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An Internet-Based Compassion-Focused Intervention for Increased Self-Criticism: A Randomized Controlled Trial

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Increased levels of self-criticism and a lack of self-compassion have been associated with the development and maintenance of a range of psychological disorders. In the current study, we tested the efficacy of an online version of a compassion-focused intervention, mindfulness-based compassionate living (MBCL), with guidance on request. A total of 122 self-referred participants with increased levels of self-criticism were randomly assigned to care as usual (CAU) or the intervention group (CAU + online intervention). Primary endpoints were self-reported depressive, anxiety and distress symptoms (DASS-21) and self-compassion (SCS) at 8 weeks. Secondary endpoints were self-criticism, mindfulness, satisfaction with life, fear of self-compassion, self-esteem, and existential shame. At posttreatment, the intervention group showed significant changes with medium to large effect sizes compared to the control group regarding primary outcomes (Cohen's *d*: 0.79 [DASS] and -1.21 [SCS]) and secondary outcomes (Cohen's *d*s: between 0.40 and 0.94 in favor of the intervention group). The effects in the intervention group were maintained at 6-months postrandomization. Adherence measures (number of completed modules, self-reported number of completed exercises per week) predicted postintervention scores for self-compassion but not for depressive, anxiety, and distress symptoms in the intervention group. The current study shows the efficacy of an online intervention with a transdiagnostic intervention target on a broad range of measures, including depressive and anxiety symptoms and self-compassion.

Keywords: self-compassion; online intervention; compassion-focused; randomized controlled trial; depression

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HIGHLY SELF-CRITICAL individuals habitually experience feelings of inferiority, worthlessness, shame, failure, and guilt (Blatt & Zuroff, 1992), and high levels of self-criticism have repeatedly been linked to different psychopathologies (e.g., Gilbert & Procter, 2006; McIntyre, Smith, & Rimes, 2018). Increased levels of trait self-criticism have been shown in people who suffer from various psychological disorders (Kannan & Levitt, 2013). In addition, self-criticism has been suggested to be a vulnerability factor for several psychological disorders (e.g., Dunkley, Sanislow, Grilo, & McGlashan, 2009). Furthermore, reactions to own self-criticism has been shown to negatively predict treatment

outcome in manualized, brief outpatient treatments for depression (Doerig et al., 2016). In sum, self-criticism seems to be a transdiagnostic vulnerability factor that is associated with many different psychopathologies and a negative therapy outcome in subclinical and clinical populations.

LACK OF SELF-COMPASSION SEEMS TRANSDIAGNOSTIC

Theoretical assumptions and empirical research suggest that the negative effects of self-criticism can be buffered through self-compassion, and that self-criticism may not simply be the absence of self-compassion (Brenner et al., 2018). Self-compassion describes a kind attitude toward oneself when challenged with personal weaknesses and in the face of mental or physical pain (Neff, 2003b). A self-compassionate attitude includes a balanced view of oneself along with one's positive and negative emotional experiences. Research has shown levels of self-compassion are significantly lower in people suffering various psychological disorders, including major depression (Krieger, Altenstein, Baettig, Doerig, & Grosse Holtforth, 2013), social anxiety (Werner et al., 2011), and eating disorders (Kelly, Vimalakanthan, & Carter, 2014).

SELF-COMPASSION AND EMOTION REGULATION

There is evidence to suggest that self-compassion protects against the development or exacerbation and that low-levels of self-compassion seem to be a precedent rather than an antecedent of depressive symptoms and depressive episodes (Krieger, Berger, & Grosse Holtforth, 2016). Low levels of self-compassion are associated with restricted emotion regulation capacities, such as decreased levels of adaptive emotion regulation strategies and increased levels of maladaptive strategies, such as rumination, and cognitive and behavioral avoidance, and worrying (for an overview, see Finlay-Jones, 2017). Furthermore, adaptive as well as maladaptive emotion regulation strategies have shown to mediate the relationship between self-compassion and depressive symptoms (Diedrich, Burger, Kirchner, & Berking, 2017; Krieger et al., 2013) and symptoms of anxiety (Raes, 2010).

CULTIVATING SELF-COMPASSION

Thus, self-compassion has recently been suggested to be an intervention target in an emotion regulation framework across mood and anxiety disorders (Finlay-Jones, 2017), and it seems a promising target for transdiagnostic interventions. Transdiagnostic interventions are those that apply the same underlying treatment principles across mental disorders, without tailoring the protocol to specific diagnoses (McEvoy, Nathan, & Norton, 2009). Furthermore, several intervention studies were already able to show that self-compassion can be increased by means of various compassion-focused interventions (for a review, see Kirby, 2017). A recently developed compassion-focused training program, Mindfulness-Based Compassionate Living (MBCL; van den Brink & Koster, 2015), integrates secular adaptations from traditional practices. Within the theoretical framework of Gilbert's evolution-based theory of three primary affect-regulating systems (Gilbert, 2010), the program includes several exercises such as loving-kindness meditation, compassionate breathing, and other interventions. Additionally, it encompasses compassionate imagery and dealing with the backdraft phenomenon and addresses fear of compassion. The backdraft phenomenon refers to the notion that people who have experienced trauma or neglect can be conditioned to respond to positive emotions with fear (cf. Miron, Seligowski, Boykin, & Orcutt, 2016). MBCL has been tested in an open trial with a small mixed psychiatric outpatient sample. Results of this pilot study indicated that the program significantly reduced depressive symptoms and increased mindfulness and self-compassion (Bartels-Velthuis et al., 2016). The feasibility, acceptability, and preliminary effectiveness of MBCL has recently further been tested as a follow-up intervention to Mindfulness Based Cognitive Therapy in adults with recurrent depression (Schuling et al., 2018) in an uncontrolled study in two successive groups. In general, MBCL appeared to be feasible and acceptable for patients suffering from recurrent depressive symptoms.

OPPORTUNITIES THROUGH INTERNET-BASED INTERVENTIONS

Research into Internet-based interventions has shown very promising results for a variety of psychological disorders and associated phenomena for acute treatment and for preventing psychological disorders (Andersson, 2016). An updated recent meta-analysis (Carlbring, Andersson, Cuijpers, Riper, & Hedman-Lagerlöf, 2017) indicates that Internet interventions can be as effective as face-to-face interventions for a variety of psychological and somatic disorders. Internet-based interventions encompass many advantages in terms of a low threshold, i.e., people do not have to fear stigmatization, enhanced access to evidence-based care, and an increased opportunity to reach patients living in remote locations (Andersson & Titov, 2014). Moreover, people suffering from high

levels of self-criticism may be especially reluctant to seek support because of self-stigmatization and nagging feelings of shame. As a consequence, they may prefer suffering in silence to seeking help in a face-to-face setting (e.g., Krieger, Martig, van den Brink, & Berger, 2016).

INTERNET INTERVENTIONS TARGETING SELF-COMPASSION

A recent randomized controlled trial (Galante, Bekkers, Mitchell, & Gallacher, 2016) compared an Internet-based 4-week loving-kindness meditation (LKM) intervention and a light physical exercise online course in the general population. The results showed that the LKM intervention significantly increased well-being, but found no difference between the two conditions regarding well-being. However, anxiety decreased significantly more in the LKM than in the physical exercise group. Apart from two pilot studies, there is no study on a compassion-focused online intervention that comprises a complete intervention rationale. Krieger, Martig, et al. (2016) tested an adapted online version of MBCL in a feasibility study. Results indicated that the intervention was feasible and led to medium to large within-group effects on a range of outcome measures, such as self-compassion, self-criticism, mindfulness, and satisfaction with life. Similarly, Finlay-Jones, Kane, and Rees (2017) found that a 6-week online self-compassion cultivation program delivered to Australian psychology trainees led to significant increases in self-compassion and happiness, and to significant decreases in perceived stress, and symptoms of depression, anxiety, and stress.

THE CURRENT STUDY

Providing a compassion-focused intervention for high self-criticism via the Internet could serve as a transdiagnostic and preventive approach to support people suffering from high self-criticism and its consequences. Therefore, the objective of the current study was to examine the efficacy of an Internet-based self-management intervention for people suffering from high levels of self-criticism in a randomized controlled trial.

Methods

STUDY DESIGN

This randomized controlled trial (RCT) compared an immediate intervention group with a control group. Both groups had access to care as usual (CAU). The CAU-only control group was enrolled in the Internet-based self-management program after postassessment (after 8 weeks). The immediate intervention group was followed up until six months after randomization to examine the stability of potential gains. The trial was registered with www.clinicaltrials.gov (NCT02920320) and was approved by the Ethics Committee of the Canton of Bern, Switzerland (2016-00891).

RECRUITMENT

Participants were recruited from July 2016 to February 2017 through regional and national newspaper articles on e-mental health online interventions and online self-help forums (e.g., for people suffering from depressive or anxiety disorders) with links to our recruitment page from the general population. Additionally, several participants found our recruitment page via different search engines or links from other sites. The study was advertised for people who suffer from their self-criticism in daily life. Further study information and an informed consent form were provided via e-mail after registration. There was no compensation offered to participants apart from having access to the online intervention right after randomization or after 8 weeks. After returning the signed informed consent form, participants were interviewed by phone using the Mini International Neuropsychiatric Interview (MINI; Sheehan et al., 1998). The interviews were conducted by the first author, who is a licensed psychotherapist and well-trained in diagnostic interviews, and five advanced master students. The master students were previously trained in a workshop. Additionally, all interviews were supervised by the first author. After the interview, participants were asked to fill in the web-based baseline questionnaires.

Criteria for inclusion were (a) a minimum age of 18 years; (b) exceeding a cutoff score of ≥ 20 on the "inadequate self" subscale of the Forms of Self-criticizing/Attacking and Self-reassuring Scale (FSCRS; Gilbert, Clarke, Hempel, Miles, & Irons, 2004)—the cutoff was chosen as the mean of the inadequate subscale in a clinical population minus one standard deviation (Baião, Gilbert, McEwan, & Carvalho, 2015); (c) access to a computer and a smartphone, both with Internet connection; and (d) sufficient command of the German language, judged by the interviewer during the phone call. Criteria for exclusion were (a) a history of psychotic or bipolar disorders, (b) substance dependence, and (c) active suicidal plans. Excluded persons were given access to the materials outside of the study, if they were in a stable condition, and were referred to other treatment options when needed.

ENROLLMENT OF PARTICIPANTS

The flowchart of the present study is depicted in Figure 1. A total of 341 individuals signed up on the

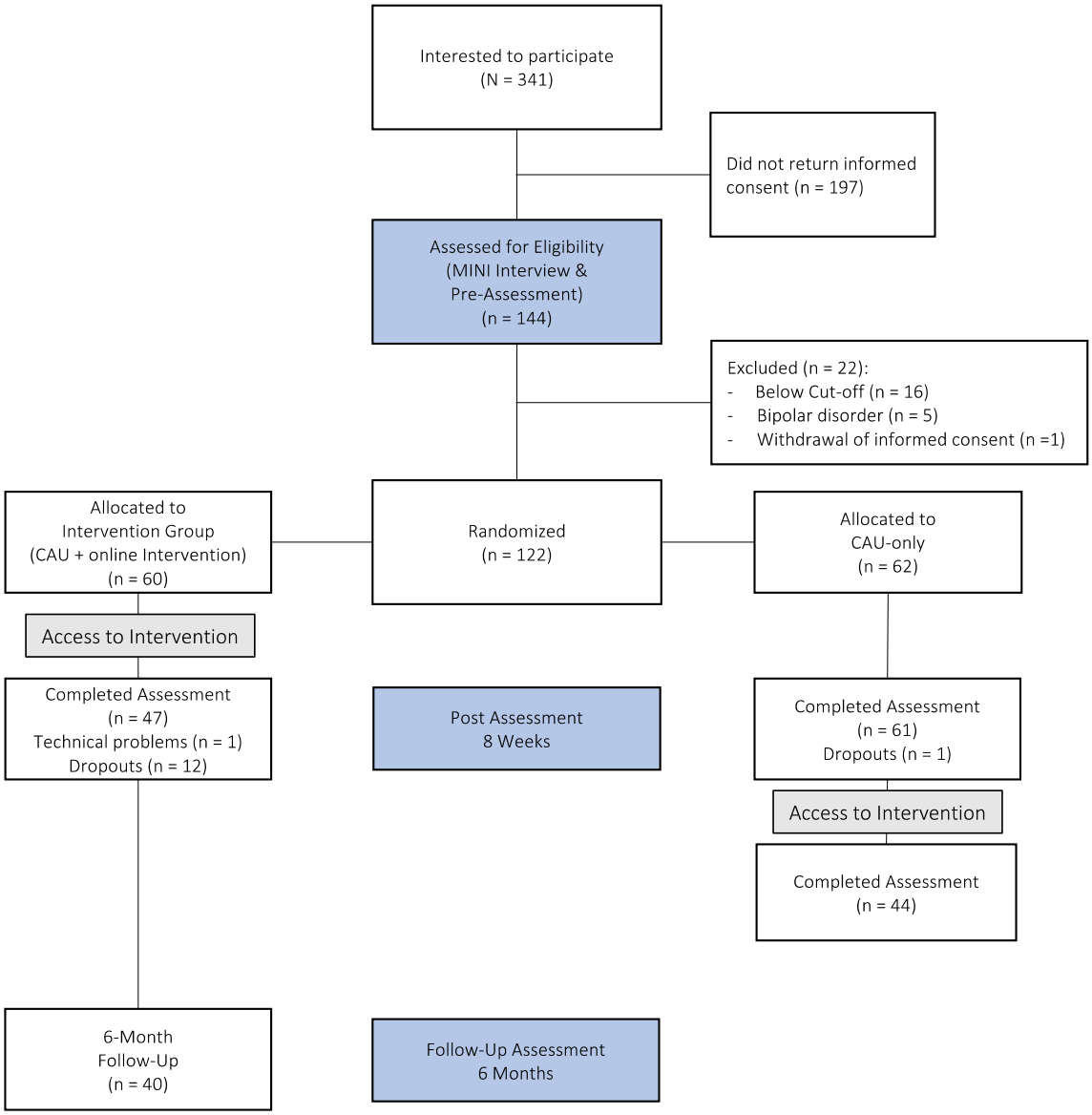

FIGURE 1 Participant flow.

study website, and 144 individuals signed the informed consent form and completed the questionnaires. Out of those, 22 did not pass inclusion and exclusion criteria. The remaining 122 participants were then randomly assigned to one of the two conditions: the Internet intervention condition or the control condition. Anonymized numbers were sent to a researcher at the institution who then gave feedback on the group according to an online pregenerated randomization sequence (www.sealedenvelope.com) only he could access. Participants were randomized in a 1:1 ratio. Randomization was stratified by current mood or anxiety disorder (yes/no) and current psychotherapeutic treatment (yes/no).

OUTCOME MEASURES

Participants completed self-report measures at baseline, posttreatment (8 weeks), and follow-up (6 months after randomization, intervention group only). All questionnaires were administered via the Internet. Primary outcomes were the total score of the Depression Anxiety Stress Scales (DASS-21) and the Self-Compassion Scale (SCS) at 8 weeks. Secondary outcomes included the subscales of the Forms of Self-criticizing/Attacking and Self-reassuring Scale (FSCRS, inadequate self, hated self, and reassuring self), satisfaction with life, mindfulness, fear of self-compassion, self-esteem, and existential shame. Furthermore, we assessed the participants' satisfaction with the program, potential negative

effects of the program at 8 weeks, and participants' adherence to the program.

Depression, Anxiety, Stress

The Depression, Anxiety and Stress Scale (DASS-21) is a 21-item short form of the DASS (Lovibond & Lovibond, 1995). It measures depressive mood, anxiety, and chronic tension/stress during the past week (e.g., "I was aware of dryness of my mouth"; "I couldn't seem to experience any positive feeling at all"). All items are rated on a 4-point Likert scale ranging from 0 (*did not apply to me at all*) to 3 (*applied to me very much or most of the time*). Scores on the 21 items are summed up and multiplied by two. The internal consistency in the present sample was $\alpha = .90$ for the total score.

Self-Compassion

The Self-Compassion Scale (SCS) is a 26-item self-report inventory that consists of six subscales: self-kindness, self-judgment, common humanity, isolation, mindfulness, and overidentification (Neff, 2003a). Each item was rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Results suggest that a total SCS score can be used as an overall measure of self-compassion (Neff, Whittaker, & Karl, 2017). In the present study, we report the total mean score of the German version of the SCS, which has shown good values for reliability and validity (Hupfeld & Ruffieux, 2011). Cronbach's α in the present study was .87 for the total score. In addition, we report mean scores of the composite of the negative components of the SCS and the composite of the positive components of the SCS as secondary outcomes, since recent results suggest that a two-factor structure is more appropriate for the self-compassion scale (e.g., Brenner, Heath, Vogel, & Credé, 2017).

Forms of Self-Criticizing/Attacking and Self-Reassuring

A German version of the Forms of Self-criticizing/Attacking and Self-reassuring Scale (FSCRS; Gilbert et al., 2004) was used to evaluate the way people think about themselves when things go wrong. This scale is composed of 22 items rated on a 5-point Likert scale ranging from 0 (*Not at all like me*) to 4 (*Extremely like me*). The scale is composed of three factors: inadequate self (e.g., "I remember and dwell on my failings"; nine items), hated self (e.g., "I do not like being me"; five items), and reassured self (e.g., "I can still feel lovable and acceptable"; eight items). Reliability and validity has shown to be satisfactory in several samples (Baião et al., 2015). We report sum scores. Cronbach's α coefficients were .58 for inadequate self, .65 for hated self, and .80 for reassured self in the present study. Compared to other studies (e.g., Baião et al., 2015; Krieger, Berger, & Grosse Holtforth, 2016; Krieger, Martig, et al., 2016), Cronbach's α for inadequate self and hated self were comparably low. This could be due to the fact that only people with scores of 20 or higher were included in the present study.

Satisfaction With Life

The Satisfaction With Life Scale (SWLS), consisting of five items, was used to assess global life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985). Each item is rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). We report the sum score. Cronbach's α was in the present study was .86.

Mindfulness

The Comprehensive Inventory of Mindfulness Experience (CHIME) consists of 37 6-point items from 1 (*hardly ever*) to 6 (*almost always*) that are assigned to eight different subscales referring to aspects of mindfulness without relying on technical expressions of meditation or Buddhism (Bergomi, Tschacher, & Kupper, 2014): awareness toward internal experiences, awareness toward external experiences, acting with awareness, accepting and nonjudgmental orientation, decentering and nonreactivity, openness to experiences, relativity of thoughts, and insightful understanding. The factor structure of the CHIME proved to be stable over three samples, and validity analyses provided good results. Cronbach's α for the total score in the present study was .88.

Fear of Self-Compassion

Fear of self-compassion was assessed with the respective 15-item section of the Fear of Compassion Scales (Gilbert, McEwan, Matos, & Rivis, 2011). This questionnaire asks participants to rate their agreement with statements about expressing kindness and compassion toward oneself using a 4-point Likert scale ranging from 0 (*don't agree at all*) to 4 (*completely agree*). Sample items include: "I feel that I don't deserve to be kind and forgiving to myself" or "I fear that if I am more self-compassionate I will become a weak person." Cronbach's α in the present study was .89 at baseline and was comparable to the internal consistency found in other studies.

Self-Esteem

Self-esteem was assessed with the German version (von Collani & Herzberg, 2003) of the Rosenberg Self-Esteem Scale (RSES), which consisted of 10 items dealing with a person's general beliefs about himself or herself. Responses were given on a 4-

point Likert scale ranging from 0 (*strongly disagree*) to 3 (*strongly agree*). Good psychometric properties of the German version of the RSES have been shown in other studies. In the present study, Cronbach's α for the total mean score was .81.

Existential Shame

Existential shame was assessed by the respective subscale of the Shame Assessment Scale for Multifarious Expressions of Shame (SHAME; Scheel et al., 2014). Existential shame describes an enduring feeling of shame comprising someone's person as a whole. It does not need to be evoked by specific situations and may be described by experiencing one's own self as worthless, irrelevant, or deficient. Participants are asked how much they would feel ashamed in a given situation. Existential shame was measured with seven items (e.g., "I get a card from a friend who is on holiday. On it he/she says they are really missing me."). Responses were given on a 6-point Likert scale from 0 (*not at all*) to 5 (*extremely*). We report the mean score for this scale. In the present study, Cronbach's α for the existential shame mean score was .67.

Client Satisfaction

An adapted version of a patient satisfaction questionnaire that is widely used in Germany, the ZUF-8 (Schmidt, Lamprecht, & Wittmann, 1989), was used in this study. The eight items were reworded slightly to focus on satisfaction with the Internet intervention. An averaged total score ranges from 1 (*not satisfied at all*) to 4 (*very satisfied*). Example items are as follows: "How do you rate the quality of the online program in general?"; "Would you recommend the program to a good friend if he or she would need similar support?"; or "Did the program support you in coping differently with your problems?" Cronbach's α in the present study was .93.

Negative Effects

We also assessed possible negative effects of the intervention with two questions at the 8-week assessment: "Did working with the self-help program lead to an aggravation of symptoms you have had before?" and "Did working with the self-help program lead to new psychological complaints that you have not experienced before?" Participants can answer with "yes" or "no." If the answer is "yes," they are asked to provide in more detail in an open answer format.

Adherence Measures

The self-help program automatically registered several indices for the adherence with the program: number of modules started, number of logins and time spent in the program. Time spent in the self-help program was investigated by analyzing login data. Because participants could have potentially been logged in while not working with the program, usage time windows with no activity in the program for longer than ten minutes were not counted.

INTERVENTION

The intervention consisted of an internet-based self-help program that includes texts, audio files, and a diary function. The program can be accessed via computer and smartphone. We used SSL (Secure Sockets Layer) encryption to secure all Internet-based communication, and participants were identified using anonymous login names and passwords. The program is interactive in the sense that participants can freely navigate through the web pages and repeat exercises and sessions whenever they want to and write down their experience of working with the intervention. The intervention was an adaptation of the face-to-face group-based MBCL program by van den Brink and Koster (2015) that has been tested in an online format in a pilot study (Krieger, Martig, et al., 2016). Since the authors recommend previous experience with mindfulness meditation before doing MBCL, we created a first module that consisted of a text-based introduction to mindfulness and mindfulness meditation along with audio files for formal practice (available online and downloadable) and information on possibilities of informal practice. The next six modules are a distilled version of the original MBCL program. The content of the online version of the program used in the present study is depicted in Table 1. Participants have to work through the program in a sequential order. Each module builds upon the previous one and takes approximately 50 minutes to an hour to complete. Participants are asked to complete one module per week. However, theoretically, all modules could be completed in a single week; thus, they were not gradually made available over the 8 weeks. Apart from working through the lessons, participants are asked to repeat the exercises and to use the online diaries as often as possible. The participants could note in the program which excercises they did and observations they made in the diary exercise (e.g., when they observed that someone acted with compassion towards them, or when they acted out of compassion). The intervention was unguided, but participants could receive guidance/assistance for the program from a psychologist on request. They were informed that the psychologist would respond within 3 working days.

The intervention group (CAU + online intervention) had access to the program right after randomization, while the control group (CAU)

Table 1
Content of the Online Intervention

Module	Themes	Content	Excercises	Diary
1	Introduction to the program and introduction into mindfulness	- How to use the program - How to profit best from the program - Introduction into mindfulness	- Formal (body scan, mindful breathing, 3-minute-breathing space) and informal mindfulness excercises	-
2	The three affect regulation systems	- Why (not) practice (self-) compassion? - Multi-layered brain 'The design is not our fault' - Threat, drive & soothing systems and their balance - How to nourish the soothing system?	- Breathing Space with Compassion - LKM (➔ self)	Giving and receiving compassion
3	Stress reaction and self-compassion	- Self-criticism vs kindness; - Self-isolation vs common humanity; - Over-identification vs mindfulness - Tend & Befriend - Using Imagery - Backdraft	- Compassionately dealing with resistance - A compassionate companion - LKM (➔ self)	The threat system
4	Inner patterns	- Threat, competitive & caring modes - Function of the Inner Bully and self-conscious emotions (shame, guilt) - Maladaptive schemas	- Compassionately dealing with inner patterns - LKM (➔ self)	The drive system
5	The compassionate mode	- Attributes & skills of compassion - Cultivating an Inner Helper - Doing 'As-if'	- LKM (➔ good friend)	The inner bully
6	Self & Others	- Self-transcendent & relational qualities of compassion - Over- & deidentification - Kindness to others	- Compassionate breathing - LKM (➔ the inner bully and/or ➔ a difficult person)	The compassionate mode
7	Common Humanity	- Common humanity - What contributes to happiness?	- A compassionate letter - LKM (➔ all beings) - gratitude, silver lining,	Acting and talking with compassion

Note. LKM = Loving-Kindness Meditation

received access to the program after the postassessment at 8-weeks postrandomization.

POWER ANALYSIS

Power was calculated using G*Power Version 3.1.9 (Faul, Erdfelder, Lang, & Buchner, 2007) to determine adequate sample size in each condition to detect possible differences. Because no similar study was available for comparison, power was established on the basis of effect sizes that are usually obtained in other clinical trials comparing guided self-help and treatment-as-usual. Richards and Richardson (2012) report an averaged effect size of Cohen's *d* of 0.78 for guided interventions and of 0.36 for unguided interventions. Because we used guidance on request, which can be considered lying between unguided and fully guided, we aimed at a medium effect size of 0.50. A power analysis revealed that at an α error level of .05 and power $(1 - \beta)$ of 0.80, approximately 64 participants per group would be required.

STATISTICAL ANALYSIS

Group differences in demographic data and baseline measures were tested with independent samples *t*-tests and χ^2-tests where the variables consisted of nominal data. Differential outcomes at posttreatment were evaluated according to an intention-to-treat principle using a mixed-model repeated-measures analysis of variance with time (pre–post) as a within-group factor and treatment condition as a between-group factor. The mixed-effects model's approach uses all available data of each subject and does not involve the substitution of missing values, but estimates the parameters of missing values (Gueorguieva & Krystal, 2004). Based on preliminary analyses, we used an unstructured covariance structure for the analyses, as this covariance structure showed the best information indices (AIC, BIC). Separate models for each outcome measure were run. Within- and between-group effect sizes (Cohen's *d*) were calculated based on estimated means and the pooled standard deviation from the observed means. Within-group changes in outcome scores from posttreatment to follow-up were analyzed using paired *t*-tests for people who completed the post and the follow-up assessment in the intervention group only. To test predictions of program adherence on the outcome, we calculated linear regression models regressing each adherence measure on the 8-week primary outcomes (DASS, SCS) controlling for baseline scores in the intervention group. The reported bootstrapped 95%-confidence intervals are based on 1000 replications. All analyses were performed in SPSS version 24.

Results

PRELIMINARY ANALYSES

Table 2 shows the baseline characteristics of the total sample and the two groups. Data of one participant at baseline was lost due to technical issues. Because of the missing baseline data for this person, we had to exclude the data of this person for all the analyses and report throughout results for 121 participants. The two groups did not differ regarding most variables. However, the groups did significantly differ with regard to the number of previous depressive episodes (irrespective of whether they had a current one or not; $p = .03$). Regarding baseline measures, there was a significant baseline difference between the two groups regarding the variable "hated self" ($p = .048$).

DROPOUTS FROM THE STUDY

In total, 14 participants (11.6%) did not complete the posttreatment assessment, even though they had been invited three times in weekly intervals via email (intervention group: $n = 13$; CAU: $n = 1$). This significant difference ($p < .01$) was probably driven by the fact that participants in the waitlist received access to the intervention after completing the postassessment.

INTERVENTION EFFECTS

Observed and estimated means for all self-report measures are presented in Table 3. Linear mixed models with group as a fixed factor and time as a repeated factor (pre–post) were conducted separately for each of the dependent outcome measures.

For primary outcomes, main effects for the DASS and the SCS were qualified by significant Group × Time interactions (DASS: $F[1, 111.40] = 20.49$, $p < .01$; SCS: $F[1, 111.52] = 66.14$, $p < .01$). Between-group effect sizes based on estimated means were at $d = 0.79$ for the DASS and at $d = -1.21$ for the SCS, meaning that psychological symptom scores decreased and self-compassion scores increased in the intervention group compared to the control group. Within-group comparisons based on estimated means in the treatment group revealed large effect sizes (DASS: $d = 0.95$; SCS: $d = -1.40$). Within-group effect sizes in the control group were around zero (DASS: $d = 0.13$; SCS: $d = -0.24$). Results for the positive and the negative subscale of the SCS showed each comparable results to the total score of the SCS (significant Group × Time interaction,

Table 2
Baseline Demographics and Sample Characteristics for the Intervention and Control Group (Care as Usual)

	CAU (*n*=62)	Intervention group (*n*=59)	Statistic
Mean age, years (*SD*)	37.40 (11.0)	37.98 (12.0)	*t*(119) = -.28 *p* = .78
Gender, *n* (%)			
Male	18 (29.0)	9 (15.3)	Chi^2 = 3.31 *p* = .07
Female	44 (71.0)	50 (84.7)	
Marital status, *n* (%)			
Single / living alone	27 (43.5)	26 (44.1)	Chi^2 = 0.09 *p* = .99
Married / living together	29 (46.8)	28 (47.4)	
Divorced	5 (8.1)	4 (6.8)	
Widowed	1 (1.6)	1 (1.7)	
Highest education, *n* (%)			
Compulsory school	0 (0.0)	1 (1.7)	Chi^2 = 2.16 *p* = .54
Apprenticeship	15 (24.2)	10 (16.9)	
College	8 (12.9)	10 (16.9)	
University	39 (62.9)	38 (64.4)	
Employment, *n* (%)			
Full-time paid work	18 (29.0)	19 (32.2)	Chi^2 = 0.14 *p* = .71
Part-time paid work	24 (38.7)	18 (30.5)	Chi^2 = 0.90 *p* = .34
Unemployed	6 (9.7)	5 (8.5)	Chi^2 = 0.05 *p* = .82
At home parent	4 (6.5)	5 (8.5)	Chi^2 = 0.18 *p* = .67
Student	20 (32.3)	16 (27.1)	Chi^2 = 0.38 *p* = .54
Retired	2 (3.2)	3 (5.1)	Chi^2 = 0.26 *p* = .61
Current Psychological treatment, *n* (%)			
Yes	22 (35.5)	21 (35.6)	Chi^2 = 0.00 *p* = .99
No	40 (64.5)	38 (64.4)	
Current medications, *n* (%)			
Yes	11 (17.7)	12 (20.3)	Chi^2 = 0.13 *p* = .72
No	51 (82.3)	47 (79.7)	
Meditation experience			
Yes	26	29	Chi^2 = 0.64 *p* = .43
No	36	30	
Mindfulness course experience (MBSR/MBCT)			Chi^2 = 1.65 *p* = .44
Yes	4 (6.5)	7 (11.9)	
No	58 (93.5)	52 (88.1)	
Regular meditation practice			
Yes	6 (9.7)	9 (15.3)	Chi^2 = 0.87 *p* = .35
No	56 (90.3)	50 (84.7)	
Diagnosis, *n* (%)			
Current Major Depressive Episode	7 (11.3)	9 (15.3)	Chi = 0.41 *p* = .52
Past Major Depressive Episode	28 (45.2)	38 (64.4)	Chi = 4.51 *p* = .03
Current Anxiety Disorder (PD, Agoraphobia, GAD, Social Phobia, OCD)	22 (35.5)	20 (33.9)	Chi = 0.34 *p* = .86

Notes. CAU = Care as usual; PD = Panic Disorder; GAD = Generalized Anxiety Disorder; OCD = Obsessive-Compulsive Disorder

large within-group effect sizes in the expected direction, and large between-group effect sizes in favor of the intervention group; see Table 3).

For secondary outcomes, all main effects were also qualified by significant Group × Time interactions (all *F*s [*df*s: 1, 107.27 – 115.81] > 4.90, all *p*s < .05; see Table 3). Between-group effect sizes based on estimated means ranged between -0.94 – 0.20 in favor for the intervention group. Within-group comparisons based on estimated means in the treatment group revealed small to large effect sizes (0.38 [body shame] – 1.56 [inadequate self]) in the expected direction.

SENSITIVITY ANALYSES

To explore whether the effects were the same for concurrent psychotherapy or not and for having a current mood or anxiety disorder at baseline or not on the primary outcome measure, we ran sensitivity analyses for each subgroup. Comparing the intervention group and the control group for the different subgroups, results indicated that the

Group × Time interaction was significant, irrespective of current psychotherapy or current mood and/or anxiety disorder (all *p*s < .03).

RELIABLE IMPROVEMENT AND DETERIORATION

We calculated a reliable change criterion (Jacobson & Truax, 1991) for the DASS-21 and the SCS to determine the number of participants who showed reliable improvement and reliable deterioration in the intervention group. This analysis was based on the sample of participants who provided the postassessment.

For the DASS, based on the standard deviation of 19.42 and an internal consistency at baseline of .90 of the present sample, we calculated a reliable change criterion of 17.02. Applying this criterion, in the intervention group, zero participants (0%) showed a reliable deterioration, 26 participants showed no reliable change (55.3%), and 21 participants (44.7%) showed a reliable improvement regarding the DASS. In the control condition, 6 participants (9.8%) showed a reliable deterioration, 43 participants (70.5%) showed no reliable change, and 12 (19.7%) showed a reliable improvement. This difference between the conditions was highly significant ($p < .01$).

For the SCS, based on the standard deviation of 0.60 (Körner et al., 2015) and a retest reliability of .92 (Hupfeld & Ruffieux, 2011), we calculated a reliable change criterion of 0.47. Applying this criterion to the intervention group, zero participants (0%) showed a reliable deterioration, 19 participants (41.3%) showed no reliable change, and 27 participants (58.7%) showed a reliable improvement regarding self-compassion. In the control condition, zero participants (0%) showed a reliable deterioration, 59 participants (96.7%) showed no reliable change, and 2 (3.3%) showed a reliable improvement. This difference between the conditions was highly significant ($p < .01$).

PROGRAM USAGE AND CONTACT WITH THE PSYCHOLOGIST

In the intervention group, participants who had completed the postassessment started working on 4.46 (*SD* = 2.45; Mdn = 5) modules on average. They spent, on average, 418 min (*SD* = 642; Mdn = 280 min) in the program. They filled in 18.5 (*SD* = 28.0) exercises and 6.9 (*SD* = 16.8) diary entries on average. At the end of the program 6 participants (8.9%) indicated that they did exercises daily, 13 participants (28.9%) 4–6 times a week, 12 participants (26.7%) 2–3 times a week, 9 (20.0%) once a week, and 7 participants (15.5%) less than once a week. On average, all participants wrote 0.76 messages to the psychologist (*SD* = 1.90; range = 0–12). Of the 59 participants in the intervention group, 17 sent at least one message (28.8%).

PATIENT SATISFACTION AND NEGATIVE EFFECTS

Participants in the intervention group (CAU + online intervention) reported a high level of satisfaction with the self-help program at the postassessment. The mean score on the CSQ-8 was 3.25 (*SD* = 0.57), lying between "somewhat satisfied" (3) and "very satisfied" (4).

Regarding negative effects, three participants (6.4%) indicated an aggravation of symptoms. One person indicated that she started feeling lonelier, a person reported that she has become more impatient, and another person indicated that she started having rushes during meditation. Apart from the loneliness, the other negative effects were perceived as transient. Regarding new symptoms, three participants (6.4%) indicated new psychological complaints. Two persons indicated transient symptoms of anxiety, sadness, and emotional instability. Another person reported that she started missing appointments, which she reported was atypical for her.

MAINTENANCE OF THE INTERVENTION EFFECTS AT 6-MONTHS FOLLOW-UP

Observed means and standard deviations at 6 months after randomization (intervention group only) for all self-report measures are presented in Table 3. Based on the sample of participants who provided post- and follow-up scores (n = 38, 64.4%), there were no significant posttreatment to follow-up changes for any of the primary and secondary outcome measures (ts = 0.05–0.82, dfs = 35–37, ps = .42–.96), with one exception: The score on the reassuring subscale of the FSCRS further increased significantly from post-treatment to follow-up (t = 2.75, df = 37, $p < .01$).

PREDICTION OF OUTCOME

Using regression analyses predicting 8-week outcomes controlled for baseline scores, we investigated if measures of program adherence predicted intervention outcome (DASS, SCS). For these analyses, we only used data of participants who logged in at least once and completed the postassessment. Results of these analyses are shown in Table 4. In brief, symptomatology measured by the DASS at 8 weeks could not be predicted by any of the adherence measures. On the other hand, levels of self-compassion at post could be predicted by number of started modules (β = .28, $p < .05$) and at

Table 3
Observed and Estimated Means for Primary and Secondary Outcome Measures and Within- and Between-Group Effect Sizes

	Pre-treatment		Post-treatment (observed)		Post-treatment (estimated)		Follow-up (observed)		Post-treatment between-group comparisons [a] (group by time interactions)	Pre-Post Within-group effect sizes (estimated means)	Between-group effect sizes at post (estimated means)
Measure	*n*	*M* (*SD*)	*n*	*M* (*SD*)	*n*	*M* (*SE*)	*n*	*M* (*SD*)	*F* and *df*	Cohen's *d* (95% CI)	Cohen's *d* (95% CI)
DASS-21											
CAU	62	45.77 (19.35)	61	43.25 (19.83)	62	43.19 (2.40)			$F_{1,111.40} = 20.49$ **	0.13 (-0.22 – 0.48)	0.79 (0.42 – 1.16)
Intervention	59	45.80 (19.65)	47	29.53 (15.66)	59	28.98 (2.64)	40	31.90 (21.33)		0.95 (0.56 – 1.32)	
SCS											
CAU	62	2.17 (0.40)	61	2.27 (0.43)	62	2.27 (0.06)			$F_{1,111.52} = 66.14$ **	-0.24 (-0.59 – 0.11)	-1.21 (-1.59 – -0.82)
Intervention	59	2.16 (0.46)	47	2.84 (0.51)	59	2.84 (0.06)	40	2.84 (0.72)		-1.40 (-1.79 – -0.99)	
SCS-POS											
CAU	62	2.26 (0.54)	61	2.35 (0.52)	62	2.36 (0.07)			$F_{1,110.57} = 43.02$ **	-0.19 (-0.54 – 0.17)	-1.10 (-1.48 – -0.71)
Intervention	59	2.33 (0.64)	47	3.00 (0.62)	59	2.99 (0.08)	40	2.98 (0.81)		-1.05 (-1.43 – -0.66)	
SCS-NEG											
CAU	62	3.93 (0.42)	61	3.82 (0.48)	62	3.83 (0.06)			$F_{1,114.07} = 51.92$ **	0.22 (-0.13 – 0.57)	0.97 (0.59 – 1.34)
Intervention	59	4.01 (0.37)	47	3.32 (0.57)	59	3.32 (0.07)	40	3.31 (0.73)		1.44 (1.02 – 1.83)	
FSCRS-IS											
CAU	62	26.69 (3.67)	61	24.43 (6.25)	62	24.44 (0.65)			$F_{1,115.81} = 35.89$ **	0.44 (0.08 – 0.79)	0.75 (0.38 – 1.12)
Intervention	59	27.95 (3.83)	47	19.68 (6.43)	59	19.67 (0.73)	40	19.55 (7.05)		1.56 (1.14 – 1.97)	
FSCRS-HS											
CAU	62	7.90 (3.87)	61	7.31 (4.35)	62	7.27 (0.51)			$F_{1,115.81} = 23.80$ **	0.15 (-0.20 – 0.50)	0.40 (0.03 – 0.75)
Intervention	59	9.25 (3.56)	47	5.55 (4.20)	59	5.57 (0.55)	40	5.43 (4.40)		0.95 (0.56 – 1.32)	

FSCRS-RS											
CAU	62	8.89 (4.53)	61	9.61 (4.77)	62	9.58 (0.61)			$F_{1,111.93} = 30.60$ **	-0.15 (-0.50 - 0.21)	-0.93 (-1.30 – -0.55)
Intervention	59	9.25 (4.67)	47	14.60 (5.34)	59	14.30 (0.67)	40	16.10 (6.51)		-1.01 (-1.38 – -0.62)	
FSC											
CAU	62	23.90 (11.40)	61	23.66 (12.70)	62	23.92 (1.59)			$F_{1,109.45} = 14.39$ **	0.00 (-0.35 – 0.35)	0.50 (0.13 – 0.85)
Intervention	59	25.25 (13.02)	47	17.36 (12.94)	59	17.81 (1.76)	37	16.73 (14.31)		0.57 (0.20 – 0.94)	
RSES											
CAU	62	1.27 (0.52)	61	1.36 (0.56)	62	1.37 (0.07)			$F_{1,112.20} = 41.53$ **	-0.17 (-0.52 – 0.19)	-0.94 (-1.31 – -0.56)
Intervention	59	1.21 (0.44)	47	1.89 (0.55)	59	1.89 (0.07)	40	1.83 (0.67)		-1.37 (-1.76 – -0.96)	
CHIME											
CAU	62	3.19 (0.52)	61	3.28 (0.55)	62	3.27 (0.07)			$F_{1,109.53} = 34.22$ **	-0.15 (-0.50 – 0.20)	-0.82 (-1.18 – -.44)
Intervention	59	3.20 (0.52)	47	3.74 (0.55)	59	3.72 (0.07)	39	3.80 (0.69)		-0.97 (-1.35 – -0.58)	
SWLS											
CAU	62	16.84 (6.01)	61	17.51 (5.59)	62	17.68 (0.79)			$F_{1,107.69} = 4.90$ *	-0.14 (-0.50 – 0.21)	-0.50 (-0.86 – -0.13)
Intervention	59	18.19 (6.69)	47	20.94 (6.46)	59	20.69 (0.85)	39	21.15 (6.19)		-0.38 (-0.74 – -0.01)	
SHAME-EX											
CAU	62	1.25 (0.89)	61	1.32 (1.04)	62	1.31 (0.11)			$F_{1,107.27} = 23.81$ **	-0.06 (-0.41 – 0.29)	0.51 (0.14 – 0.87)
Intervention	59	1.40 (0.85)	47	0.85 (0.63)	59	0.87 (0.12)	37	0.92 (0.80)		0.71 (0.33 – 1.08)	

Notes. CAU = Care as usual; Intervention = Intervention group; DASS-21 = Depression Anxiety Stress Scales; FSCRS = Forms of Self-Criticism/Attacking & Self-Reassuring Scale; IS = Inadequate self; HS = Hated self; RS = Reassuring self.; FSC = Fear of self-compassion; RSES = Rosenberg Self-Esteem Scale; CHIME = Comprehensive Inventory of Mindfulness Experiences; SWLS = Satisfaction with Life Scale; SHAME-EX = Existential Shame.

[a] Intention to treat (ITT) analysis.

* $p < .05$,

** $p < .01$

Table 4
Results of Regression Analyses for the Prediction of Primary Outcomes by Adherence Measures in the Intervention Group

Adherence measure	*M (SD)*	Range	*B* (*SE*) 95%-*CI* [a]	DASS post β	*p*-value [a]	*B* (*SE*) 95%-*CI* [a]	SCS post β	*p*-value [a]
No. of modules	5.04 (2.19)	1 – 7	-0.17 (0.78) -1.76 – 1.30	-.02	.84	0.07 (0.03) 0.01 – 0.11	.28 *	.01
Time spent in the program (hours)	8.95 (11.18)	0.05 – 59.86	0.00 (0.00) - 0.00 – 0.00	.08	.41	0.00 (0.00) -0.00 – 0.00	.14	.43
Total clicks	632.53 (752.03)	16 – 3917	0.00 (0.00) -0.01 – 0.01	.08	.40	0.00 (0.00) -0.00 – 0.00	.13	.31
No. of exercises entries	21.47 (29.01)	0 – 112	0.03 (0.06) -0.12 – 0.11	.05	.60	0.00 (0.00) -0.00 – 0.01	.21	.16
No. of diary entries	8.62 (18.48)	0 – 88	0.02 (0.10) -0.12 – 0.25	.03	.77	0.00 (0.01) -0.00 – 0.02	.11	.42
Weekly exercising [b]	2.91 (1.31)	0 – 5	0.11 (1.06) -2.25 – 2.12	.01	.92	0.15 (0.05) 0.06 – 0.24	.36 **	.006
Requested guidance	0.94 (2.09)	0 – 12	0.98 (1.15) -2.33 – 2.49	.13	.21	-0.01 (0.05) -0.06 – 0.13	-.03	.81

Notes. N = 45-47. All analyses were controlled for baseline scores.
[a] Based on 1000 bootstrapping samples.
[b] Self-reported weekly exercising was assessed at post and rated on a 5-point scale, 0 = never, 1 = less than once a week, 2 = once a week, 3 = 2-3 times a week, 4 = 4-6 times a week, 5 = daily.
* $p < .05$.
** $p < .01$.

postassessment self-reported averaged number of exercises done per week (β = .36, $p < .01$).

Discussion

This study was the first investigation of the efficacy of a transdiagnostic compassion-focused online intervention, an adaptation of the Mindfulness-Based Compassionate Living (MBCL) program, for highly self-critical people. Results indicated that this online intervention with guidance on request is effective compared to CAU at 8 weeks in reducing depressive and anxiety symptomatology, increasing compassion toward the self, mindfulness and satisfaction with life. Between-group effect sizes after 8 weeks were in the medium to large range. Furthermore, treatment gains in the intervention group were maintained up to 6 months after randomization. It is significant that the low-threshold intervention was perceived as appealing by most participants and only a few participants reported negative effects. These results extend the preliminary findings of two pilot studies using an online program in order to cultivate self-compassion (Finlay-Jones et al., 2017; Krieger, Martig, et al., 2016), indicating that a reduction in psychopathological symptoms can be achieved by means of a self-management compassion-focused intervention.

The promising results of the Internet-based compassion-focused intervention tested in the present study are in line with the results of a recent meta-analysis by Kirby, Tellegen and Steindl (2017). This meta-analysis indicated that compassion-based interventions hold promise as a form of intervention to help cultivate both compassion and self-compassion, reduce suffering (specifically depression, anxiety, and psychological distress), and increase well-being. Similarly, earlier reviews and meta-analyses suggested that kindness- and compassion-focused interventions could be promising therapeutic interventions for clinical as well as nonclinical populations (Kirby et al., 2017). Our study extends these findings by showing that the cultivation of self-compassion can also be initiated by means of an online intervention.

Self-compassion can be seen as a transdiagnostic intervention target (Finlay-Jones, 2017) because a lack of self-compassion has been found in various psychological disorders. Given many psychological disorders are thought to share similar etiological and maintenance processes, transdiagnostic interventions, which target such shared factors, may be a promising approach although there is currently a discussion on what the term "transdiagnostic intervention" can or should refer to (Sauer-Zavala et al., 2017). In the present study, self-compassion was considered a transdiagnostic intervention target for highly self-critical people based on empirical findings that high levels of self-criticism are a phenomenon associated with various psychopathologies, and that self-compassion can buffer the malevolent impact of high levels of self-criticism (e.g., Brenner et al., 2018; Gilbert & Irons, 2004; Körner et al., 2015). Hence, low self-compassion

seems to be a "shared mechanism" across classes of disorders. The present study shows that offering vulnerable people an intervention to cultivate self-compassion, irrespective of whether they suffer from a specific current mental disorder, seems to have a positive impact on their psychopathological symptoms and their well-being.

Interestingly, the Internet-based intervention used in the present study seems to have an effect regardless of whether participants receive concurrent psychotherapy. Therefore, the present intervention could also be seen as an adjunctive treatment tool that could possibly improve the effects of traditional face-to-face psychotherapy. In line with such reasoning, it has been shown that cognitive restructuring seems to be more effective when it is preceded by a self-compassionate intervention (Diedrich, Hofmann, Cuijpers, & Berking, 2016). Furthermore, the fact that the current intervention was delivered online points to the potential of so-called blended interventions that may have advantages over face-to-face treatments, such as enhancing the self-efficacy and empowerment of a person (Berger, Krieger, Sude, Meyer, & Maercker, 2018). Additionally, the results of the present study are in line with evidence that Internet-based compassion-focused interventions are promising interventions to increase public health, as shown in a recent study by Sommers-Spijkerman and colleagues (Sommers-Spijkerman, Trompetter, Schreurs, & Bohlmeijer, 2018).

Adherence to the online program was not associated with symptom improvement. Interestingly, however, the number of modules showed to be predictive of postassessment levels of self-compassion. A possible explanation for this is that the more the *compassion-focused* program was used, the more self-*compassion* was affected. A recent a meta-analysis of individual participant data of self-guided online-interventions for depression (Karyotaki et al., 2017) showed a comparable effect size for the association of completed modules and outcome regarding depressive symptoms. Regarding the predictive value of completed excercises and postintervention levels of self-compassion in the present study, this is in line with the finding in face-to-face psychotherapy that quantity of homework is associated with treatment outcome (Kazantzis et al., 2016). Considering the fact that none of the other program usage variables predicted outcome, future studies in online interventions might assess program usage as well as exercises done *between* online modules as a parallel construct to "homework" in face-to-face psychotherapy.

The current study satisfies the recent demand for more rigorous research methods on compassion-focused interventions (see Kirby et al., 2017) and extends the promising findings of compassion-focused interventions to online interventions. Nevertheless, there are some limitations that we want to address. First, results of the present study are based on a rather heterogeneous transdiagnostic sample. Although sensitivity analyses indicated that results are likely to be the same in people with and without a mood and/or anxiety disorder, the intervention should also be tested in disorder-specific samples. The heterogeneity regarding disorders of the present sample may also be viewed as a strength of the present study. Results may be interpreted beyond mere efficacy in a specific sample and point toward effectiveness of the present intervention and can be generalized to the large population of highly self-critical people. A second limitation is that the majority of participants were female, which is a common finding in online interventions (e.g., Karyotaki et al., 2017). A third limitation is that the results of the present study are solely based on self-report measures. Fourth, we did not assess total healthcare uptake of the participants but only whether or not people were in psychotherapy. Future studies should assess healthcare uptake more rigorously. Last, an important limitation of the present study is that participants were self-referred, which may have caused a selection bias.

Despite these limitations, the current study provides evidence that a compassion-focused intervention based on MBCL adapted for an Internet-based use is effective in reducing psychopathological symptoms and increasing a self-compassionate attitude in highly self-critical people compared to CAU alone. Future research efforts are needed to compare online compassion-focused interventions with other active control conditions (cf. Galante et al., 2016) to better understand for whom and how they work.

Conflict of Interest Statement

The authors declare that there are no conflicts of interest.

References

Andersson, G. (2016). Internet-delivered psychological treatments. *Annual Review of Clinical Psychology*, *12*(1), 157–179. https://doi.org/10.1146/annurev-clinpsy-021815-093006

Andersson, G., & Titov, N. (2014). Advantages and limitations of internet-based interventions for common mental disorders. *World Psychiatry*, *13*(1), 4–11. https://doi.org/10.1002/wps.20083

Baião, R., Gilbert, P., McEwan, K., & Carvalho, S. (2015). Forms of self-criticising/attacking & self-reassuring scale: Psychometric properties and normative study. *Psychology and Psychotherapy: Theory, Research and Practice*, *88*(4), 438–452. https://doi.org/10.1111/papt.12049

Bartels-Velthuis, A. A., Schroevers, M. J., van der Ploeg, K., Koster, F., Fleer, J., & van den Brink, E. (2016). A mindfulness-based compassionate living training in a heterogeneous sample of psychiatric outpatients: A feasibility study. *Mindfulness*, *7*(4), 1–10. https://doi.org/10.1007/s12671-016-0518-8

Berger, T., Krieger, T., Sude, K., Meyer, B., & Maercker, A. (2018). Evaluating an e-mental health program ("deprexis") as adjunctive treatment tool in psychotherapy for depression: Results of a pragmatic randomized controlled trial. *Journal of Affective Disorders*, *227*, 455–462. https://doi.org/10.1016/j.jad.2017.11.021

Bergomi, C., Tschacher, W., & Kupper, Z. (2014). Konstruktion und erste Validierung eines Fragebogens zur umfassenden Erfassung von Achtsamkeit. *Diagnostica*, *60*(3), 111–125. https://doi.org/10.1026/0012-1924/a000109

Blatt, S. J., & Zuroff, D. C. (1992). Interpersonal relatedness and self-definition: Two prototypes for depression. *Clinical Psychology Review*, *12*, 527–562. https://doi.org/10.1016/0272-7358(92)90070-O

Brenner, R. E., Heath, P. J., Vogel, D. L., & Credé, M. (2017). Two is more valid than one: Examining the factor structure of the Self-Compassion Scale (SCS). *Journal of Counseling Psychology*, *64*(6), 696–707. https://doi.org/10.1037/cou0000211

Brenner, R. E., Vogel, D. L., Lannin, D. G., Engel, K. E., Seidman, A. J., & Heath, P. J. (2018). Do self-compassion and self-coldness distinctly relate to distress and well-being? A theoretical model of self-relating. *Journal of Counseling Psychology*, *65*(3), 346–357. https://doi.org/10.1037/cou0000257

Carlbring, P., Andersson, G., Cuijpers, P., Riper, H., & Hedman-Lagerlöf, E. (2017). Internet-based vs. face-to-face cognitive behavior therapy for psychiatric and somatic disorders: An updated systematic review and meta-analysis. *Cognitive Behaviour Therapy*, *47*(1), 1–18. https://doi.org/10.1080/16506073.2017.1401115

Diedrich, A., Burger, J., Kirchner, M., & Berking, M. (2017). Adaptive emotion regulation mediates the relationship between self-compassion and depression in individuals with unipolar depression. *Psychology and Psychotherapy: Theory, Research and Practice*, *90*(3), 247–263. https://doi.org/10.1111/papt.12107

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

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, *49*(1), 71–75. https://doi.org/10.1207/s15327752jpa4901_13

Doerig, N., Krieger, T., Altenstein, D., Schlumpf, Y., Spinelli, S., Späti, J., & Grosse Holtforth, M. (2016). Amygdala response to self-critical stimuli and symptom improvement in psychotherapy for depression. *The British Journal of Psychiatry*, *208*(2), 175–181. https://doi.org/10.1192/bjp.bp.114.149971

Dunkley, D. M., Sanislow, C. A., Grilo, C. M., & McGlashan, T. H. (2009). Self-criticism versus neuroticism in predicting depression and psychosocial impairment for 4 years in a clinical sample. *Comprehensive Psychiatry*, *50*(4), 335–346. https://doi.org/10.1016/j.comppsych.2008.09.004

Faul, F., Erdfelder, E., Lang, A. -G., & Buchner, A. (2007). G* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*(2), 175–191. https://doi.org/10.3758/BF03193146

Finlay-Jones, A. L. (2017). The relevance of self-compassion as an intervention target in mood and anxiety disorders: A narrative review based on an emotion regulation framework. *Clinical Psychologist*, *21*(2), 90–103. https://doi.org/10.1111/cp.12131

Finlay-Jones, A. L., Kane, R., & Rees, C. (2017). Self-compassion online: A pilot study of an internet-based self-compassion cultivation program for psychology trainees. *Journal of Clinical Psychology*, *73*(7), 797–816. https://doi.org/10.1002/jclp.22375

Galante, J., Bekkers, M. J., Mitchell, C., & Gallacher, J. (2016). Loving-kindness meditation effects on well-being and altruism: A mixed-methods online RCT. *Applied Psychology. Health and Well-Being*, *8*(3), 322–350. https://doi.org/10.1111/aphw.12074

Gilbert, P. (2010). An introduction to compassion focused therapy in cognitive behavior therapy. *International Journal of Cognitive Therapy*, *3*(2), 97–112. https://doi.org/10.1521/ijct.2010.3.2.97

Gilbert, P., Clarke, M., Hempel, S., Miles, J. N. V., & Irons, C. (2004). Criticizing and reassuring oneself: An exploration of forms, styles and reasons in female students. *British Journal of Clinical Psychology*, *43*, 31–50. https://doi.org/10.1348/014466504772812959

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., McEwan, K., Matos, M., & Rivis, A. (2011). Fears of compassion: Development of three self-report measures. *Psychology and Psychotherapy: Theory, Research and Practice*, *84*, 239–255. https://doi.org/10.1348/147608310X526511

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

Gueorguieva, R., & Krystal, J. H. (2004). Move over anova: Progress in analyzing repeated-measures data andits reflection in papers published in the archives of general psychiatry. *Archives of General Psychiatry*, *61*(3), 310–317. https://doi.org/10.1001/archpsyc.61.3.310

Hupfeld, J., & Ruffieux, N. (2011). Validierung einer deutschen Version der Self-Compassion Scale (SCS-D) [Validation of a German version of the Self-Compassion Scale (SCS-D)]. *Zeitschrift für Klinische Psychologie und Psychotherapie*, *40*(2), 115–123. https://doi.org/10.1026/1616-3443/a000088

Jacobson, N. S., & Truax, P. (1991). Clinical significance: A statistical approach to defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology*, *59*(1), 12–19. https://doi.org/10.1037/0022-006X.59.1.12

Kannan, D., & Levitt, H. M. (2013). A review of client self-criticism in psychotherapy. *Journal of Psychotherapy Integration*, *23*(2), 166–178. https://doi.org/10.1037/a0032355

Karyotaki, E., Riper, H., Twisk, J., Hoogendoorn, A., Kleiboer, A., Mira, A., & Littlewood, E. (2017). Efficacy of self-guided internet-based cognitive behavioral therapy in the treatment of depressive symptoms: A meta-analysis of individual participant data. *JAMA Psychiatry*, *74*(4), 351–359. https://doi.org/10.1001/jamapsychiatry.2017.0044

Kazantzis, N., Whittington, C., Zelencich, L., Kyrios, M., Norton, P. J., & Hofmann, S. G. (2016). Quantity and

quality of homework compliance: A meta-analysis of relations with outcome in cognitive behavior therapy. *Behavior Therapy*, *47*(5), 755–772. https://doi.org/10.1016/j.beth.2016.05.002

Kelly, A. C., Vimalakanthan, K., & Carter, J. C. (2014). Understanding the roles of self-esteem, self-compassion, and fear of self-compassion in eating disorder pathology: An examination of female students and eating disorder patients. *Eating Behaviors*, *15*(3), 388–391. https://doi.org/10.1016/j.eatbeh.2014.04.008

Kirby, J. N. (2017). Compassion interventions: The programmes, the evidence, and implications for research and practice. *Psychology and Psychotherapy: Theory, Research and Practice*, *90*(3), 432–455. https://doi.org/10.1111/papt.12104

Kirby, J. N., Tellegen, C. L., & Steindl, S. R. (2017). A meta-analysis of compassion-based interventions: Current state of knowledge and future directions. *Behavior Therapy*, *48*(6), 778–792. https://doi.org/10.1016/j.beth.2017.06.003

Körner, A., Coroiu, A., Copeland, L., Gomez-Garibello, C., Albani, C., Zenger, M., & Brähler, E. (2015). The role of self-compassion in buffering symptoms of depression in the general population. *PLoS ONE*, *10*(10)e0136598. https://doi.org/10.1371/journal.pone.0136598

Krieger, T., Altenstein, D., Baettig, I., Doerig, N., & Grosse Holtforth, M. (2013). Self-compassion in depression: Associations with depressive symptoms, rumination, and avoidance in depressed outpatients. *Behavior Therapy*, *44*(3), 501–513. https://doi.org/10.1016/j.beth.2013.04.004

Krieger, T., Berger, T., & Grosse Holtforth, M. (2016). The relationship of self-compassion and depression: Cross-lagged panel analyses in depressed patients after outpatient therapy. *Journal of Affective Disorders*, *202*, 39–45. https://doi.org/10.1016/j.jad.2016.05.032

Krieger, T., Martig, D. S., van den Brink, E., & Berger, T. (2016). Working on self-compassion online: A proof of concept and feasibility study. *Internet Interventions*, *6*, 64–70. https://doi.org/10.1016/j.invent.2016.10.001

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, *33*(3), 335–343. https://doi.org/10.1016/0005-7967(94)00075-U

McEvoy, P. M., Nathan, P., & Norton, P. J. (2009). Efficacy of transdiagnostic treatments: A review of published outcome studies and future research directions. *Journal of Cognitive Psychotherapy*, *23*(1), 20–33. https://doi.org/10.1891/0889-8391.23.1.20

McIntyre, R., Smith, P., & Rimes, K. A. (2018). The role of self-criticism in common mental health difficulties in students: A systematic review of prospective studies. *Mental Health & Prevention*, *10*, 13–27. https://doi.org/10.1016/j.mhp.2018.02.003

Miron, L. R., Seligowski, A. V., Boykin, D. M., & Orcutt, H. K. (2016). The potential indirect effect of childhood abuse on posttrauma pathology through self-compassion and fear of self-compassion. *Mindfulness*, *7*(3), 596–605. https://doi.org/10.1007/s12671-016-0493-0

Neff, K. D. (2003). The development and validation of a scale to measure self-compassion. *Self and Identity*, *2*(3), 223–250. https://doi.org/10.1080/15298860390209035

Neff, K. D. (2003). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, *2*(2), 85–101. https://doi.org/10.1080/15298860390129863

Neff, K. D., Whittaker, T. A., & Karl, A. (2017). Examining the factor structure of the Self-Compassion Scale in four distinct populations: Is the use of a total scale score justified? *Journal of Personality Assessment*, *99*(6), 1–12. https://doi.org/10.1080/00223891.2016.1269334

Raes, F. (2010). Rumination and worry as mediators of the relationship between self-compassion and depression and anxiety. *Personality and Individual Differences*, *48*(6), 757–761. https://doi.org/10.1016/j.paid.2010.01.023

Richards, D., & Richardson, T. (2012). Computer-based psychological treatments for depression: A systematic review and meta-analysis. *Clinical Psychology Review*, *32*(4), 329–342. https://doi.org/10.1016/j.cpr.2012.02.004

Sauer-Zavala, S., Gutner, C. A., Farchione, T. J., Boettcher, H. T., Bullis, J. R., & Barlow, D. H. (2017). Current definitions of "transdiagnostic" in treatment development: A search for consensus. *Behavior Therapy*, *48*(1), 128–138. https://doi.org/10.1016/j.beth.2016.09.004

Scheel, C. N., Bender, C., Tuschen-Caffier, B., Brodführer, A., Matthies, S., Hermann, C., & Philipsen, A. (2014). Do patients with different mental disorders show specific aspects of shame? *Psychiatry Research*, *220*(1), 490–495. https://doi.org/10.1016/j.psychres.2014.07.062

Schmidt, J., Lamprecht, F., & Wittmann, W. (1989). Zufriedenheit mit der stationären Versorgung. Entwicklung eines Fragebogens und erste Validitätsuntersuchungen. *Psychotherapie, Psychosomatik, Medizinische Psychologie*, *39*(7), 248–255.

Schuling, R., Huijbers, M., Jansen, H., Metzemaekers, R., Van Den Brink, E., Koster, F., & Speckens, A. (2018). The co-creation and feasibility of a compassion training as a follow-up to mindfulness-based cognitive therapy in patients with recurrent depression. *Mindfulness*, *9*(2), 412–422. https://doi.org/10.1007/s12671-017-0783-1

Sheehan, D. V., Lecrubier, Y., Sheehan, K. H., Amorim, P., Janavs, J., Weiller, E., & Dunbar, G. C. (1998). The Mini-International Neuropsychiatric Interview (MINI): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *The Journal of Clinical Psychiatry*, *59*(Suppl. 20), 22–33.

Sommers-Spijkerman, M. P. J., Trompetter, H., Schreurs, K. M. G., & Bohlmeijer, E. T. (2018). Compassion-focused therapy as guided self-help for enhancing public mental health: A randomized controlled trial. *Journal of Consulting and Clinical Psychology*, *86*(2), 101. https://doi.org/10.1037/ccp0000268

van den Brink, E., & Koster, F. (2015). *Mindfulness-based compassionate living: A new training programme to deepen mindfulness with heartfulness*. London: Routledge.

von Collani, G., & Herzberg, P. Y. (2003). Eine revidierte Fassung der deutschsprachigen Skala zum Selbstwertgefühl von Rosenberg. *Zeitschrift für Differentielle und Diagnostische Psychologie*, *24*, 3–7. https://doi.org/10.1024//0170-1789.24.1.3

Werner, K. H., Jazaieri, H., Goldin, P. R., Ziv, M., Heimberg, R. G., & Gross, J. J. (2011). Self-compassion and social anxiety disorder. *Anxiety, Stress, and Coping*, *25*(5), 543–558. https://doi.org/10.1080/10615806.2011.608842

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