Dispositional self-compassion impacts immediate and delayed reactions to social evaluation

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A R T I C L E   I N F O

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A B S T R A C T

In the present study, we investigated the beneficial effects of trait self-compassion (SC) on perceived stress, shame, and the use of coping strategies in reaction to a socio-evaluative stressor while controlling for the effects of neuroticism (N) and conscientiousness (C). Participants (N = 105) performed a mental-arithmetic task with immediate in-person feedback. SC predicted less perceived stress and shame immediately after the stressor. Additionally, SC predicted less shame after a short recovery phase. This effect was fully mediated by less use of denial. Furthermore, SC buffered the effect of N on the use of denial, and C on shame after recovery. SC also predicted more use of positive reframing. Thus, SC may make a socio-evaluative stressor less threatening and may thwart a shame-inducing conception of the stressor by promoting clearer processing. Furthermore, SC may be especially beneficial for those vulnerable to dysfunctional coping and negative self-conscious emotions. This study contributes to the understanding of how trait self-compassion beneficially influences the processing of stressful situations.

1. Introduction

Those who are self-compassionate have an accepting and caring attitude toward themselves. More precisely, self-compassion (SC) involves "being open to and moved by one's own suffering, experiencing feelings of caring and kindness toward oneself, taking an understanding, nonjudgmental attitude toward one's inadequacies and failures, and recognizing that one's experience is part of the common human experience" (Neff, 2003a; p.224). This kind attitude toward oneself should be especially beneficial when one is being evaluated by someone else. Evaluations, even from strangers, can evoke strong distress and feelings of shame (Dickerson, Gruenwald, & Kemeny, 2004; Leary & Guadagno, 2004).

The aim of the present study is to examine the impact of trait SC on a person's immediate subjective reaction, use of coping strategies, and delayed subjective reaction to a socio-evaluative stressor. The immediate reaction can be understood as reflecting the perception of the significance of the event (i.e. how threatening the event is), and the delayed reaction can be understood as reflecting the estimated ability to cope with the event (Lazarus, 1991). In the present study, we focus on the self-conscious emotion shame (rather than anxiety as in previous research; e.g. Arch et al., 2014) and on the role of coping in mediating the impact of trait SC on shame. Knowing \textit{when} and \textit{what} aspect of the unfolding reaction to a socio-evaluative stressor SC impacts will contribute to the understanding of how SC can foster psychological functioning (Neff, Kirkpatrick, & Rude, 2007). In line with this idea, a recent meta-analysis by Zessin, Dickhäuser, and Garbade (2015) showed the positive impact of SC on numerous well-being components, but also pointed out that very few studies have explored the processes behind this relationship.

1.1. Trait SC and reacting to and coping with stress

Research has shown that trait SC attenuates the reaction to negative events (e.g. Leary, Tate, Adams, Allen, & Hancock, 2007). For example, trait SC was negatively associated with anxiety assessed directly after answering typical job interview questions in a group experiment (Neff et al., 2007). In addition, self-compassionate people may make more use of effective coping strategies (Allen & Leary, 2010). More specifically, in students coping with an unsatisfactory grade, trait SC was positively associated with acceptance and positive reinterpretation and negatively associated with denial (Neff, Hsieh, & Dejitterat, 2005). The same pattern was found for coping with chronic illness (Sirois, Molnar, & Hirsch, 2014). Furthermore, numerous studies have already revealed the buffering effect of SC on perceived stress (e.g. Arch et al., 2014; Sirois et al., 2014).

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1.2. SC and social evaluation

Being evaluated poses a threat to the central goal of preserving one's "social self" and activates physiological and psychological responses that can have negative health consequences (Dickerson et al., 2004). SC can be considered an "antidote" to this human vulnerability. Treating oneself kindly encompasses shifting the evaluation of self-worth from an external to a more forgiving internal frame of reference. Thus, SC should take the threat out of social evaluation and thereby attenuate the negative impact of social evaluation. In line with this idea, a brief SC training can diminish anxiety to a social evaluative stressor (Arch et al., 2014), and trait SC was found to be negatively associated with concern about evaluation by others in people with social anxiety disorder (Werner et al., 2012). In addition, trait SC was found to be associated with less negative affect after receiving feedback in the form of a bogus personality judgment supposedly based on a self-introductory speech (Leary et al., 2007). More specifically, the reducing effect of trait SC on negative affect was especially prominent for participants low in self-esteem after ambivalent feedback.

1.3. SC and shame

Shame is a negative self-conscious emotion that arises when one believes the whole self is being negatively evaluated. It goes along with a stable and global attributional pattern and an avoidant action tendency (Tangney & Dearing, 2002). Reacting with shame to a performance evaluation is especially debilitating because there are associated feelings of pain, anger, and anxiety in addition to the avoidance tendency (Tangney & Dearing, 2002). Furthermore, the self-conscious emotion of shame can have a detrimental effect on psychological functioning (Dickerson, Gruenewald, & Kemeny, 2009). We expect SC to counteract shame. The self-kindness aspect of SC may soften self-criticism and negative self-evaluation. The mindful awareness of feeling-related aspect of SC may decrease the tendency to avoid or suppress natural emotional reactions as this suppression actually augments the negative emotion. Also, an acceptance of the common humanity aspect of SC may lessen the perceived need for behavioral withdrawal and social isolation. In line with these ideas, trait SC was found to be negatively associated with trait shame (e.g. Johnson & O'Brien, 2013). Furthermore, we expect less use of denial to mediate the effect of trait SC on shame. Denial is a disengagement strategy, and shame is often associated with disengagement rather than engagement coping (e.g. Conradt, Dierk, Schlumberger, & Rauh, 2008). The question remains whether the mediation is complete or partial. For example, Sirois et al. (2014) found that in coping with chronic illness, trait SC was linked to better adjustment beyond the use of coping strategies.

1.4. The present study

On the basis of theoretical considerations and the research results outlined above, we expect trait SC to be beneficial when coping with an acute socio-evaluative stressor. Specifically, we hypothesize that after being evaluated by someone else, trait SC would predict less perceived stress and shame (a) immediately after and (b) shortly after the acute stressor. Furthermore, we hypothesize that SC would predict (c) more use of the coping strategies of acceptance and positive reframing and less use of the coping strategy of denial. Finally, we hypothesized that (d) less use of the coping strategy of denial would mediate the effect of trait SC on shame.

We tested our hypotheses by controlling for well-documented association of trait neuroticism (N) with perceived stress (Gunhert, Cohen, & Armeli, 1999) and coping strategies involving disengagement responses (Carver & Connor-Smith, 2010). By controlling for the broad trait N, it was possible to capture the unique effect of SC on these outcomes. We controlled for N and not C because while C effects more active coping strategies, C does not effect more passive strategies (Carver & Connor-Smith, 2010). Thus, we decided not to take C into account in this analysis. Furthermore, for the same reasons, we controlled for the effect of trait conscientiousness (C) on shame. In addition, we explored the interaction effect of N and SC on perceived stress and coping, and the interaction effect of C and SC on shame. As it has been found for low self-esteem, SC might be able to attenuate the detrimental effect of the traits N and C (Leary et al., 2007).

2. Method

2.1. Participants

Recruitment of participants took place at the campus of the University of Greifswald. One hundred eleven participants took part for course credit or 5 Euros. Five participants had to be excluded due to technical difficulties or disturbances during the stress induction (e.g. construction noise). One participant decided to discontinue due to stressful feelings, so he was excluded as well. Thus, data from N = 105 participants (84 women, 21 men) were available for statistical analyses. Age ranged from 18 to 34 years (M = 22.91 years, SD = 4.01). Almost all participants except one were students, and 72.4% were psychology majors.

2.2. Procedure

Upon their arrival at the laboratory, participants were informed that the study was designed to investigate how people handle stressful events, that they would be recorded on camera at one point during the procedure, and that they could discontinue their participation at any time without giving a reason or experiencing any disadvantages. All participants gave informed consent. Before the participants were introduced to and underwent the stress induction, they completed self-reports on the computer to assess traits and perceived stress and shame (t1). Then they underwent a five-minute stress induction adapted from the arithmetic task of the Trier Social Stress Test (TSS; Kirschbaum, Pirke, & Hellhammer, 1993). They had to repeatedly subtract the number 17 starting from a given four-digit number as fast as possible while standing in front of a female experimenter who held a stop watch in her hand and were recorded with a camera. If they answered correctly, the experimenter responded with “correct”. If they answered incorrectly or did not reply within 10 s, the next number was given, and the participants were instructed to continue from there. At the end of the task, the experimenter left the room, and the participants immediately completed a self-report on the computer for assessing perceived stress and shame (t2) followed by a rest period of 10 min. During the rest period, participants sat in a chair and were not allowed to use any external aids to distract themselves. Rest periods of about 10 min offer people enough time to engage in specific coping strategies. Additionally, previous studies, with comparable stress inductions, showed considerable recovery effects only after 10 min (e.g. Arch et al., 2014). After the recovery period, the participants completed self-reports on the computer for assessing perceived stress, shame, and the coping strategies used in the last 10 min (t3). Afterwards, the experimenter came back, carefully debriefed the participants, deleted the video recording and notes on performance in the participant’s presence, and thanked the participants with an unexpected gift.

2.3. Measures

2.3.1. Trait SC

We assessed trait SC with the German version of the Self-Compassion Scale (Hupfeld & Ruffieux, 2011; Neff, 2003b). The scale is a 26-item self-report inventory and measures self-compassion on six subscales that address three contrasting components: self-kindness (e.g. “I’m tolerant of my own flaws and inadequacies.”) versus self-judgment (e.g. “When times are really difficult, I tend to be tough on myself.”),
common humanity (e.g. “I try to see my failings as part of the human condition.”) versus isolation (e.g. “When I'm feeling down I tend to feel that most people are probably happier than I am.”), and mindfulness (e.g. “When I fail at something important I try to keep things in perspective.”) versus over-identification (e.g. “When I'm feeling down I tend to obsess and fixate on everything that's wrong.”; Neff, 2003b). Participants answered each item on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). A total score was computed by averaging the items for each subscale, inverting the subscale scores self-judgment, isolation, and over-identification, and then summing. Higher values indicate a higher level of SC.

2.3.2. Perceived stress

Participants reported their overall levels of stress at t1, t2, and t3 with a single-item (“How stressed are you feeling at this moment?”, cf. Weinstein, Brown, & Ryan, 2009). Responses were given on a scroll bar with the endpoints 0 (not at all) and 100 (extremely).

2.3.3. Shame

We assessed shame at t1, t2, and t3 with 6 items1 from the German version of the Positive and Negative Affect Schedule – Extended (Grühn, Kotter-Grühn, & Röcke, 2010; Watson & Clark, 1994). Participants indicated the extent to which they were experiencing each affective item in that moment on a 7-point scale ranging from 1 (not at all) to 7 (extremely). The scale score was computed by summing.

2.3.4. Coping strategies

We assessed the coping strategies acceptance, positive reframing, and denial with the respective scales from the German adaption of Carver's Brief COPE-Inventory (Carver, 1997; Knoll, Rieckmann, & Schwarzer, 2005). For two items per scale, participants indicated the extent to which they had employed each strategy in the last 10 min on a 4-point scale ranging from 1 (never) to 4 (very often). Scale scores were computed by averaging.

2.3.5. N and C

We assessed N and C with the respective scales from the German version of the 10-item Big Five Inventory (Rammstedt & John, 2007). Participants were asked to rate themselves on two adjectives per scale using 5-point scales ranging from 1 (totally disagree) to 5 (totally agree). The scale score was computed by averaging. Cronbach's alpha was fairly low (see Table 1). However, with two items representing a whole dimension, higher validity comes with lower internal consistencies (Rammstedt & John, 2007).

3. Results

3.1. Preliminary analyses and manipulation check

Table 1 presents descriptive statistics; t-tests revealed no gender differences (all ps < 0.05), except for perceived stress at t2, t(103) = 2.794, p = 0.006. Research has already shown that men have the tendency to assess their subjective, emotional reactions as less intense after participating in the TSST (Kelly, Tsykva, Anderson, Price, & Carpenter, 2008). Repeated-measures ANOVAs showed significant effects of time for perceived stress, F(2, 103) = 112.376, p < 0.001, η² = 0.868, and shame, F(2, 103) = 65.956, p < 0.001, η² = 0.525. Both increased from baseline to immediately after the stress induction (t1 to t2), p < 0.001, and returned to the baseline level by t3, p > 1.00, indicating that the manipulation successfully induced a stress response. Additionally, Table 2 shows correlations between all dependent variables.

1 The scale name is “guilt”, but according to the definitions of guilt and shame (Tangney & Dearing, 2002), the items assess shame.

3.2. SC, perceived stress, and shame

Table 1 shows correlations of SC with N and C, coping strategies, perceived stress, and shame. To test hypotheses (a) and (b), we computed hierarchical regression analyses predicting perceived stress at t2 and t3 from perceived stress at t1 (step 1), N and SC (step 2), and the interaction of SC and C (step 3). Due to the gender effect in perceived stress at t2, we also controlled for gender in step 1 for that time point. We also computed hierarchical regression analyses predicting shame at t2 and t3 from shame at t1 (Step1), SC and C (Step 2), and the interaction of SC and C (Step 3). The interaction terms were created after the variables were centered on their means. Results are presented in Table 3. As hypothesized, SC predicted less perceived stress and shame at t2. Also as hypothesized, SC predicted less shame at t3. However, unexpectedly, SC did not predict perceived stress at t3.

3.3. SC and coping

To test hypothesis (c), we computed hierarchical regression analyses predicting the use of coping strategies from N and SC (step 1) and the interaction of SC and N (step 2; see Table 4). As hypothesized, SC predicted the use of more positive reframing and less denial. Unexpectedly, SC was not associated with acceptance.

3.4. SC, denial, and shame

To test the mediation hypothesis (d), we followed Baron and Kenny's (1986) causal step approach. In step 1, SC (the independent variable, IV) significantly predicted shame at t3 (the dependent variable, DV), F(3, 101) = 30.114, p < 0.001, adj. R² = 0.359. In step 2, SC significantly predicted denial (mediator, M), F(3, 101) = 10.582, p < 0.01, adj. R² = 0.303. Step 3, SC (IV) and denial (M) together predicted shame at t3 (DV), F(3, 101) = 41.006, p < 0.001, adj. R² = 0.536 (see Fig. 1). Sobel's test showed a significant mediating effect of denial, z = 1.98, p < 0.05, for this model. Thus, less use of the coping strategy of denial mediated the negative effect of SC on shame at t3.

3.5. N and C in the context of SC and perceived stress and shame

As depicted in Table 3, N did not predict perceived stress at t2 and t3, and did not interact with SC in predicting perceived stress at t2 and t3. However, as depicted in Table 4, N predicted the use of denial and also interacted with SC in predicting the use of denial. More precisely, in participants low in SC (1 SD below the mean), N was positively

Table 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>SC r</th>
<th>a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trait SC</td>
<td>19.00</td>
<td>3.60</td>
<td>–</td>
<td>0.92</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>3.09</td>
<td>0.91</td>
<td>–0.489</td>
<td>0.59</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>3.50</td>
<td>0.86</td>
<td>0.307</td>
<td>0.55</td>
</tr>
<tr>
<td>Positive reframing</td>
<td>2.62</td>
<td>0.85</td>
<td>0.212</td>
<td>0.68</td>
</tr>
<tr>
<td>Acceptance</td>
<td>2.38</td>
<td>0.76</td>
<td>0.121</td>
<td>0.67</td>
</tr>
<tr>
<td>Denial</td>
<td>2.22</td>
<td>0.51</td>
<td>–0.305</td>
<td>0.80</td>
</tr>
<tr>
<td>Perceived stress (t1)</td>
<td>32.39</td>
<td>22.29</td>
<td>–0.291</td>
<td>–</td>
</tr>
<tr>
<td>Perceived stress (t2)</td>
<td>62.88</td>
<td>25.64</td>
<td>–0.434</td>
<td>–</td>
</tr>
<tr>
<td>Perceived stress (t3)</td>
<td>30.94</td>
<td>23.87</td>
<td>–0.325</td>
<td>–</td>
</tr>
<tr>
<td>Shame (t1)</td>
<td>9.98</td>
<td>5.04</td>
<td>–0.245</td>
<td>0.82</td>
</tr>
<tr>
<td>Shame (t2)</td>
<td>15.76</td>
<td>7.41</td>
<td>–0.446</td>
<td>0.88</td>
</tr>
<tr>
<td>Shame (t3)</td>
<td>10.40</td>
<td>5.71</td>
<td>–0.373</td>
<td>0.89</td>
</tr>
</tbody>
</table>

Note: t1 = baseline; t2 = immediately after the stress induction; t3 = shortly after the stress induction.

⁎ p < 0.05.
⁎⁎ p < 0.01.
⁎⁎⁎ p < 0.001.

Table 4

<table>
<thead>
<tr>
<th>N, C, SC r</th>
<th>a</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>a</td>
</tr>
<tr>
<td>C</td>
<td>a</td>
</tr>
<tr>
<td>SC</td>
<td>a</td>
</tr>
</tbody>
</table>

Fig. 1
associated with denial, $\beta = 0.594, p < 0.001$, whereas in participants high in SC (1 SD above and at the mean), N was not related to denial, $\beta = 0.030, p = 0.811$.

As depicted in Table 3, C predicted shame at t2 and t3. In addition, C interacted with SC in predicting shame at t3. More precisely, in participants low in SC (1 SD below the mean), C was positively associated with shame at t3, $\beta = 0.302, p = 0.016$, whereas in participants high in SC (1 SD above and at the mean), C was not related to shame at t3, $\beta = -0.058, p = 0.671$.

### 4. Discussion

In the present study, we investigated the impact of dispositional SC on the unfolding reaction to a socio-evaluative stressor. As hypothesized, trait SC predicted less perceived stress and shame immediately after a performance evaluation. Thus, in line with the self-
compassionate stance of viewing negative experiences such as performance evaluations as part of the human experience, trait SC may influence the primary appraisal (i.e. the evaluation of the significance of an event for one's own self- and social esteem; Lazarus, 1991). As hypothesized, SC also predicted less shame shortly after the performance evaluation, an effect that was mediated by less use of denial. This is noteworthy as this finding contradicts the expectation that SC should have an effect beyond its effect on coping (Siegrist et al., 2014). As hypothesized, SC also predicted more use of positive reframing (cf. Neff et al., 2005; Sirois et al., 2014). Thus, trait SC may enable a clear (i.e. undistorted) and more positive processing of a negative situation such as a performance evaluation. Viewing a social threat in a more positive way corresponds with having a caring attitude toward oneself, which is at the core of SC. In addition, a model of the mechanisms underlying mindfulness, a construct closely related to SC, suggests that mindfulness prompts reappraisal due to attention redeployment (Hölzel et al., 2011). What is noteworthy is that in the present study as well as in others (Neff et al., 2005; Sirois et al., 2014), reappraisal only encompassed the positive reframing of only the emotion eliciting stimulus. However, there are other forms of reappraisal (Webb, Miles, & Sheeran, 2012). It is also plausible to expect a self-compassionate attitude to also foster the positive reframing of one's own emotional response. To our knowledge, so far, this assumption has yet to be tested. Unexpectedly, SC was not associated with perceived stress shortly after the performance evaluation. Arch et al. (2014) showed results pointing in the same direction. In their study, participants received a brief self-compassion intervention, a placebo intervention, or no intervention. A stress induction followed. In comparison with the control conditions, the brief training in SC reduced feelings of stress directly after the stress test. However, after a short recovery period, the conditions did not differ significantly. Thus, SC might not directly influence the decrease in the stress reaction. It is interesting that SC seemed to prevent the association of high C with feelings of shame after the performance evaluation and the association of high N with the coping strategy of denial. Thus, SC may be especially helpful for attenuating the vulnerabilities that other dispositions may pose for the processing of a social evaluative stressor (cf. Leary et al., 2007). Several limitations have to be mentioned: First, in the present study, we investigated only short-term effects, and hence, more studies are needed to deal with long-term intervals. Second, we assessed perceived stress and shame subjectively with a face-valid measure, but future research should also use more objective assessments such as bio-chemical processes. In addition, due to the fact that we measured perceived stress and shame simultaneously, we could not determine the direction of causality among the variables reflecting stress and affective response to stress. Third, Cronbach’s alphas for N and C as well as for some coping strategies are fairly low. Lower reliabilities sometimes hinder the detection of significant effects. In our study, this might be the case for the nonsignificant correlation between SC and acceptance (cf. Neff et al., 2005). Fourth, the sample was relatively small and homogeneous (highly educated Caucasian young adults). The extent to which our results generalize to other populations has to be addressed in further research. Taken together, it seems that SC may promote a less threatening interpretation of a performance evaluation situation. In addition, SC may also enable people to engage in a less passive and more conscious processing of a performance evaluation. This may result in the ability to save oneself from the detrimental aspects of feeling ashamed and thereby facilitate psychological functioning.

Acknowledgments

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References


