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The Mediating Role of Negative Mood States and Body Responsiveness in the Associations of Mindfulness and Self-Compassion with Life Satisfaction

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The goal of this study was to test the mediating role of body responsiveness (body awareness and body disconnection) and negative mood states (depression, anxiety, and stress) in the relationship of self-compassion and trait mindfulness to life satisfaction. A total of 792 participants (669 females, 123 males) participated in the study. The results yielded that mindfulness and self-compassion have significantly negative relationships with negative mood states and perceived disconnection, while they have a significantly positive relationship with the importance of interoceptive awareness. Self-compassion and importance of interoceptive awareness were found to be significantly and positively related to life satisfaction, while negative mood states had a significantly negative relationship with life satisfaction. The re-arranged model accounted for a 26% variance in life satisfaction scores of participants. These findings imply that cultivation of mindfulness and self-compassion may enhance body responsiveness and diminish the negative mood states that in turn promote life satisfaction.

Key words: life satisfaction, body responsiveness, negative mood states, mindfulness, self-compassion

Introduction

Life satisfaction refers to the comparison of one's perceived living conditions with the criteria determined by the person (Diener et al., 1985). Therefore, it is considered as a cognitive component of subjective well-being and evaluation of one's whole life (Dorahy et al., 2000). Many factors may play a role in the assessment of one's life in terms of the perceived quality and satisfaction (Diener et al., 1985). We assume that mindful awareness and self-compassion may predict this satisfaction through their connections with certain psychological processes. Regarding the related literature, body responsiveness (body awareness and body disconnection) and neg-

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ative mood states (depression, anxiety and stress) are hypothesized as those psychological processes mediating the relationships of trait mindfulness and self-compassion to life satisfaction in the current study.

Body Responsiveness and Life Satisfaction

Recently, embodiment has been a topic of great interest in the field of psychology since it adds an organismic component into the social nature of human relationships (Salvatore et al., 2015). Thus, body awareness is a crucial concept for the embodiment and psychotherapeutic research, and it consists of proprioceptive and interoceptive awareness (Mehling et al., 2009). The former is defined as an internal sense of the body in space, movement, muscles, and joint tensions (Laskowski et al., 2000), while the latter refers to conscious awareness of internal bodily signals received from visceral organs or autonomic nervous system such as heartbeat, respirations, and their related emotions (Barrett et al., 2004; Buldeo, 2015). A more comprehensive term related to body awareness is body responsiveness. It is not just recognizing bodily sensations but guiding behavior by integrating these automatic bodily sensations into conscious awareness (Daubenmier, 2005; Daubenmier et al., 2013), which prevents one from suppressive acts and impulsive reactions (body disconnection). Consequently, all these require self-regulation.

Self-regulation is the autonomous control of one's feelings, thoughts, and behaviors in accordance with the demands of the current environment via the use of one's inner potential and personal resources (Deci & Ryan, 2008). Given the role of body responsiveness in the self-regulation process, body responsiveness might be of support for the development of positive mental health. Being aware of one's feelings and inner body sensations may in turn promote self-confidence and reappraisal of the experienced events which will lead to positive emotions and higher life satisfaction (Impett et al., 2006;). Similarly, previous studies revealed that body awareness is significantly correlated with life satisfaction (Mehling et al., 2009; Tihanyi et al., 2017). Thus, we also predict that body awareness will be directly connected to life satisfaction.

In contrast to body awareness, body disconnection is related to defensive mechanisms of trauma experiences (Maltz, 2012; Van der Kolk, 2014). As trauma experiences include disconnection in addition to irrational and automatized regulation strategies (Schore, 2009), individuals who disconnect from their bodily sensations might have difficulty while assessing their lives. However, there are no studies conducted to examine the relationship between body disconnection and life satisfaction. Regarding these premises, we assume that body disconnection will have a direct relationship to life satisfaction in the current study.

Negative Mood States (depression, anxiety, and stress) and Life Satisfaction

According to Lovibond and Lovibond (1995), depression, anxiety, and stress form the main structure of negative emotional states. These authors higlight that depression can be described as the reduction in self-esteem and determination and this state is related to a decrease in the perception of reaching the life goals valuable for the individual. Depression represents an unfavorable emotional state which is more extensive than sadness. Within the same theoretical framework, anxiety, another negative emotional state, is characterized as a situational anxiety with an emphasis on fear-associated subjective and somatic symptoms. Lastly, the stress component of the negative emotional states calls to a state

of constant arousal and tightness along with a weak tolerance for being unhappy and disappointed. The presence of these three states namely depression, anxiety, and stress, ensures a complete analysis of the negative emotional states.

Life satisfaction is a process of cognitive judgment in that people evaluate their life quality in terms of certain criteria. In this evaluation period, individuals weigh the personal life priorities, evaluate their life as a whole, decide on the good and bad parts and finally call it less or more satisfactory. Not surprisingly, this assessment process of one's satisfaction with his/her life is connected with certain components of the mental health in general (Diener et al., 1985). Supportively, there are studies indicating that depression, anxiety and stress have negative connections to life satisfaction meaning that less depressive, anxious, and stressful individuals perceive their life to be of better quality and more satisfactory than others and vice versa (Bukhari & Saba, 2017; Ghazwin et al., 2016; Kumar et al., 2016). Thus, we predict that negative mood states (depression, anxiety and stress) will be directly related to life satisfaction.

Body Responsiveness and Negative Mood States (depression, anxiety, and stress) as Mediators in the Relationship between Mindfulness and Life Satisfaction

Mindfulness is conceptualized as an ongoing process of monitoring the inner experiences of the present moment, focusing on what is happening here and now, recognizing the nature of one's awareness, and responding to the environment in a non-judgmental way. Moreover, it contains self-regulation of attention with an attitude of curiosity, openness, and acceptance (Davidson et al., 2003). Studies show a positive association between mindfulness and life satisfaction (Stolarski et al., 2015; Wang & Kong, 2020). However, few of them indicated any underlying factors mediating or moderating this relationship between mindfulness and life satisfaction (Wang & Kong, 2020).

People with a higher level of mindfulness show fewer symptoms of anxiety (Bögels, 2006; Mogg & Bradley, 2005), depression (Broderick, 2005), and stress (Grossman et al., 2004). This may be explained by metacognitive insight and self-regulation (Baer, 2003). Especially for depression, people with a higher level of mindfulness know better how to guide their attention in the face of negative automatic thoughts and accept their emotions non-judgmentally (Baer, 2003). In the case of anxiety, people with better mindfulness skills can observe and differentiate between threatening and non-threatening situations which lead to a decrease in physiological symptoms of anxiety (Mogg & Bradley, 2005). In terms of stress, focusing on the inner sensations, observing, and accepting them without any judgment can enhance individuals' regulation capacities (Kabat-Zinn, 2003). Thus, mindfulness skills can enhance the life satisfaction of individuals by providing them with the mechanisms to reduce their stress, anxiety, and depression. Based on these, we propose that mindfulness will have an indirect relationship with life satisfaction through negative mood states (depression, anxiety, and stress).

Furthermore, mindfulness promotes body awareness (Tihanyi et al., 2017) since it contains observation of inner body sensations repetitively and continuously (Davidson et al., 2003). In this regard, mindfulness and body awareness are remarkably relevant concepts (Mehling et al., 2009). Supporting this argument, many studies (Tihanyi et al., 2017; Mehling et al., 2009; Zgierska et al., 2009) emphasize the relationship between mindfulness and body awareness. Specifically, mindfulness

practices enhance individuals' connection to the body, self, and the environment. Accordingly, this interconnectedness may provide life satisfaction to individuals (Vidal, 2020). In contrast to body awareness, mindfulness is negatively related to body disconnection (Escudero-Perez et al., 2015; Zerubavel & Messman-Moore, 2015). Similarly, some mindfulness programs (Neziroglu & Donnelly, 2013; Sharma et al., 2016) that reduce the body disconnection levels also support the negative relationship between mindfulness and body disconnection. Regarding this theoretical background, we predict that mindfulness will have an indirect relationship to life satisfaction through body awareness and also body disconnection.

Body Responsiveness and Negative Mood States (depression, anxiety, and stress) as Mediators in the Relationship between Self-Compassion and Life Satisfaction

Life satisfaction is associated with psychological health and happiness. In a broader sense, individuals who are satisfied with their life enjoy daily activities better, see themselves as valuable, and generally appraise their life with an optimistic attitude (Özer & Karabulut, 2003). In this regard, life satisfaction probably seems to have positive connections with self-compassion. Self-compassion includes attitudes of kindness and understanding toward the self (self-kindness), evaluation of one's negative experiences as a shared feature of all human beings (common humanity), and accompanying the positive and negative feelings in life with consciousness (mindfulness) (Neff, 2003). Gilbert (2005) states that self-compassion provides individuals with emotional stability during their life experiences. In line with this argument, many studies indicate a positive correlation between self-compassion and life satisfaction (Neff et al., 2008; Yang, 2016). On the other hand, only a few studies indicate the underlying mechanisms mediating the connections between self-compassion and life satisfaction (Arimitsu & Hofmann, 2015; Yang & Mak, 2016).

Given that self-compassion includes mindfulness as a component, it may be associated with body awareness and responsiveness. Several studies (Tihanyi et al., 2017; Mehling et al., 2009; Zgierska et al., 2009) revealed supportive findings regarding the relationship between mindfulness and body awareness. Put it differently, people who are aware of their bodily sensations might find it easier to approach their life experiences with an accepting attitude. Nevertheless, only a limited number of studies indicate that body awareness is related to self-compassion (Pintano, 2019). Body disconnection, on the contrary, may be negatively correlated with self-compassion, since self-compassion reduces an individual's involvement in suppression and increases the connection with the self (Neff et al., 2007). Individuals with higher self-compassion show greater enthusiasm in experiencing painful emotions and thoughts, and do not avoid or suppress any painful experience (Neff et al., 2007, Thompson & Waltz, 2008). This might be due to the awareness that threatening situations are a natural part of every human being and all of us have sufficient emotional and bodily resources to deal with them. Considering these connections, we propose that self-compassion will have an indirect relationship to life satisfaction through body awareness and also body disconnection.

In addition, self-compassion protects individuals from developing mental health problems. In other words, people with higher self-compassion show lower levels of stress, anxiety, and depression (Arimitsu & Hofmann, 2015; Neff et al., 2007), while showing enhanced mental health and life satisfaction (Neff et al., 2007). In this regard, self-com-

passion may be accepted as a crucial psychological construct against the effects of mental health problems. Thus, we lastly predict that self-compassion will be indirectly related to life satisfaction through negative mood states (depression, anxiety, and stress).

All in all, studies that examine the specific roles of body awareness, body disconnection, and negative mood in self-compassion, mindfulness, and life satisfaction are unfortunately lacking in the related literature. Thus, the aim of the current study was to test the mediating role of body awareness, body disconnection, and negative mood states (depression, anxiety, and stress) in the relationship between self-compassion, mindfulness, and life satisfaction as depicted in Figure 1.

The major hypotheses of the study were formulated in the following order:

Hypothesis 1 Mindfulness will have a relationship with life satisfaction through;

a) negative mood states (Path 1 and Path 7).
b) body awareness (Path 2 and Path 8).
c) body disconnection (Path 3 and Path 9).

Hypothesis 2 Self-compassion will have a relationship with life satisfaction through;

a) negative mood states (Path 4 and Path 7).
b) body awareness (Path 5 and Path 8).
c) body disconnection (Path 6 and Path 9).

Method

Participants

The population of this study was individuals aged between 18-65 years. A snowball sampling was conducted to select the sample among these age groups. The link of an online form package was delivered to volunteer social work department students of Istanbul Medeniyet University and they were encouraged to forward the links to their relatives. After eliminating the unacceptable age groups, the final sample of the study comprised 792 participants (669 females, 123 males) aged from 18 to 65 ($\bar{x}$ = 23.22, *SD* = 7.71). The frequencies of the highest educational degree that the participants attained were; literate (*N* = 11, 1.4%), elementary school (*N* = 19, 2.4%), secondary school (*N* = 24, 3%), high school (*N* = 404, 51%), university (*N* = 312, 39.4%), and graduate school (*N* = 22, 2.8%).

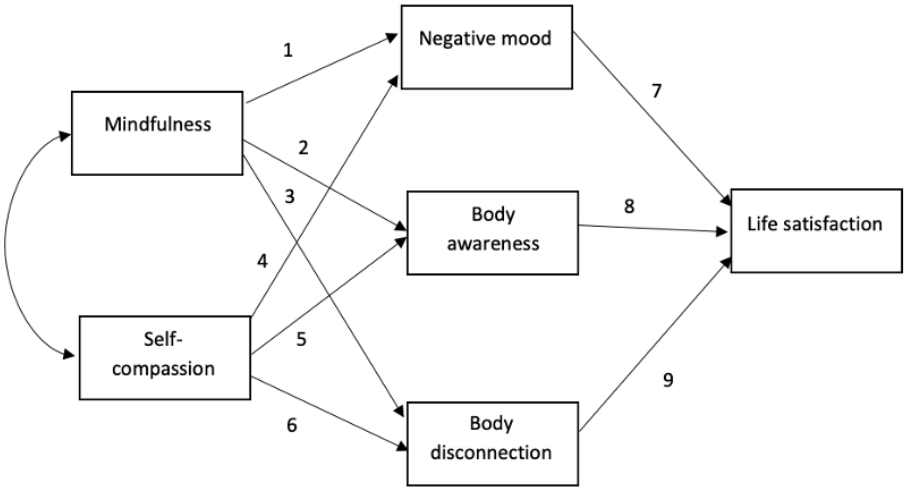

Figure 1 The proposed model of the study.

Measures

Body Responsiveness Questionnaire (BRQ; Daubenmier, 2005) is a 7-item scale measuring the ability to combine body senses toward consciousness in order to orient decision making and not keep down or respond impulsively. The results of the factor analysis yielded two factors named the *Importance of Interoceptive Awareness* subscale and *Perceived Disconnection* subscale. The I-subscale (four items) assesses the significance of utilizing interoceptive knowledge to arrange behavior and self-awareness and the PD-subscale (three items) assesses the degree of perceived disconnection between body and psychological states covering suppression and impulsive responding. In order to calculate a total score, the items of the PD-subscale are reverse coded and the mean for the seven items is calculated. Higher scores indicate higher capacity to accommodate body senses into consciousness. The Cronbach's α measure was .83 for the whole scale. The psychometric properties of the Turkish version of BRQ were explored under the scope of this study. Results of a confirmatory factor analysis showed that all of the goodness of fit indices support the two-factor structure for the BRQ (χ^2 /df = 3.18, $p < .001$; GFI = .99; CFI = .99; TLI = .98; RMSEA = .05). In addition, the Cronbach alpha values were .84 for the Importance of Interoceptive Awareness subscale and .70 for the Perceived Disconnection subscale. These results also point to satisfactory internal consistency levels for the subscales of the BRQ.

The Satisfaction with Life Scale (SWLS; Diener et al., 1985) is a 5-item single factor measure of life satisfaction. The respondents answer the items using a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Higher scores mean higher levels of one's general satisfaction with life. The Turkish adaptation of SWLS also showed a satisfactory internal consistency level (.88) along with a considerable test-retest value (.97). In addition, the adaptation study of SWLS confirmed the single factor structure of the measurement tool (χ^2/sd = 1.17, NFI = .99, NNFI = 1.00, CFI = 1.00, SRMR = .019) in a Turkish sample (Dağlı & Baysal, 2016). In this study, the Cronbach alpha coefficient of SWLS was found to be .85, which indicates a satisfactory evidence of internal consistency.

Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003) is a single factor device assessing the perceptive mind and withitness characteristics of mindfulness. There are 15 negatively worded items in the scale and the response sequence ranges from 1 (almost always) to 6 (almost never). Higher scores stand for the scorer's higher mindfulness levels. The Turkish adaptation study for MAAS found a test-retest value of .86 and a Cronbach alpha value of .80 also pointing to a further evidence of reliability for the scale in a Turkish population (Özyeşil et al., 2011). The Cronbach alpha coefficient of MAAS came out to be .83 in this study.

Self-Compassion Scale (SCS; Neff, 2003) is a 26-item measure of self-compassion by the theoretically proposed six sub-factors of: self-kindness, common humanity, mindfulness, self-judgment, isolation, and over-identification. Participants respond to the items on a 5-point Likert scale extending from 1 (almost never) to 5 (almost always). The overall self-compassion score is derived through reversing the negative states subscales and getting the means of the summation for the six sub-scale scores. In this regard, increasing scores indicate higher self-compassion levels. The Turkish adaptation of SCS also strengthened the evidence for the six-factor component of SCS (CFI = .97, GFI = .91, RMSEA = .056, NFI = .95). In addition, the Cronbach alpha values for the Turkish version of SCS

was found to be between .72 and .80 for the sub-factors (Akın et al. 2007). In this study, the Cronbach alpha value of SCS emerged as .92, also indicating a perfect internal consistency for the overall scale.

Depression Anxiety Stress Scale-21 (DASS-21; Lovibond & Lovibond, 1995) measures depression, anxiety, and stress levels. There are 7 items in each sub-scale that are scored by a 4-point Likert scale ranging between 0 (never) and 3 (always). The mean scores in each sub-scale is calculated and higher scores in the sub-scales mean higher levels of depression, anxiety, and stress. The Cronbach alpha coefficients of the Turkish DASS-21 were between .76 and .82, promoting evidence for the reliability of this measurement tool in a Turkish sample (Yılmaz et al., 2017). In addition, the Cronbach alpha values of DAAS-21 were .88 for depression, .83 for anxiety, and .85 for stress sub-scales in the current study.

Data Analysis

The SPSS 23 package program (IBM, 2011) was used to handle the missing values and outliers and also to ensure the normality assumption in the first step. Then, a path analysis was conducted via AMOS 18 statistical program (Byrne, 2001) in order to test the mediating role of body responsiveness (body awareness and body disconnection) and negative mood states (depression, anxiety, and stress) in the relationship of self-compassion and trait mindfulness to life satisfaction.

Results

The Findings of the Path Model of Life Satisfaction

We tested the proposed life satisfaction model through a path analysis. In our model, self-compassion and mindfulness were the independent variables; negative mood states, body awareness, and body disconnection were the mediators; life satisfaction was the dependent variable.

The Goodness of Fit Indexes and Standardized Estimates of the Proposed Path Model

A maximum likelihood method of estimation was performed in order to explore the model fit values and the estimates of our life satisfaction model. As a first step, we examined the model fit indices for the model and we realized that some of these estimates did not meet the criterion cut-offs (χ^2/df = 18.12, p < .001; GFI = .97, CFI = .92; TLI = .68; RMSEA = .15). According to Kline (2011), one of the reasons for poor model fit indices is the large error covariances between the variables. Given the high error covariance between negative mood states and body disconnection (41.58), we let the error between these variables to covariate in the model. In addition, to increase the goodness of the proposed model, we also deleted the non-significant paths for re-specifying the model. Thus, the direct path from body-disconnection to life satisfaction (β = -.08, p > .05) was deleted. Moreover, regarding the modification indices, a direct path was also added from self-compassion to life satisfaction in the adjusted model. After these modifications, the goodness of fit indices for the re-specified model were reached to the satisfactory levels (χ^2/df = 2.08, p > .001; GFI = .99, CFI = .99; TLI = .98; RMSEA = .04).

As the last stage of the path analysis, the standardized path estimates of the re-specified model were determined. The bootstrapping extension of a maximum likelihood estimation was run in order to detect the indirect, direct, and total path coefficients of the adjusted life satisfaction model. The findings are included in Table 1.

Table 1 *Standardized total, direct, and indirect estimates of the adjusted life satisfaction model*

Paths	Standardized Estimates (*β*)
Mindfulness ⟶ Negative mood states	-.11*
Mindfulness ⟶ Body awareness	.13**
Mindfulness ⟶ Body disconnection	-.12**
Self-compassion ⟶ Negative mood states	-.50**
Self-compassion ⟶ Body awareness	.26**
Self-compassion ⟶ Body disconnection	-.29**
Negative mood states ⟶ Life satisfaction	-.28*
Body awareness ⟶ Life satisfaction	.20**
Mindfulness ⟶ Life satisfaction	
Indirect (Total)	.06**
Indirect by negative mood states	.03*
Indirect by body awareness	.03*
Self-compassion ⟶ Life satisfaction	
Direct	.20**
Indirect (Total)	.19**
Indirect by negative mood states	.14*
Indirect by body awareness	.05*

Note. *$p < .05$; **$p < .01$; ***$p < .001$.

Table 1 indicated that mindfulness had significantly direct relationships with negative mood states ($\beta = -.11$, $p < .05$), body awareness ($\beta = .13$, $p < .01$), and body disconnection ($\beta = -.12$, $p < .01$). Similarly, self-compassion was found to have significantly direct connections with negative mood states ($\beta = -.50$, $p < .01$), body awareness ($\beta = .26$, $p < .01$), body disconnection ($\beta = -.29$, $p < .01$), and life satisfaction ($\beta = .20$, $p < .01$). Regarding the direct relationships between the mediators and life satisfaction, significantly negative direct relationships emerged between negative mood states and life satisfaction ($\beta = -.28$, $p < .05$) and body awareness and life satisfaction ($\beta = .20$, $p < .01$). In addition, mindfulness was found to have a significantly indirect relationship with life satisfaction ($\beta = .06$, $p < .01$) through negative mood states ($\beta = .03$, $p < .05$) and body awareness ($\beta = .03$, $p < .05$). Likewise, self-compassion had a significantly indirect relation with life satisfaction ($\beta = .19$, $p < .01$) through negative mood states ($\beta = .14$, $p < .05$) and body awareness ($\beta = .05$, $p < .05$). The re-specified model accounted for a 29% variance in negative mood states, 11% variance in body awareness, 11% variance in body disconnection, and 26% variance in life satisfaction scores of participants.

Discussion and Conclusion

The aim of the current study was to examine the mediating role of body awareness, body dissociation and negative mood states in the relationship of mindfulness and self-compassion and life satisfaction. The results of the study have uncovered many crucial findings and implications.

Firstly, the study revealed that body awareness mediates the relationship between mindfulness and life satisfaction. Thus, hy-

pothesis 1b was confirmed. There are studies focused on the relationship between mindfulness and life satisfaction (Stolarski et al., 2015; Wang & Kong, 2020) and mindfulness and body awareness (Mehling et al., 2009; Zgierska et al., 2009). In this regard, these studies also indirectly support this hypothesis. Nevertheless, no attempt has been made to examine body awareness, mindfulness, and life satisfaction in a single study. One possible explanation for the present findings might be that these three concepts are linked with self-regulation. More broadly, mindfulness as a trait firstly enhances body awareness which in turn allows the individuals to regulate their emotions and thoughts according to contextual demands. Then, the process of regulation may allow individuals to assess their life more positively and get life satisfaction.

Additionally, the current study indicated a negative relationship between mindfulness and body disconnection, in line with the previous studies (Escudero-Perez et al., 2015; Zerubavel & Messman-Moore, 2015). Yet, the current results did not find a mediating role of body disconnection in the relationship between mindfulness and life satisfaction. Therefore, hypothesis 1c was not supported. This might be linked to disconnectedness from bodily sensations due to trauma defense mechanisms or fear of being traumatized. As a result, individuals might experience difficulty while assessing their lives (Maltz, 2012; Van der Kolk, 2014). To this end, no studies investigated the relationship between life satisfaction and body disconnection in support of this finding. Specifically, people with low levels of mindfulness may suppress their body sensations. Consequently, they might not make a concrete evaluation of their life.

The results of the present study also supported the mediating role of negative mood states (depression, anxiety, and stress) in the relationship between mindfulness and life satisfaction. Hence, hypothesis 1a was validated. This finding was consistent with the earlier studies emphasizing the negative relationship between mindfulness and anxiety (Bögels, 2006; Mogg & Bradley, 2005), mindfulness and depression (Broderick, 2005), and mindfulness and stress (Grossman et al., 2004). This suggests that people with a high level of mindfulness can easily regulate their bodies, emotions, and thoughts according to environmental characteristics and get more satisfied with their life. Notably, mindful individuals may orient their awareness on positive things to protect their mental health.

Moreover, hypothesis 2b stated that body awareness mediated the relationship between self-compassion and life satisfaction was confirmed. Some studies found a significant relationship between self-compassion and body awareness (Pintano, 2019), as well as self-compassion and life satisfaction (Neff et al., 2008; Yang, 2016). Although these studies are indirectly parallel to the current finding, no study has examined the three concepts together. All three concepts may be related to self-kindness and mindfulness in common. Self-compassion as a trait includes kindness and mindfulness. Therefore, self-compassion enables individuals to regulate themselves during life experiences (Gilbert, 2005). In other words, people with high self-compassion accompany their bodily sensations with kindness during stressful experiences and as a result evaluate their life from an optimistic perspective.

Furthermore, hypothesis 2c that pointed to the mediating role of body disconnection in the relationship between self-compassion and life satisfaction was not validated, whereas, there was evidence for the negative relationship between body disconnection and self-compassion, in line with the previous studies (Neff et al., 2007; Thompson & Waltz, 2008). This finding might be

explained through the idea that people with low self-compassion may not be compassionate towards their body sensations and suppress them. On the other hand, negative mood states (depression, anxiety, and stress) were found to mediate the relations between self-compassion and life satisfaction. Thus, hypothesis 2a was confirmed. In parallel, some studies already emphasized the negative relationship of self-compassion to stress (Neff et al., 2007), anxiety, and depression (Arimitsu & Hofmann, 2015). The underlying explanation over this finding of the study could be that the components of self-compassion mainly self-kindness may enable individuals to regulate their stress, anxiety, and depression and protect their mental health especially during their harsh life experiences.

The current study has some limitations. Firstly, the problem of social desirability in self-report measurements may also have negatively affected the reliability of our results. Thus, similar questions can be directed through semi-structured interviews or with different measurements to increase reliability. Secondly, the data in this study may be limited to the variables and measurements included in this study. Thus, other variables (such as emotion regulation and cognitive flexibility) may also be tested to enrich the findings of the current study. Thirdly, the number of female participants was much higher than the male participants. To control the gender factor, this variable was taken as a control variable in the model, but still, the findings should be evaluated cautiously in terms of the generalizability regarding gender. Furthermore, this study should be replicated in different age and diverse sociocultural groups in order to increase the generalizability. In addition, as this study is a correlational study, the emerged direct and indirect correlations between the study variables should not be interpreted as a cause/effect relationship. In addition, since the explanation and prediction in correlational designs is limited, more complex designs (mixed designs) should be used to strengthen the explanation and prediction levels.

This paper accommodates various contributions and implications. First of all, the study provides benefit to the related literature since it offers a body of knowledge on how self-compassion, mindfulness and life satisfaction are connected through the mediating role of body responsiveness (body awareness and body disconnection) and negative mood states (depression, anxiety, and stress). Further, the results obtained may also inform mental health professionals and policy makers in terms of the contributing or undermining factors of individuals' life satisfaction and wellbeing. In other words, this study offers new evidence that cultivation of mindfulness and self-compassion may enhance body responsiveness and diminish the negative mood states that in turn promote life satisfaction.

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References

Akın, Ü., Akın, A., & Abacı, R. (2007). Self-Compassion Scale: The study of validity and reliability. *Hacettepe University Journal of Education, 33*, 1–10. https://dergipark.org.tr/tr/pub/hunefd/issue/7805/102335

Arimitsu, K., & Hofmann, S. G. (2015). Cognitions as mediators in the relationship between self-compassion and affect. *Personality and*

Individual Differences, 74, 41–48. https://doi.org/10.1016/j.paid.2014.10.008

Baer, R. A. (2003). Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clinical Psychology: Science and Practice*, *10*(2), 125–143. https://doi.org/10.1093/clipsy.bpg015

Barrett, L. F., Quigley, K. S., Bliss-Moreau, E., Aronson, K. R. (2004). Interoceptive sensitivity and self-reports of emotional experience. *Journal of Personality and Social Psychology, 87,* 684–697. https://doi.org/10.1037/0022-3514.87.5.684

Bögels, S. M. (2006). Task concentration training versus applied relaxation, in combination with cognitive therapy, for social phobia patients with fear of blushing, trembling, and sweating. *Behaviour Research and Therapy*, *44*(8), 1199–210. https://doi.org/10.1016/j.brat.2005.08.010

Buldeo, N. (2015). Interoception: A measure of embodiment or attention? *International Body Psychotherapy Journal, 14*(1), 65–79.

Broderick, P. C. (2005). Mindfulness and coping with dysphoric mood: Contrasts with rumination and distraction. *Cognitive Therapy and Research*, *29*(5), 501–510.

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84*(4), 822–848.

Bukhari, R. S., & Saba, F. (2017). Depression, anxiety and stress as negative predictors of life satisfaction in university students. *Rawal Medical Journal*, *42*(2), 255–257.

Byrne, B. M. (2001). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. NJ: Lawrence Erlbaum Associates.

Dağlı, A., & Baysal, N. (2016). Adaptation of the satisfaction with life scale into Turkish: The study of validity and reliability. *Electronic Journal of Social Sciences, 15*(59), 1250–1262.

Daubenmier, J. J. (2005). The relationship of yoga, body awareness, and body responsiveness to self-objectification and disordered eating. *Psychology of Women Quarterly, 29*(2), 207–219. https://doi.org/10.1111/j.1471-6402.2005.00183.x

Daubenmier, J. J., Sze, J., Kerr, C. E., Kemeny, M. E., & Mehling, W. (2013). Follow your breath: Respiratory interoceptive accuracy in experienced meditators. *Psychophysiology, 50*(8), 777–789. https://doi.org/10.1111/psyp.12057

Davidson, L., Rosenberg, M., & Moore, K. (2003). Well-being and the future: Using science-based knowledge to inform practice and policy. In M. H. Bornstein, L. Davidson, C. L. M. Keyes, & K. A. Moore (Eds.), *Well-being positive development across the life course,* Lawrence Erlbaum Associates. https://doi.org/10.4324/9781410607171

Deci, E. L., & Ryan, R. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology/ Psychologie Canadienne, 49*(3), 262. https://doi.org/10.1037/0708-5591.49.3.262

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment, 49,* 71–75. https://doi.org/10.1207/s15327752jpa4901_13

Dorahy, M. J., Lewis, C. A., Schumaker, J. F., Akuamoah-Boateng, R., Duze, M. C., & Sibiya, T. E. (2000). Depression and life satisfaction among Australian, Ghanaian, Nigerian, Northern Irish, and Swazi university students. *Journal of Social Behavior and Personality, 15*(4), 569. https://doi.org/10.1016/s0191-8869(97)00191-8

Escudero-Perez, S., Leon-Palacios, M. G., Ubeda-Gomez, J., Barros-Albarran, M. D., Lopez-Jimenez, A. M., & Perona-Garcelan, S. (2015). Disconnection and mindfulness in patients with auditory verbal hallucinations. *Journal of Trauma Disconnection, 5,* 1–13. https://doi.org/10.1080/15299732.2015.1085480

Ghazwin, Y. M., Kavian, M., Ahmadloo, M., Jarchi, A., Golchin Javadi, S., Latifi, S., Tavakoli, S. A., & Ghajarzadeh, M. (2016). The association between life satisfaction and the extent of depression, anxiety and stress among Iranian nurses: A multicenter survey. *Iranian Journal of Psychiatry*, 11(2), 120–127.

Gilbert, P. (2005). *Compassion: Conceptualisations, research and use in psychotherapy.* Routledge. https://psycnet.apa.org/record/2005-13871-000

Grossman, P., Niemann, P., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress reduction and health benefits: A meta-analysis. *Journal of Psychosomatic Research*, *57*, 35–43.

IBM Corp. (2011*). IBM SPSS Statistics for Windows. Version 20.0.* Armonk. NY: IBM Corp.

Impett, E., Daubenmier, J., & Hirschman, A. (2006). Minding the body: Yoga, embodiment, and well-being. *Sexuality Research & Social Policy, 3,* 39–48. https://doi.org/10.1525/srsp.2006.3.4.39

Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: Past, present, and future. *Clinical Psychology: Science and Practice*, *10*(2), 144–56. https://doi.org/10.1093/clipsy.bpg016

Kline, B. R. (2011). *Principles and practice of structural equation modeling* (3rd ed.). Guilford Press.

Kumar, H., Shaheen, A., Rasool, I., & Shafi, M. (2016) Psychological distress and life satisfaction among university students. *Journal of Psychology and Clinical Psychiatry, 5*(3), 00283. https://doi.org/10.15406/jpcpy.2016.05.00283

Laskowski, E. R., Newcomer-Aney, K., & Smith, J. (2000). Proprioception. *Physical Medicine and Rehabilitation Clinics of North America, 11*(2), 323–340 https://doi.org/10.1016/s1047-9651(18)30132-3

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*, 335–343. https://doi.org/10.1016/0005-7967(94)00075-u

Maltz, W. (2012). *The sexual healing journey: A guide for survivors of sexual abuse* (3rd ed). William Morrow. https://www.goodreads.com/book/show/242410.The_Sexual_Healing_Journey

Mehling, W. E., Gopisetty, V., Daubenmier, J., Price, C. J., Hecht, F. M., & Stewart, A. (2009). Body awareness: Construct and self-report measures. *PLos One, 4*(5), e5614. https://doi.org/10.1371/journal.pone.0005614

Mogg, K., & Bradley, B. P. (2005). Attentional bias in generalized anxiety disorder versus depressive disorder. *Cognitive Therapy and Research*, *29*(1), 29–45. https://doi.org/10.1007/s10608-005-1646-y

Neff, K. D. (2003b). Development and validation of a scale to measure self-compassion. *Self and Identity, 2,* 223–250.

Neff, K. D., Kirkpatrick, K. L., & Rude, S. S. (2007). Self-compassion and adaptive psychological functioning. *Journal of Research in Personality, 41*(1), 139-154. https://doi.org/10.1016/j.jrp.2006.03.004

Neff, K. D., Pisitsungkagarn, K., & Hsieh, Y. P. (2008). Self- compassion and self-construal in the United States, Thailand, and Taiwan. *Journal of Cross-Cultural Psychology, 39*, 267–285. https://doi.org/10.1177/0022022108314544

Neziroglu, F., & Donnelly, K. (2013). Dissociation from an acceptance-oriented standpoint. In F. Kennedy, H. Kennerley, & D. Pearson (Eds.), *Cognitive behavioural approaches to the understanding and treatment of dissociation* (pp. 236–248). Hove: Routledge.

Özer, M., & Karabulut, Ö. Ö. (2003). Satisfaction of life in elderly individuals. *Turkish Journal of Geriatrics, 6*(2), 72–74. http://geriatri.dergisi.org/uploads/pdf/pdf_TJG_146.pdf

Özyeşil, Z., Arslan, C, Kesici, Ş., & Deniz, E. M. (2011). Adaptation of the Mindful Attention Awareness Scale into Turkish. *Education and Science*, *36*(160), 224–235.

Pintano, S. (2019). Changes in body awareness and self-compassion in clinical psychology trainees through a mindfulness program. *Complementary Therapies in Clinical Practice, 34,* 229–234. https://doi.org/10.1016/j.ctcp.2018.12.010

Salvatore, S., Tschacher, W., Gelo, O. C. G., & Koch, S. C. (2015). Editorial: Dynamic systems theory and embodiment in psychotherapy research. A new look at process and outcome. *Frontiers in Psychology, 6*, 914. https://doi.org/10.3389/fpsyg.2015.00914

Schore, A. N. (2009). Relational trauma and the developing right brain: An interface of psychoanalytic self-psychology and neuroscience. *Annals of the New York Academy of Sciences, 1159*, 189–203. https://doi.org/10.1111/j.1749-6632.2009.04474.x

Sharma, T., Sinha, V. K., & Sayeed, N. (2016). Role of mindfulness in dissociative disorders among adolescents. *Indian Journal of Psychiatry, 58*, 326–328. https://doi.org/10.4103/0019-5545.192013

Stolarski, M., Vowinckel, J., Jankowski, K. S., & Zajenkowski, M. (2016). Mind the balance, be contented: Balanced time perspective mediates the relationship between mindfulness and life satisfaction. *Personality and Individual Differences*, *93*, 27–31. https://doi.org/10.1016/j.paid.2015.09.039

Tihanyi, B. T., Ferentzi, E., Daubenmier, J., Drew, R., & Köteles, F. (2017). Body Responsiveness Questionnaire: Validation on a European sample, mediation between body awareness and affect, connection with mindfulness, body image, and physical activity, *The Art and Science of Somatic Praxis, 16*(1) 56–73. https://doi.org/10.1037/t65729-000

Thompson, B. L., & Waltz, J. (2008). Self-compassion and PTSD symptom severity. *Journal of Traumatic Stress, 21*(6), 556–558. https://doi.org/10.1002/jts.20374

Van der Kolk, B. (2014). *The body keeps the score: Mind, brain and body in the transformation of trauma.* Penguin Books. https://doi.org/10.7748/ns.29.14.32.s37

Vidal, J. (2020). *Tip of the iceberg: Is our destruction of nature responsible for Covid-19?* The Guardian. https://www.theguardian.com/environment/2020/mar/18/tip-of-the-iceberg-is-our-destruction-of-nature-responsible-for-covid-19-aoe

Yang, X. (2016). Self-compassion, relationship harmony, versus self-enhancement: Different ways of relating to well-being in Hong Kong Chinese. *Personality and Individual Differences, 89,* 24–27. https://doi.org/10.1016/j.paid.2015.09.006

Yang, X., & Mak, W. W. S. (2016). The differential moderating roles of self-compassion and mindfulness in self-stigma and well-being among people living with mental illness or HIV. *Mindfulness, 8*(3), 595–602. https://doi.org/10.1007/s12671-016-0635-4

Yılmaz, Ö., Boz, H., & Arslan, A. (2017). The validity and reliability of Depression, Stress and Anxiety Scale (DASS21) Turkish short form. *Research of Financial Economic and Social Studies*, *2*(2), 78–91.

Wang, Y., & Kong, F. (2020). Linking trait mindfulness to life satisfaction in adolescents: The mediating role of resilience and self-esteem. *Child Indicators Research, 13*(1), 321–335. https://doi.org/10.1007/s12187-019-09698-4

Zerubavel, N., & Messman-Moore, T. L. (2015). Staying present: Incorporating mindfulness into therapy for disconnection. *Mindfulness, 6,* 303–314. https://doi.org/10.1007/s12671-013-0261-3

Zgierska, A., Rabago, D., Chawla, N., Kushner, K., Koehler, R., & Marlatt, A. (2009). Mindfulness meditation for substance use disorders: A systematic review. *Substance Abuse, 30*(4), 266–294. https://doi.org/10.1080/08897070903250019