). The prospective effects of self-compassion on depressive symptoms, anxiety, and stress: A study in inflammatory bowel disease. *Journal of Psychosomatic Research, 146*, 110429. <https://doi.org/10.1016/j.jpsychores.2021.110429>