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SELF-COMPASSION: A BUFFER IN THE PATHWAY FROM MALADAPTIVE BELIEFS TO DEPRESSION.  
AN EXPLORATORY STUDY

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Abstract

Research indicates that maladaptive or irrational beliefs underlie the development of depression. However, there are a limited number of studies on what boosts the “cognitive immunity” of irrational individuals against psychopathology. The present exploratory study examined self-compassion and its components (i.e., self-kindness, common humanity, and mindfulness) as potential buffers of the irrationality-depression relationship. A hundred and eighty seven volunteers were assessed for core/general irrationality, self-compassion, and depression levels. The results obtained were largely consistent with the hypotheses. As expected, under high levels of self-compassion there was no longer a significant relationship between irrational beliefs and depression ($B = -.001$, $SE = .028$, $t = -.043$, $p = .965$). No such buffering effects were found for the low and mean levels of self-compassion. Secondly, the present findings showed that it is especially the self-kindness component of self-compassion that moderated the irrational belief-depression relationship ($B = -.012$, $SE = .004$, $\beta = -.185$, $p < .001$), whereas the common humanity and mindfulness components were not found to be significant moderators of this relationship. This differential buffering effect underscores the importance of discerning between the subtypes of self-compassion. Proximal and distal clinical suggestions are discussed along with theoretical advancements on self-compassion.

Keywords: self-compassion, maladaptive beliefs, depression, buffer.

Introduction

Maladaptive beliefs, such as irrational cognitions, are regarded as mechanisms underlying psychopathology. Their illogical and inconsistent with

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realities nature prevent an individual from achieving his/her goals, therefore making the person more vulnerable to psychopathology (Ellis, 1994). Irrational beliefs, and general/core irrational beliefs in particular (e.g., “When people I like reject me or dislike me, it is because I am a bad or worthless person”), interfere with the processing of activating events (A) (e.g. A break-up), causing specific irrational beliefs (B) (“I am a worthless person”) which result in negative consequences (C) (e.g. distress; depressive mood) (see the ABC model – Ellis, 1994). Therefore, distress is mainly a consequence of irrational thinking.

Irrational beliefs have been particularly studied in the ethiopathology of depression. Ellis (1962; 1994) isolated the components of irrationality (i.e., demandingness, awfulizing, self-downing, and catastrophizing) and regarded demandingness (i.e., absolutistic requirements that a person/situation must be in a certain way) and self-downing (i.e., global negative evaluations about oneself) as core vulnerability factors for depression. Studies investigating the association between depression and irrational beliefs have generally found a positive relationship between the two concepts (e.g. Nelson, 1977; Prudhomme & Barron, 1992; Smith, 1989), depressed individuals being indeed more irrational than non-depressed individuals (McDermut et al., 1997). Further evidence comes from longitudinal studies which have shown that irrational beliefs interact with expectancies of failure (Brown, Hammen, Craske and Wickens, 1995; Hankin, Abramson, Miller, and Haeffel, 2004) or stressful events (Kwon and Oei, 1992; Dykman and Johll, 1998) to predict depressive symptoms shortly after the negative event or three months later.

It is well known that irrational beliefs are quite commonly experienced (Podina, Uscătescu, & Mogoșe, 2013). Yet not everyone with irrational beliefs develops a form of psychopathology. This is partly due to a lack of interaction with stressors (the diathesis-stress model; Zubin & Spring, 1977) and partly due to resilience factors that buffer against psychopathology. Regarding irrational beliefs, there are a limited number of studies on what boosts the “cognitive immunity” of irrational individuals against psychopathology and depression, in particular.

One of the best known buffers are functional/rational beliefs, which are logical, empirically oriented, and flexible styles of thinking (e.g., “I would prefer things to be easier, but I can tolerate if they aren’t instead” of “Things must be more easy”). In the pathway from irrationality to depression, main functional buffers are a preferential style of thinking and unconditional self-acceptance (Davies, 2006). Other known buffers are positive life events (Dixon & Reid, 2000), the internal locus of control (Johnson & Sarason, 1978), perceived social support (Holt & Espelage, 2005), perceived stress level (Kuiper, Olinger & Lyons, 1986), social problem solving abilities (Nezu & Ronan, 1988), and self-esteem (Civitci, 2010). However, these variables have been connected to a wide range of psychopathology, not only depression, and few of them are cognitive in nature.
In conclusion, whereas the literature is clear that irrational beliefs predispose to depression, far less is known about the factors that enhance the “cognitive immunity” of irrational individuals against depression. In light of recent studies, self-compassion may be a candidate buffer in the pathway from irrational beliefs to depression, given the arguments below.

Self-compassion has been defined as the act of being considerate and compassionate towards oneself (Neff, 2003a). There are several studies which attest its beneficial effect on life satisfaction, well-being, optimism and positive affect (Neely, Schallert, Mohammed, Roberts, & Chen, 2009; Neff et al., 2007). It has been negatively linked to depression and its vulnerability factors, such as rumination (Raes, 2010). The relevance of this concept is further backed-up by experimental manipulations studies, some results indicating that self-compassion instructions reduce depressive mood ratings, even more so than standard emotion regulation strategies such as reappraisal and acceptance (Diedrich, Grant, Hofmann, Hiller, & Berking, 2014)

Neff (2003a, 2008) identified three major components of self-compassion, that is self-kindness, common humanity, and mindfulness. Self-kindness means offering warmth and understanding to oneself when facing negative events. Individuals with self-kindness treat themselves gently and accept the reality with kindness. Common humanity entails recognizing one’s negative experiences as part of a shared human experience which challenges most human beings. Mindfulness is reflected in a balanced approach to one’s thoughts and feelings, namely mindful individuals do not over-identify with their thoughts and feelings.

Recent studies have shown that the three components of self-compassion are conceptually distinct, and most importantly relate differently to depression. One study found that self-kindness had a relatively strong association to depression compared with the other two self-compassion components (Mills, Gilbert, Bellew, McEwan, & Gale, 2007). Another study found that self-kindness and mindfulness were the only self-compassion components that were actually associated to depression (Van Dam, Sheppard, Forsyth, & Earleywine, 2011). These findings indicate that each self-compassion component may have a different relationship with depression.

Overview of the present study

Given the previous arguments, “self-compassion holds promise as an important and interesting construct that facilitates resilience and coping, but with only a few previous studies on the topic, many key questions have not been addressed” (Leary et al., 2007, p. 888). One such question is whether self-compassion buffers the relationship between irrational beliefs and depression? Furthermore, given that depression does not relate in the same manner to all the self-compassion components; another question would be whether all self-
compassion components moderate the relationship between irrational beliefs and depression?

The present study first aimed to examine the relationships between irrational beliefs, self-compassion, and depression and test whether overall self-compassion moderates the irrational beliefs-depression relationship. It was expected that irrational beliefs would be positively associated with depression, whereas self-compassion and its components would be negatively associated with depression. Exploratory, we will investigate whether self-compassion has a buffering effect on the irrational beliefs-depression pathway, especially under high-levels of self-compassion.

A second aim was to test exploratory the moderating roles of individual self-compassion components (i.e., self-kindness, common humanity, and mindfulness) on the associations between irrational beliefs and depression, when the two other self-compassion components were controlled for. Indeed, given that in depression the underlying core beliefs are of a self-downing and self-critical nature (Sturman & Mongrain, 2006; Macavei, 2005), self-kindness (the opposite of a self-critical thinking) might be the best candidate to moderate the irrationality-depression relationship, its buffering effects being significant especially under high levels of self-kindness. However, the potential moderating role of common-humanity and mindfulness was also tested, mainly for exploratory reasons.

**Method**

**Participants**

We recruited 187 volunteers (age: \(M = 23.620\) years, \(SD = 5.638\), 80.748 % women). All participants were undergraduate students that were screened for depression with the Beck Depression Inventory – Second Edition (i.e., BDI-II; Beck, Steer, & Brown, 1996; David & Dobrean, 2012). Although the scores for depression were informative, they were not used as selection criterion. Wide-ranging values for depression allowed for broader values on the irrationality continuum. The current research complied with APA ethical standards for human research and it was approved by the University’s Research Council. Volunteers signed an informed consent and received credits for participation.

**Instruments**

**Irrationality.** The *Attitudes and Beliefs Scale-Second Edition* (ABS-II; DiGiuseppe, Leaf, Exner, & Robin, 1988; Macavei, 2002) is an instrument which measures general rational and irrational cognitions. ABS-II includes the following subscales: overall rationality and overall irrationality, DEM (e.g., “I must be liked by people I want to like me, and I do not accept their not liking me”), AWF (e.g., “It is awful to do poorly at important things, and I think it is a catastrophe if I do poorly”), LFT (e.g., “It is unbearable to fail at important things, and I cannot
stand failing at them”) and SD (e.g., “If important people dislike me, it is because I am an unlikable, bad person”). A higher score on the irrationality/rationality scale indicates higher levels of irrationality or rationality. The instrument has good internal consistency, with scores varying between $\alpha = .92$ and $\alpha = .86$ across subscales, as well as good discriminatory properties between non-clinical and clinical groups (Macavei, 2002). For the purposes of our study we focused on the overall irrationality score, which had a good internal consistency of .94.

**Depression levels.** Beck Depression Inventory – Second Edition (i.e., BDI-II; Beck, Steer, & Brown, 1996; David & Dobrean, 2012) is a 21-item instrument which assesses the severity of depressive symptoms on a scale from 0 to 3. Higher scores on BDI-II mean higher depression levels. This instrument has good psychometric properties in both healthy and depressed individuals (Beck et al., 1996). In the current study, the internal consistency was .92. With respect to the current sample, BDI-II scores ranged from 0 to 28, with 154 individuals reporting minimal (BDI-II cut off range: 0-13), 16 reporting mild (BDI-II cut off range: 14–19), 17 reporting moderate depression levels (BDI-II cut off range: 20-28).

**Self-compassion.** Self-Compassion Scale (SCS; Neff, 2003a) is a 26-item instrument which measures self-compassion. The scale includes the following components of self-compassion: Self-Kindness subscale (e.g., “I try to be loving towards myself when I’m feeling emotional pain”), Common Humanity subscale (e.g., “When things are going badly for me, I see the difficulties as part of life that everyone goes through.”), Mindfulness subscale (e.g., “When I fail at something important to me I try to keep things in perspective.”). Responses are given on a 5-point scale from “Almost Never” to “Almost Always.” Higher scores on the overall SCS scale entail higher self-compassion levels. SCS has demonstrated good internal consistency (.92), as well as good test–retest reliability (.93) over a three week interval (Neff, 2003a). In the current study, the internal consistency was .91. For the purposes of our study we were interested also in the self-kindness ($\alpha = .89$), common humanity ($\alpha = .78$), and mindfulness components ($\alpha = .81$) of self-compassion.

**Procedure and Data analysis**

**Procedure.** Given the correlational design of the study, following informed consent, participants completed all the questionnaires (i.e., ABS2, BDI-II, and SCS).

**Data analysis.** Descriptive statistics and correlational analyses were conducted in order to investigate the strength of the relationship between the targeted variables.

The predictor, the covariates, as well as the moderator variables were centered before computing the interaction terms to reduce multicollinearity (Frazier, Tix, and Barron, 2004). Four hierarchical linear regression analyses were performed to investigate the moderating role played by overall self-compassion,
self-kindness, common humanity, and mindfulness on the association between irrationality and depression.

Centered covariates (i.e., age and self-compassion components that were not examined at the time as moderators) were entered in the first step; the centered predictor and the centered moderator were entered in the second step; the interaction term was inputted in the final third step.

Significant interaction effects were probed by means of the Process script (Hayes, 2012). Namely, simple slope analyses were employed to examine the effects of the predictor on the dependent variable at 1 SD above and 1 SD below the mean value of the moderator.

Results

Preliminary analyses

Table 1 displays the mean, standard deviation, and the inter-correlations among all the targeted variables. Furthermore, with respect to demographics, gender was not related to depression \( t (185) = 1.080, p = .281 \) or any other key variable, however age was negatively associated to depression and therefore added as a covariate in all the subsequent analyses, \( r (185) = -.169, p = .010 \).

<table>
<thead>
<tr>
<th></th>
<th>M (SD)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overall Irrationality</td>
<td>46.47 (23.58)</td>
<td>1</td>
<td>.47*</td>
<td>-.57*</td>
<td>-.38*</td>
<td>-.32*</td>
<td>-.25*</td>
</tr>
<tr>
<td>2. Depression</td>
<td>7.94 (7.225)</td>
<td>1</td>
<td>-.62*</td>
<td>-.46*</td>
<td>-.28*</td>
<td>-.34*</td>
<td></td>
</tr>
<tr>
<td>3. Overall self-compassion</td>
<td>89.45 (18.15)</td>
<td>1</td>
<td>.84*</td>
<td>.60*</td>
<td>.69*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Self-kindness</td>
<td>18.08 (4.49)</td>
<td>1</td>
<td>.48*</td>
<td>.67*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Common humanity</td>
<td>14.26 (3.69)</td>
<td>1</td>
<td>.50*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Mindfulness</td>
<td>15.58 (2.97)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: *p < .05, Bonferroni corrected for multiple comparisons

Moderation analyses

In congruence with our hypotheses, significant interaction effects were found between irrationality and overall self-compassion, as well as between irrationality and the self-kindness component of compassion (see Table 2). No
significant interaction effect was found between common humanity and irrationality (B = -.008, SE = .004, t = -1.807, p = .072) or between the mindfulness component of compassion and irrationality (B = -.009, SE = .005, t = -1.627, p = .105).

Table 2. Hierarchical regression analyses predicting depression from irrationality and the irrationality x self-compassion (A)/self-kindness (B) interaction.

<table>
<thead>
<tr>
<th>Step and variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>95% CI</th>
<th>ΔR²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-.216</td>
<td>.093</td>
<td>-.169*</td>
<td>[-.400; -.033]</td>
<td>.029</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Irrationality</td>
<td>.055</td>
<td>.021</td>
<td>.180**</td>
<td>[.013; .097]</td>
<td>.382</td>
</tr>
<tr>
<td>Overall Self-compassion</td>
<td>-.206</td>
<td>.028</td>
<td>-.519**</td>
<td>[-.262; -.151]</td>
<td></td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Irrationality x</td>
<td>-.003</td>
<td>.001</td>
<td>-.170**</td>
<td>[-.004; -.001]</td>
<td>.028</td>
</tr>
<tr>
<td>Overall Self-compassion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: N = 187; *p < .05; **p < .001

Following Aiken and West (1991), simple slope tests were then conducted to contrast the effect of irrationality on depression between individuals with high (1 SD above the mean), mean, and low self-compassion and self-kindness levels (1 SD below the mean) (see Figure 1). The results indicated that there was a positive and significant association between irrationality and depression in the low (B = .091, SE = .024, t = 3.797, p < .001) and mean self-compassion condition (B = .045, SE = .021, t = 2.135, p = .034), but not in the high self-compassion condition (B = -.001, SE = .028, t = -.043, p = .965).

This pattern in results seems to be driven by the self-kindness component of self-compassion. As in the case of overall self-compassion, the positive association between irrationality and depression was significant in the low (B = .155, SE = .025, t = 6.021, p < .001) and the mean self-kindness condition (B =
.101, SE = .020, t = 4.966, p < .001), however no longer significant in the high self-kindness condition (B = .046, SE = .028, t = 1.625, p = .105) (see Figure 1).

![Figure 1](image_url)

**Figure 1.** Depression levels regressed on irrationality at three levels of self-kindness: (1) low, (2) mean, and (3) high HF-HRV.

**Discussion**

First, on the basis of an association between the three variables (irrational beliefs, self-compassion, and depression) we aimed to provide evidence in favor of self-compassion as buffer of the irrational beliefs-depression relationship. Under high levels of self-compassion there was no longer a significant relationship between irrational beliefs and depression, a result which contrasted with the low and mean levels of self-compassion, where no such buffering effects were found. Second, the present findings show that it is especially the self-kindness component of self-compassion that moderates the irrational beliefs-depression relationship, whereas the common humanity and mindfulness components were not found to be significant moderators of this relationship.

The significant result in favor of self-compassion is in line with previous assumptions that self-compassion can provide a “cognitive immunization” against
Self-compassion helps individuals to better manage their maladaptive beliefs, therefore considerably lowering depression levels. Furthermore, this finding is in line with the study of Wong and Mak (2013) which evidences a buffering effect of high self-compassion in the relationship between cognitions (i.e., self-criticism) and depressive symptoms.

Another noteworthy finding of the present exploratory study that requires further comment is the buffering effect of the self-kindness component, a buffering effect that was not mirrored by the other two components of self-compassion. It may be that recognizing negative experiences as part of a shared human experience (i.e., common humanity) and being mindful about one’s thoughts and feelings (i.e., mindfulness) are not enough to mitigate the irrational beliefs-depression relationship. Given the features of self-kindness, perhaps this variable relates better to the core irrational beliefs involved in depression (i.e., demandingness and self-downing), therefore mitigating its effects on depressive symptoms. An alternative explanation, which applies mostly to the common humanity component, might be that the current correlational design might not have evidenced the moderating role played by this variable. Namely, common humanity requires thinking about a negative event and reappraising it as a common human experience. However, in the absence of a triggering event this component of self-compassion might have been less relevant for the irrational beliefs-depression relationship. Also, it may be possible that our sample was not powered enough to identify small effect sizes. Nevertheless, this finding further underscores the importance of discerning different subtypes of self-compassion, and adds to the growing corpus of research which highlights that self-kindness may be a better buffer of depression than its counterparts (Mills et al., 2007).

Now, having obtained these results, the next step will be to check their stability in new samples and to try to integrate them into a comprehensive theory. Indeed, we propose here that self-compassion can be conceptualized as a coping mechanism in the A-B-C model. Once we have a primary feeling of depression generated by irrational beliefs (B1), self-compassion might play the role of a meta-cognition (e.g., “It’s bad that I think so negatively of myself”) (B2), which impedes secondary dysfunctional emotions from developing, and therefore buffering against psychopathology (David & Szentagotai, 2006a).

Implications

The current findings have proximal clinical implications. As some studies have suggested, self-compassion might be the newest addition to the spectrum of emotion regulation strategies (Diedrich et al., 2014) which are able to mitigate the effect of maladaptive cognitions on emotions even in times of stress (Dunn, Billotti, Murphy, & Dalgleish, 2009).

The distal clinical implications refer to the integration of self-compassion into current forms of evidence-based therapy for depression. However, this
remains a distant clinical implication, as there are still many fundamental research questions that require further investigation. One would be to test the impact of self-compassion components in current interventions that foster self-compassion, such as Compassionate Mind Training (Gilbert & Procter, 2006), Mindfulness-Based Cognitive Therapy (Segal, Williams, Teasdale & Gemar, 2002), and the Mindfulness-Based Stress Reduction program (Kabat-Zinn, 1990). Currently, these interventions put an emphasis on the mindfulness component of self-compassion, with less regard for the common humanity and self-kindness parts of self-compassion, though these components are relevant in depression (Mills et al., 2007). A second issue would be to further explore the newly discovered negative side of self-compassion. In this respect, recent studies indicated that self-compassion correlated positively with negative consequences, such as academic procrastination (Iskender, 2011).

Limitations and Conclusion

Some methodological limitations should be considered. First, the current exploratory study was correlational and had a nonclinical and non-representative sample of college students. This limits the generalizability of its findings and the prospective clinical implications for psychological interventions. However, the findings based on college samples often do generalize to clinical samples, especially when basic processes are being investigated (see also, Haeffel, Eastman, & Grigorenko, 2012). Nevertheless, upcoming research should replicate the examined moderation models in a clinical sample and consider replicating the current exploratory study in a longitudinal design. Second, we had a rather small sample size for a correlational design. However, considering that we had a clear main hypothesis, our study was powered enough to identify small effect sizes, which provides some reassurance about the robustness of our findings. Nevertheless, results should be further tested in larger samples, especially to replicate our findings regarding the null findings.

In terms of future directions, a main aspect that prospective studies should consider is how self-compassion relates to positive cognitive and emotional variables. Research so far, including the present exploratory study, has almost entirely centered on self-compassion’s connection to constructs that have a negative valence. Second, it would be interesting to investigate the buffering effect of self-compassion in stressful conditions when irrational beliefs are activated and effective coping strategies are required to buffer their impact on emotional distress. Third, the number of investigated variables should be more complex in the future, as it is not only relevant to see whether self-compassion buffers the impact of maladaptive beliefs on depression, but also the underlying mechanism behind this buffering effect. The few studies on the topic show that rumination may be such a mechanism, as it mediates the link between self-compassion and depression (Raes, 2010). Fourth, as previously stated functional
or rational beliefs are the main known buffers between irrational beliefs and distress. Prospective studies could compare the buffering or coping effect of self-compassion with that of functional cognitions and other cognitive coping mechanisms so as to examine which variable buffers best against distress.

The present exploratory study extends previous research by offering the first evidence of the buffering effect played by self-compassion in the relationship between maladaptive/irrational beliefs and depression levels. The findings of this study have the potential to make an important contribution to the literature, further bridging the connection between self-compassion and its prospective therapeutic relevance.

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