Mindfulness
https://doi.org/10.1007/s12671-018-0924-1

ORIGINAL PAPER

The Impact of Self-Compassion on Shame-Proneness in Social Anxiety

Diana-Mirela Cândea [1] · Aurora Szentágotai-Tătar [2]

© Springer Science+Business Media, LLC, part of Springer Nature 2018

Abstract
Self-compassion is conceptualized as a particularly useful strategy in regulating shame. However, only a limited number of studies have investigated its effect on shame and shame-proneness. Also, it is not clear if this strategy is equally effective as other well-established techniques used for regulating basic emotions. The aim of the present study was to compare the efficacy of a self-compassion intervention, a cognitive reappraisal intervention, and a wait-list condition in reducing shame-proneness and social anxiety in a high socially anxious undergraduate sample. Participants ($N = 136$; 88.23% women; mean age = 21.85) completed a 2-week self-compassion or cognitive reappraisal online training in which they were asked to describe a negative event that had happened to them in the past 2 days and then reconsider the situation based on instructions received both in video and written format. Self-ratings of social anxiety symptoms, shame-proneness, trait self-compassion, and irrational beliefs were conducted before and after the training. We also explored the impact of the training on the level of state emotions following a laboratory shame-induction procedure. Both self-compassion and cognitive reappraisal significantly reduced shame-proneness and irrational beliefs from pre- to post-training, while social anxiety symptoms significantly decreased in the self-compassion condition. No significant between-group differences for these outcomes were observed. Self-compassion might be an alternative strategy for cognitive reappraisal in the management of shame-proneness and social anxiety.

Keywords Self-compassion · Shame-proneness · Social anxiety · Cognitive reappraisal · Irrational beliefs

Introduction

Shame is a self-conscious emotion characterized by the presence of self-awareness, self-representations, and negative global self-evaluations (Tracy and Robins 2004). Although the concepts of shame and guilt are often used synonymously, numerous studies showed that these two emotions differ along several dimensions (Tangney 1992; Tracy and Robins 2004). The main distinction between shame and guilt resides in their focus of evaluation; while guilt-specific behaviors are evaluated as inappropriate, in shame, the entire self is negatively judged.

✉ Aurora Szentágotai-Tătar
auraszentagotai@psychology.ro

[1] Evidence-Based Assessment and Psychological Interventions Doctoral School, Babeş-Bolyai University, 37 Republicii Street, 400015 Cluj-Napoca, Romania

[2] Department of Clinical Psychology and Psychotherapy, Babeş-Bolyai University, 37 Republicii Street, 400015 Cluj-Napoca, Romania

Shame is considered to be a particularly intense and often incapacitating negative emotion. It has been linked to feelings of inferiority (Allan and Gilbert 1997), worthlessness, and powerlessness (Gilbert 1992), and with the desire to escape, hide, or disappear (Tangney 1992; Tangney et al. 1996). While occasional feelings of shame might be functional, as they serve social goals (Muris and Meesters 2014), the proneness to experience shame seems to play an important role in psychopathology. A distinction is made between shame as an emotional state and shame-proneness, which refers to the tendency to experience shame (Tangney 1996). There is a growing body of investigations showing that shame-proneness is associated with various forms of psychopathology, including depression (Andrews et al. 2002; Gilbert et al. 1994; Kim et al. 2011), anxiety (Fergus et al. 2010; Gilbert and Miles 2000), eating disorders (Sanftner et al. 1995; Troop et al. 2008), and personality disorders (Rüsch et al. 2007).

There is consistent evidence that shame-proneness might be particularly relevant in the case of social anxiety, as numerous studies showed that shame-proneness is associated with both social anxiety symptoms and social anxiety disorder (Fergus et al. 2010; Gilbert and Miles 2000; Lutwak and

Published online: 19 March 2018

Ferrari 1997). These associations remain significant even after controlling for other anxiety symptoms, guilt-proneness, and depressive symptoms (Fergus et al. 2010). Further, changes in social anxiety symptoms after a psychological intervention are significantly associated with changes in shame-proneness (Fergus et al. 2010). However, little is known about the mechanisms that might explain these associations. One hypothesis suggests that it may not be the tendency to experience shame that contributes to psychopathology, but its poor regulation (Bybee et al. 1996; Quiles and Bybee 1997). Yet, research regarding the regulation of shame is in its incipient phase. There are a few studies showing that shame is associated with rumination (Cheung et al. 2004; Joireman 2004; Orth et al. 2006), and there is also some preliminary evidence indicating that self-distancing, which is efficient in reducing feelings of anger and sadness, does not attenuate the experience of shame (Katzir and Eyal 2013).

A strategy that is conceptualized as particularly efficient in reducing shame and self-criticism is self-compassion (Gilbert and Irons 2004; Gilbert and Procter 2006). Self-compassion involves three main components: self-kindness, common humanity, and mindfulness (Neff 2003a). These components are reflected in "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). Although self-compassion is viewed as a promising strategy for reducing shame and shame-proneness, to date, only few studies have investigated this hypothesis. These studies showed that practicing self-compassion exercises for a period of 1 or 2 weeks reduces levels of shame-proneness compared to an expressive writing condition (Johnson and O'Brien 2013) or to a control condition (Kelly et al. 2009). Exercises in these studies included self-compassion writing three times a week, or the repetition of compassionate self-statements while engaging in compassionate imagery three times a day.

Despite these encouraging preliminary findings, it is unclear whether self-compassion is more or equally efficient compared to other well-established adaptive emotion regulation strategies used for basic emotions such as cognitive reappraisal. Two studies showed that self-compassion is as effective as cognitive reappraisal in reducing depressive mood (Diedrich et al. 2014) and negative self-conscious emotions (a composite score including shame, embarrassment, shyness, guilt, and regret; Arimitsu and Hofmann 2015). Also, it seems that self-compassion facilitates the subsequent use of explicit cognitive reappraisal (Diedrich et al. 2016). None of these studies compared the effect of self-compassion and cognitive reappraisal on shame-proneness or social anxiety symptoms.

The main purpose of the present study was to compare the efficacy of a self-compassion training and a cognitive reappraisal training in reducing social anxiety symptoms and the tendency to experience shame (i.e., shame-proneness) in socially anxious individuals. We tested the hypotheses that self-compassion would be more efficient in reducing social anxiety symptoms and shame-proneness compared to cognitive reappraisal and that both strategies would lead to significant decreases compared to a wait-list condition. We also looked at whether individuals trained in using these emotion regulation strategies would regulate their negative emotions better in a laboratory shame-inducing situation. Specifically, we expected participants in the training conditions to experience lower levels of shame and negative emotions and state negative self-evaluations compared to those in the control group following a shame-induction procedure. Finally, we explored the impact of these strategies on trait self-compassion and irrational beliefs.

Method

Participants

One hundred and thirty-six undergraduate psychology students participated in exchange for course credit. Recruitment took place in two waves, in March 2015 and October 2015, through online advertisements posted on students' discussion groups. In order to enroll in the study, participants filled in online a set of demographic questions and the *Liebowitz Social Anxiety Scale: Self-Report Version* (LSAS-SR; Fresco et al. 2001). Only participants who scored at least 30 on this measure were included in this study. LSAS-SR shows good sensitivity and specificity to the clinical criteria for social anxiety disorder, as a cut-off score of 30 on LSAS-SR correctly identifies over 90% of social anxiety disorder sufferers (Mennin et al. 2002). Participants included 120 women and 16 men, whose ages ranged from 18 to 45 years ($M = 21.85$, $SD = 4.49$). They were randomly assigned to reappraisal training, compassion training, or wait-list, using a computerized random number generator. The number of participants in each group who completed training after the first recruitment wave was highly unbalanced. Thus, participants from the second wave were randomized in each group using an adaptive randomization algorithm meant to equalize the size of the groups.

In what concerns the dropout rates, an overall dropout rate of 26.5% ($n = 36$), with a rate of 14% for wait-list, 43.14% for cognitive reappraisal, and 19.05% for self-compassion, was found. The difference in dropout rates was statistically significant ($\chi^2 = 11.93$, $df = 2$, $p = .003$). Pairwise comparisons indicated that the dropout rate in the cognitive reappraisal condition was significantly higher than in the self-compassion condition ($\chi^2 = 6.12$, $df = 1$, $p = 0.013$) and wait-list condition ($\chi^2 = 9.5$, $df = 1$, $p = .002$). A multivariate ANOVA indicated no statistically significant differences between dropouts and

completers on baseline measures, $F(5, 125) = 0.15$, $p = .98$, Wilk's $\lambda = .994$, $\eta_p^2 = 0.006$. A logistic regression analysis was conducted to predict dropout using all baseline measures (including sex and age) as predictors. A test of the full model against a constant only model was not statistically significant, indicating that the predictors did not distinguish between completers and dropouts ($\chi^2 = 2.1$, $df = 7$, $p = .954$). Figure 1 illustrates the participant flow; Tables 1 and 2 present descriptive data for each group.

Procedure

After enrolment, participants received the informed consent and filled in the baseline measures evaluating social anxiety, shame-proneness, self-compassion and dysfunctional thinking online. Informed consent was obtained from all individual participants included in the study. Participants who met the including criteria were then randomly assigned to one of the three groups: reappraisal training, self-compassion training, and wait-list. At the end of the training, they filled in the same measures as at baseline assessment. After completing these measures, participants were scheduled for the laboratory phase. The online training phase and the laboratory part are described below.

Online training phase. Participants in the experimental groups completed the reappraisal or self-compassion training online. Training consisted of six exercises, implemented during a 2-week period. Participants received an e-mail providing a hyperlink Internet address that allowed them to access the exercises. The first exercise began with a detailed description of the strategy to be practiced; these instructions were presented both in written format, and in a video of the first author explaining what reappraisal/self-compassion means. Participants were then asked to think of a negative situation that had happened to them in the past 2 days and to describe the context, what they had thought and how they had felt or behaved. They were then prompted to analyze the situation by answering several questions depending on the group in which they were randomized.

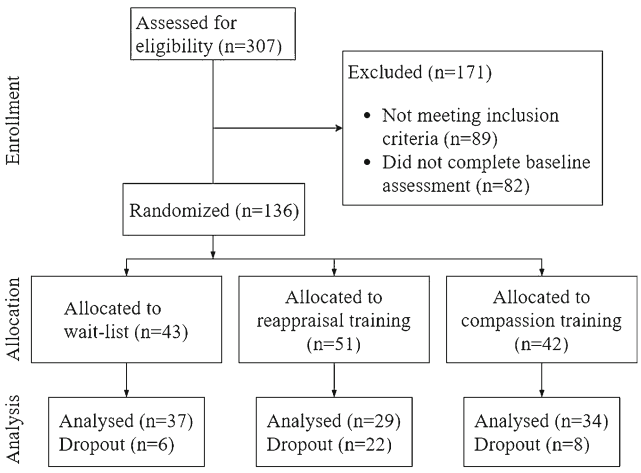

Fig. 1 Flowchart of study participants

The reappraisal training was inspired by cognitive restructuring strategies used in Rational Emotive Behavioral Therapy (REBT). This model highlights the role of irrational beliefs as causal mechanisms of emotional disorders (David et al. 2005). Reappraisal is used to challenge the four irrational beliefs central to the REBT theory of psychopathology: demandingness (i.e., absolutistic and rigid requirements regarding the self, others, or the world), awfulizing (i.e., appraisals of negative situations as being catastrophic), low frustration tolerance (i.e., beliefs of inability to tolerate particular situations), and global evaluations (i.e., labeling oneself, other people, or life as being either entirely negative/bad or positive/good) by logical, pragmatic, and empirical strategies (Dryden and Branch 2008). That is, participants were asked whether their cognitions followed logically from other rational beliefs, whether they were helpful, and whether they could find examples consistent with reality that contradicted each of these four cognitions.

The self-compassion strategy targeted the three components of self-compassion: self-kindness, common humanity, and mindfulness. The procedure was similar to the one used by Leary et al. (2007). The first instruction, intended to foster common humanity, asked participants to list situations experienced by other people which were similar to that described by them. In order to promote self-kindness, the second instruction asked participants to write one or two paragraphs expressing understanding, kindness, and concern toward their own person in a way that they would do it for a friend going through a similar experience. Finally, the third instruction, aiming to induce a mindful perspective, required participants to describe the situations in an objective and unemotional manner, like an observer who watches the event progressing.

Participants completed the same exercise three times a week, at a 2-day interval. After each exercise, they received personalized feedback from the first author. The goal of the feedback was to help participants follow instructions correctly and to offer supplementary clarifications and examples if needed. If the exercise was done correctly, participants were encouraged to continue. At the end of the 2-week period, all participants filled in the baseline measures again. Participants in the wait-list condition filled in the measures at baseline and 2 weeks later; following the laboratory session, they were assigned to one of the two training conditions.

Laboratory phase. Upon arrival to the laboratory, participants signed the informed consent and filled in state-shame and positive and negative emotions measures. To induce shame, participants were instructed to think about a shameful

Table 1 Descriptive statistics for trait measures broken down by group

Measure	Time of assessment	Condition					
		Wait-list ($n = 36$)		Cognitive-reappraisal ($n = 29$)		Self-compassion ($n = 33$)	
		M	SD	*M*	SD	*M*	SD
Social anxiety (LSAS-SR)	Pre	55.44	19.24	57.21	18.90	55.97	21.12
	Post	52.42	21.82	50.66	22.63	48.94	24.44
Social anxiety (BFNE)	Pre	22.86	8.63	25.55	7.34	23.37*	7.94
	Post	22.78	7.88	23.72	7.36	19.79*	6.77
Shame-proneness (TOSCA-3)	Pre	40.75	10.34	39.48*	10.50	41*	9.93
	Post	40.28	12.53	34.2*	9.21	34.94*	9.85
Self-compassion (SCS)	Pre	72.36	15.59	74.79	12.74	70.67*	15.64
	Post	76.31	11.89	79.69	11.24	82.21*	15.30
Irrational beliefs (ABS-II)	Pre	86.83**	47.28	89.24*	40.28	86.61*	49.80
	Post	86.58**	46.46	56.62*,**	37.36	64.64*	44.07

M mean, *SD* standard deviations

*Pre-post difference, $p < .001$

**Between-group difference, $p = .02$

situation they had experienced and describe it to the experimenter for 5 min. After emotion induction, negative self-evaluations were assessed, along with the baseline measures. At the end of this phase, participants were debriefed and thanked for their participation.

Measures

Social Anxiety Social anxiety symptoms were assessed using two scales, the *Liebowitz Social Anxiety Scale: Self-Report Version* (LSAS-SR Fresco et al. 2001) and the *Brief Fear of Negative Evaluation* scale (BFNE; Leary 1983). LSAS-SR includes 24 items which evaluate fear and avoidance of social situations (social interaction and public performance) over the past week. The separate ratings of fear and avoidance are added to calculate a total score. The LSAS-SR has good psychometric properties (Cronbach's alpha = .94 for the total score; Fresco et al. 2001). In this study, a Cronbach's alpha of .93 at pre-training and of .95 at post-training was found. The BFNE is a 12-item measure (eight straightforwardly worded items and four reverse-scored items) evaluating the fear of being negatively judged by others, considered to be a hallmark of social anxiety. Respondents rate the extent to which items tapping into this fear are characteristic of them on 5-point scales. Given that the reverse-scored items seem to measure a different factor (Weeks et al. 2005), only the eight

Table 2 Descriptive statistics for state measures broken down by group

Measure	Time of assessment	Condition					
		Wait-list ($n = 32$)		Cognitive-reappraisal ($n = 24$)		Self-compassion ($n = 33$)	
		M	SD	*M*	SD	*M*	SD
State shame (PFQ-2)	Pre-induction	2.31*	2.09	2.838**	3.13	4.12*	6.09
	Post-induction	9.53*	7.22	6.04**	5.77	10*	8.07
Negative emotions (PANAS)	Pre-induction	14.56	4.21	13.50	3.62	15.15	4.99
	Post-induction	19.16	7.73	14.63	5.39	18.52	8.39
Positive emotions (PANAS)	Pre-induction	27.59	7.21	29.58	6.71	28.64	4.59
	Post-induction	22.78	7.88	26.04	6.07	25.33	6.21
Negative self-evaluations (ATQ)	Post-induction	16.97	8.17	14.38	4.31	16.97	6

M mean, *SD* standard deviations

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

straightforwardly worded items were used in this study. The scale in this format has adequate psychometric properties (Weeks et al. 2005). In this study, Cronbach's alphas ranged between .92 (at post-training) and .93 (at pre-training).

Shame-Proneness The tendency to experience shame was evaluated with the *Test of Self-Conscious Affect–3* (TOSCA-3; Tangney et al. 2000) which is a 16 scenario-based self-report questionnaire measuring proneness to shame, guilt, pride, detachment, and externalization. For each scenario (e.g., "You break something at work and then hide it"), there are sets of responses corresponding to each of these different affective tendencies (e.g., "You would think: *This is making me anxious. I need to either fix it or get someone else to*." for guilt, "You would think about quitting" for shame, "You would think: *A lot of things aren't made very well these days*." for externalization, and "You would think: *It was only an accident.*" for detachment) which are rated from 1 = "not likely" to 5 = "very likely." Only the shame subscale was used in this study. The entire scale has good psychometric properties (Tangney and Dearing 2002), and in this study, the shame subscale has adequate internal consistency both at pre-training (Cronbach's alpha = .80) and at post-training (Cronbach's alpha = .86).

Self-Compassion The *Self-Compassion Scale* (SCS; Neff 2003b) is a 26-item questionnaire designed to assess overall self-compassion and its three components: common humanity, mindfulness, and self-kindness. Items are designed to capture how respondents perceive their actions toward themselves in difficult times (e.g., "When times are really difficult, I tend to be tough on myself"). The scale has six subscales (self-kindness, self-judgment, humanity, isolation, mindfulness, and over-identification), and each item is rated using a Likert-type scale anchored from 1 = "almost never" to 5 = "almost always." Mean scores on the six subscales are summed (after negative items are reverse-coded) to calculate an overall self-compassion score. The scale has adequate psychometric properties (Neff 2003b). The internal consistency of the scale in the current study was adequate (Cronbach's alphas between .71 and .88 at pre-training and post-training, respectively).

Irrational/Rational Beliefs *The Attitude and Beliefs Scale II* (ABS-II; DiGiuseppe et al. 1988) is a self-report scale that measures irrational thinking. It assesses (1) four cognitive processes (demandingness, awfulizing, low frustration tolerance, and global evaluation), (2) three content areas (approval, achievement, and comfort), and (3) two wording modalities (rational terms and irrational terms). Participants rate their agreement with 72 affirmations (e.g., "I cannot accept not fulfilling important tasks well and failure is unbearable") using a 5-point Likert scale ranging from 1 = "strongly disagree" to 5 = "strongly agree"). A total score of irrationality is obtained by summing up the scores of the 36 irrationally worded items and the reverse-scored responses of the rationally worded items. The scale has adequate psychometric properties (e.g., David et al. 2002; DiGiuseppe et al. 1988). An excellent internal consistency was observed in this study, with Cronbach's alphas ranging between .97 at pre-training and .98 at post-training.

State-Shame The *Personal Feelings Questionnaire-2* (PFQ-2; Harder and Zalma 1990) is a 16-item adjective checklist that measures trait-shame and guilt. For this study, the shame subscale of the PFQ-2 was adapted to measure state-shame, by asking participants to assess the extent to which they felt as described by the scale in that particular moment. The scale has adequate test-retest and construct validity (Harder and Zalma 1990) and a good internal consistency (in the current study, Cronbach's alpha was .84 before emotion induction and .88 after emotion induction).

Positive and Negative Emotions The *Positive and Negative Affect Schedule* (PANAS, Watson and Clark 1999) is a widely used instrument that assesses specific emotional states. The PANAS includes 2 subscales, each containing 10 positive and 10 negative affective descriptors. Respondents rate the extent to which they currently feel each emotion on a scale of 1 = "very little or not at all" to 5 = "very much." The PANAS has high internal consistency (a Cronbach's alpha of .81 was obtained in our study, both before and after emotion induction) and adequate test-retest reliability (Watson and Clark 1999).

State Negative Self-Evaluations To assess the level of state negative self-evaluations, the *Automatic Thoughts Questionnaire Short Version* (ATQ; Netemeyer et al. 2002) was adapted by adding three items (i.e., "I feel incapable," "I feel humiliated," and "I am a bad person") assessing negative self-evaluations to the existing five items. The items were added in order to increase the reliability of the scale in capturing negative self-evaluations associated with the experience of shame. The questionnaire was originally developed to measure the most frequent negative thoughts and negative self-evaluations associated with depressive symptoms. Respondents are asked to evaluate, on a Likert-scale ranging from 1 = "never" to 5 = "almost all the time"), the extent to which they think in a particular way while remembering the shameful situation in the laboratory setting. The instrument has good psychometric properties (Netemeyer et al. 2002), and an adequate internal consistency was obtained in our study (Cronbach's alpha = .86).

Data Analyses

In order to assess the effects of training on social anxiety symptoms, shame-proneness, self-compassion, irrational

beliefs, state-shame, and positive and negative emotions, separate mixed within-between analyses of variance (ANOVAs) for each outcome were conducted, with time of assessment as within-subjects factor and group as between-subjects factor. When a time × group interaction was found, within- and between-subjects pairwise comparisons were conducted. A one-way ANOVA was conducted to test for the effect of the trainings on state negative self-evaluations.

Results

Effects of Training on Social Anxiety

To test for the effect of training on social anxiety symptoms, two separate mixed within-between ANOVAs for LSAS-SR and BFNE were conducted. For LSAS-SR, the analysis indicates a significant main effect of time, $F(1, 97) = 15.98$, $p < .001$, $\eta_p^2 = .14$, but no significant effects of group and time × group interaction. For BFNE, significant main effects of time $F(1, 96) = 10.21$, $p = .002$, $\eta_p^2 = .09$, and time × group interaction, $F(2, 96) = 3.35$, $p = .039$, $\eta_p^2 = .07$ were observed, but no effect of group. Within-subjects pairwise comparisons (Sidak adjustment) showed significant decreases in social anxiety for the participants receiving the self-compassion training, $p < .001$, while no significant changes were observed in the other two groups. Between-subjects pairwise comparisons indicated no significant differences between groups, neither at baseline nor after training.

Effects of Training on Shame-Proneness

Results indicate significant main effects of time $F(1, 96) = 26.76$, $p < .001$, $\eta_p^2 = .22$, and time × group interaction, $F(2, 96) = 5.63$, $p = .005$, $\eta_p^2 = .11$, but no effect of group. Within-subjects pairwise comparisons (Sidak adjustment) showed significant decreases in shame-proneness both in the reappraisal, $p < .001$, and self-compassion group, $p < .001$, while no significant changes were observed in the wait-list group. Between-subjects pairwise comparisons indicated no significant differences between groups, neither at baseline nor after training.

Effects of Training on Self-Compassion

For self-compassion, the analysis indicates significant main effects of time $F(1, 96) = 24.74$, $p < .001$, $\eta_p^2 = .21$, and time × group interaction, $F(2, 96) = 3.85$, $p = .038$, $\eta_p^2 = .07$, but no effect of group. Within-subjects pairwise comparisons (Sidak adjustment) showed significant increases in self-compassion in participants receiving self-compassion training, $p < .001$, while no significant changes were observed in the other two groups. Between-subjects pairwise comparisons indicated no significant differences between groups, neither at baseline nor after training.

Effects of Training on Irrational Beliefs

The analysis indicated a significant main effects of time $F(1, 96) = 33.71$, $p < .001$, $\eta_p^2 = .26$, and time × group interaction, $F(2, 96) = 9.35$, $p < .001$, $\eta_p^2 = .16$, but no effect of group. Within-subjects pairwise comparisons (Sidak adjustment) showed significant decreases in irrational beliefs in participants receiving reappraisal training, $p < .001$, and participants receiving self-compassion training, while no significant changes were observed for the wait-list group. Between-subjects pairwise comparisons reflected significant differences between the reappraisal group and the wait-list group after training, $p = .02$. No other significant differences were found.

Effects of Training on State Measures After the Emotion Induction in the Laboratory

Next, it was tested whether the training had any effect on the state measures. For state-shame, the results indicate significant main effects of time $F(1, 91) = 73.85$, $p < .001$, $\eta_p^2 = .45$, and time × group interaction, $F(2, 91) = 3.19$, $p = .046$, $\eta_p^2 = .07$, but no effect of group. Within-subjects pairwise comparisons showed significant increases in state-shame in all three groups ($p < .001$ for wait-list and self-compassion groups, and $p = .006$ for reappraisal group). Between-subjects pairwise comparisons indicated no significant differences.

For negative emotions, only a significant main effect of time was found, $F(1, 92) = 37.92$, $p < .001$, $\eta_p^2 = .29$. Similar results were obtained for positive emotions, $F(1, 92) = 70.77$, $p < .001$, $\eta_p^2 = .44$. A one-way ANOVA showed that the three groups did not significantly differ in terms of negative self-evaluations measured after the emotion induction, $F(2, 89) = 1.20$, $p = .307$.

Discussion

The present study examined the efficacy of self-compassion and cognitive reappraisal in reducing social anxiety symptoms and shame-proneness in socially anxious individuals. Results indicate that self-compassion significantly reduces shame-proneness and social anxiety-related cognitions from pre- to post-test. Also, following training, participants in the self-compassion condition had increased levels of self-compassion and lower levels of irrational beliefs. However, there were no significant differences among the self-compassion, reappraisal, and wait-list conditions. Previous studies reported that both self-compassion and cognitive reappraisal were efficient in reducing state emotions (Arimitsu and

Hofmann 2015), and self-compassion was found efficient in reducing shame-proneness in a high shame-prone sample (Johnson and O'Brien 2013). The fact that in our study, neither of these strategies reduced shame-proneness or social anxiety symptoms compared to wait-list suggests that more complex interventions might be needed to achieve significant change in socially anxious individuals. This conclusion is also supported by the lack of effect of training on state-shame levels and negative emotions following shame induction in the laboratory. Longer interventions, involving various types of exercises and higher clinician involvement, might be more efficient in addressing shame-proneness and social anxiety symptoms. While our results suggest that self-compassion could be a promising strategy for highly anxious individuals, more research is needed to clarify its efficacy in clinical populations.

The current study extends previous findings by showing that self-compassion training might decrease dysfunctional thinking. While it does not directly address irrational thinking, self-compassion might indirectly target global self-evaluations and awfulizing by its common humanity and self-kindness components. However, it should be noted that cognitive reappraisal did not only significantly reduce irrational beliefs compared to baseline but also compared to the wait-list condition. If confirmed by future studies, these findings suggest that self-compassion could be considered an alternative strategy for reducing shame-proneness and changing dysfunctional thinking in cases where cognitive restructuring fails. Furthermore, this strategy seems to be easier to implement, as suggested both by dropout rates and the accuracy in completing the exercises compared to the cognitive reappraisal group.

Our study indirectly suggests that targeting shame-proneness might be a relevant way of increasing the efficacy of psychological interventions for social anxiety. Existing data show that cognitive-behavioral therapy, the gold treatment standard for most emotional disorders (APA Presidential Task Force on Evidence-Based Practice 2006), has a limited effect on shame-proneness in socially anxious individuals, with small to moderate reductions after 16–17 weeks of treatment (Hedman et al. 2013). The present findings could foster further research in this area, investigating whether integrating a self-compassion component in existing interventions is a more efficient way of addressing shame-proneness.

Limitations

The present study shows that self-compassion and cognitive reappraisal can reduce shame-proneness and social anxiety symptoms, but it has some inevitable limitations. The first one is related to the non-clinical status of the sample. Although participants were selected based on a cut-off indicating clinically relevant symptoms of social anxiety, they were not formally diagnosed using a clinical interview. Another limitation related to the nature of the sample is the small number of males. Further, sex was defined as a binary construct, and the effect of sex was not controlled for. A second type of limitation is related to the fact that the severity of the events recalled during training was not taken into account. While remembering a real-life event ensures ecological validity, differences in recalled event severity might influence the effect of the strategy. Third, while the use of self-compassion exercises for 2 weeks is an advancement in self-compassion research, the assessment limited to short-term efficacy is a shortcoming; longer follow-ups would help clarify the durability of observed effects. Future research should focus on assessing both short- and long-term effects of self-compassion, using both ecological and objective measures. Another limitation relates to the fact that the instruction used to promote the mindfulness component of self-compassion might not clearly capture the idea of non-judgmentally holding negative emotions, but rather the idea of seeing one's experience in an objective manner. Although, many studies on the effect of self-compassion used these instructions, research in this field might benefit from using instructions which more clearly promote the idea of "holding one's painful thoughts and feelings in balanced awareness rather than over-identifying with them" (Neff 2003a, p. 89). Finally, future research should also try to replicate the present findings with more participants, given that our sample size only provided moderate statistical power, which could explain the lack of significant differences between the groups.

Author Contributions DMC: designed and executed the study, analyzed the data, and wrote the paper. AST: collaborated with the design, writing and editing of the final manuscript.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The research study was approved by the Institutional Review Board at Babes-Bolyai University.

Informed Consent Informed consent was obtained from all individual participants prior to their inclusion in the study.

References

Allan, S., & Gilbert, P. (1997). Submissive behaviour and psychopathology. *British Journal of Clinical Psychology, 36*(4), 467–488. https://doi.org/10.1111/j.2044-8260.1997.tb01255.x.

Andrews, B., Qian, M., & Valentine, J. D. (2002). Predicting depressive symptoms with a new measure of shame: the Experience of Shame Scale. *British Journal of Clinical Psychology, 41*, 29–42. https://doi.org/10.1348/014466502163778.

APA Presidential Task Force on Evidence-Based Practice. (2006). Evidence-based practice in psychology. *American Psychologist, 61*, 271–285.

Arimitsu, K., & Hofmann, S. G. (2015). Effects of compassionate thinking on negative emotions. *Cognition and Emotion, 31*(1), 169–167. https://doi.org/10.1080/02699931.2015.1078292.

Bybee, J., Zigler, E., Berliner, D., & Merisca, R. (1996). Guilt, guilt-evoking events, depression, and eating disorders. *Current Psychology, 15*(2), 113–127. https://doi.org/10.1007/BF02686944.

Cheung, M. S. P., Gilbert, P., & Irons, C. (2004). An exploration of shame, social rank and rumination in relation to depression. *Personality and Individual Differences, 36*, 1143–1153. https://doi.org/10.1016/S0191-8869(03)00206-X.

David, D., Schnur, J., & Belloiu, A. (2002). Another search for the "hot" cognition: appraisal irrational beliefs, attribution, and their relation to emotion. *Journal of Rational-Emotive and Cognitive-Behavior Therapy, 20*, 93–131. https://doi.org/10.1023/A:1019876601693.

David, D., Szentagotai, A., Kallay, E., & Macavei, B. (2005). A synopsis of rational-emotive behavior therapy (REBT); fundamental and applied research. *Journal of Rational-Emotive and Cognitive-Behavior Therapy, 23*(3), 175–221. https://doi.org/10.1007/s10942-005-0011-0.

Diedrich, A., Grant, M., Hofmann, S. G., Hiller, W., & Berking, M. (2014). Self-compassion as an emotion regulation strategy in major depressive disorder. *Behaviour Research and Therapy, 58*, 43–51. https://doi.org/10.1016/j.brat.2014.05.006.

Diedrich, A., Hofmann, S. G., Cuijpers, P., & Berking, M. (2016). Self-compassion enhances the efficacy of explicit cognitive reappraisal as an emotion regulation strategy in individuals with major depressive disorder. *Behaviour Research and Therapy, 82*, 1–10. https://doi.org/10.1016/j.brat.2016.04.003.

DiGiuseppe, R., Leaf, R., Exner, T., & Robin, M. W. (1988). *The development of a measure of irrational/rational thinking*. Edinburgh: World Congress of Behavior Therapy.

Dryden, W., & Branch, R. (2008). *Fundamentals of rational emotive behaviour therapy: a training handbook*. Chichester: Wiley.

Fergus, T. A., Valentiner, D. P., McGrath, P. B., & Jencius, S. (2010). Shame-and guilt-proneness: relationships with anxiety disorder symptoms in a clinical sample. *Journal of Anxiety Disorders, 24*(8), 811–815. https://doi.org/10.1016/j.janxdis.2010.06.002.

Fresco, D. M., Coles, M. E., & Heimberg, R. G. (2001). The Liebowitz Social Anxiety Scale: a comparison of the psychometric properties of self-report and clinician-administered formats. *Psychological Medicine, 31*(6), 1025–1035. https://doi.org/10.1017/S0033291701004056.

Gilbert, P. (1992). *Depression: the evolution of powerlessness*. Hove: Lawrence Erlbaum Associates.

Gilbert, P., & Irons, C. (2004). A pilot exploration of the use of compassionate images in a group of self-critical people. *Memory, 12*(4), 507–516. https://doi.org/10.1080/09658210444000115.

Gilbert, P., & Miles, J. N. (2000). Sensitivity to social put-down: it's relationship to perceptions of social rank, shame, social anxiety, depression, anger and self-other blame. *Personality and Individual Differences, 29*(4), 757–774. https://doi.org/10.1016/S0191-8869(99)00230-5.

Gilbert, P., & Procter, S. (2006). Compassionate mind training for people with high shame and self-criticism: overview and pilot study of a group therapy approach. *Clinical Psychology & Psychotherapy, 13*(6), 353–379. https://doi.org/10.1002/cpp.507.

Gilbert, P., Pehl, J., & Allan, S. (1994). The phenomenology of shame and guilt: an empirical investigation. *British Journal of Medical Psychology, 67*, 23–36. https://doi.org/10.1111/j.2044-8341.1994.tb01768.x.

Harder, D. H., & Zalma, A. (1990). Two promising shame and guilt scales: a construct validity comparison. *Journal of Personality Assessment, 55*(3–4), 729–745. https://doi.org/10.1080/00223891.1990.9674108.

Hedman, E., Ström, P., Stünkel, A., & Mörtberg, E. (2013). Shame and guilt in social anxiety disorder: effects of cognitive behavior therapy and association with social anxiety and depressive symptoms. *PLoS One, 8*(4), 162–188. https://doi.org/10.1371/journal.pone.0061713.

Johnson, E. A., & O'Brien, K. A. (2013). Self-compassion soothes the savage ego-threat system: effects on negative affect, shame, rumination, and depressive symptoms. *Journal of Social and Clinical Psychology, 32*(9), 939–963. https://doi.org/10.1521/jscp.2013.32.9.939.

Joireman, J. (2004). Empathy and the self-absorption paradox II: self-rumination and self-reflection as mediators between shame, guilt, and empathy. *Self and Identity, 3*, 225–238. https://doi.org/10.1080/13576500444000038.

Katzir, M., & Eyal, T. (2013). When stepping outside the self is not enough: a self-distanced perspective reduces the experience of basic but not of self-conscious emotions. *Journal of Experimental Social Psychology, 49*(6), 1089–1092. https://doi.org/10.1016/j.jesp.2013.07.006.

Kelly, A. C., Zuroff, D. C., & Shapira, L. B. (2009). Soothing oneself and resisting self-attacks: the treatment of two intrapersonal deficits in depression vulnerability. *Cognitive Therapy and Research, 33*(3), 301–313. https://doi.org/10.1007/s10608-008-9202-1.

Kim, S., Thibodeau, R., & Jorgensen, R. S. (2011). Shame, guilt, and depressive symptoms: a meta-analytic review. *Psychological Bulletin, 137*, 68–96. https://doi.org/10.1037/a0021466.

Leary, M. R. (1983). A brief version of the fear of negative evaluation scale. *Personality and Social Psychology Bulletin, 9*, 371–376. https://doi.org/10.1177/0146167283093007.

Leary, M. R., Tate, E. B., Adams, C. E., Batts Allen, A., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: the implications of treating oneself kindly. *Journal of Personality and Social Psychology, 92*(5), 887–904. https://doi.org/10.1037/0022-3514.92.5.887.

Lutwak, N., & Ferrari, J. R. (1997). Shame-related social anxiety: replicating a link with various social interaction measures. *Anxiety, Stress, and Coping, 10*(4), 335–340. https://doi.org/10.1080/10615809708249307.

Mennin, D. S., Fresco, D. M., Heimberg, R. G., Schneier, F. R., Davies, S. O., & Liebowitz, M. R. (2002). Screening for social anxiety disorder in the clinical setting: using the Liebowitz Social Anxiety Scale. *Journal of Anxiety Disorders, 16*(6), 661–673. https://doi.org/10.1016/S0887-6185(02)00134-2.

Muris, P., & Meesters, C. (2014). Small or big in the eyes of the other: on the developmental psychopathology of self-conscious emotions as shame, guilt, and pride. *Clinical Child and Family Psychology Review, 17*(1), 19–40. https://doi.org/10.1007/s10567-013-0137-z.

Neff, K. (2003a). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity, 2*(2), 85–101. https://doi.org/10.1080/15298860309032.

Neff, K. D. (2003b). The development and validation of a scale to measure self-compassion. *Self and Identity, 2*(3), 223–250. https://doi.org/10.1080/15298860309027.

Netemeyer, R. G., Williamson, D. A., Burton, S., Biswas, D., Jindal, S., Landreth, S., et al. (2002). Psychometric properties of shortened versions of the automatic thoughts questionnaire. *Educational and Psychological Measurement, 62*(1), 111–129. https://doi.org/10.1177/0013164402062001008.

Orth, U., Berking, M., & Burkhardt, S. (2006). Self-conscious emotions and depression: rumination explains why shame but not guilt is

maladaptive. *Personality and Social Psychology Bulletin, 32*(12), 1608–1619. https://doi.org/10.1177/0146167206292958.

Quiles, Z. N., & Bybee, J. (1997). Chronic and predispositional guilt: relations to mental health, prosocial behavior and religiosity. *Journal of Personality Assessment, 69*, 104–126. https://doi.org/10.1207/s15327752jpa6901_6.

Rüsch, N., Lieb, K., Göttler, I., Hermann, I., Schramm, E., Richter, H., et al. (2007). Shame and implicit self-concept in women with borderline personality disorder. *American Journal of Psychiatry, 164*, 500–508. https://doi.org/10.1176/appi.ajp.164.3.500.

Sanftner, J. L., Barlow, D. H., Marschall, D. E., & Tangney, J. P. (1995). The relation of shame and guilt to eating disorder symptomatology. *Journal of Social and Clinical Psychology, 14*(4), 315–324. https://doi.org/10.1521/jscp.1995.14.4.315.

Tangney, J. P. (1992). Situational determinants of shame and guilt in young adulthood. *Personality and Social Psychology Bulletin, 18*(2), 199–206. https://doi.org/10.1177/0146167292182011.

Tangney, J. P. (1996). Conceptual and methodological issues in the assessment of shame and guilt. *Behaviour Research and Therapy, 34*(9), 741–754. https://doi.org/10.1016/0005-7967(96)00034-4.

Tangney, J. P., & Dearing, R. L. (2002). *Shame and guilt*. New York: Guilford.

Tangney, J. P., Miller, R. S., Flicker, L., & Barlow, D. H. (1996). Are shame, guilt and embarrassment distinct emotions? *Journal of Personality and Social Psychology, 70*, 1256–1269. https://doi.org/10.1037/0022-3514.70.6.1256.

Tangney, J. P., Dearing, R. L., Wagner, P. E., & Gramzow, R. (2000). *The Test of Self-Conscious Affect–3 (TOSCA-3)*. Fairfax: George Mason University.

Tracy, J. L., & Robins, R. W. (2004). Putting the self into self-conscious emotions: a theoretical model. *Psychological Inquiry, 15*, 103–125. https://doi.org/10.1207/s15327965pli1502_01.

Troop, N. A., Allan, S., Serpell, L., & Treasure, J. L. (2008). Shame in women with a history of eating disorders. *European Eating Disorders Review, 16*(6), 480–488. https://doi.org/10.1002/erv.858.

Watson, D., & Clark, L. A. (1999). *Manual for the positive and negative affect schedule—expanded form*. Iowa City: University of Iowa.

Weeks, J. W., Heimberg, R. G., Fresco, D. M., Hart, T. A., Turk, C. L., Schneier, F. R., & Liebowitz, M. R. (2005). Empirical validation and psychometric evaluation of the Brief Fear of Negative Evaluation Scale in patients with social anxiety disorder. *Psychological Assessment, 17*(2), 179–190. https://doi.org/10.1037/1040-3590.17.2.179.