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Self-compassion among psychotherapy clients is in the details of negative, not positive, emotions

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ABSTRACT

Self-compassion involves the capacity to accept one's negative emotional experiences with kindness and mindful awareness, acknowledging them as part of the human condition. The present work is premised on the idea that self-compassion may be tied to the degree to which individuals are able to distinguish among their negative emotional states. We hypothesized that psychotherapy clients high in self-compassion will be better at distinguishing among their negative (but not positive) emotional states. Clients ($N = 136$) from a community clinic completed the Self Compassion Scale pre-and post-treatment. Clients' self-compassion levels as well as their emotional states were monitored before and after each psychotherapy session, respectively. Negative emotion differentiation was associated with both treatment and session level self-compassion; in contrast, positive emotion differentiation was not correlated with self-compassion levels. The implications of the findings will be discussed in light of contemporary accounts of self-compassion, affect dynamics, and affect regulation.

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Emotion; psychotherapy; self-compassion; emotion differentiation; affect dynamics

Introduction

Self-compassion is a particularly healthy form of relating to oneself. It involves a nonjudgmental attitude toward one's pain, failures, and shortcomings, with these experiences perceived as part of a universal human condition (Neff, 2003a). Self-Compassion has been described in the psychological literature as both a trait and a process (e.g. Barnard & Curry, 2011), and may be self-generated during times of emotional difficulty. Neff's (2003a) operationalization of self-compassion consists of three interconnected elements: (1) self-kindness, (2) common humanity, and (3) mindfulness. Self-kindness involves treating oneself in a positive and supportive manner, as one would treat a close friend. It contrasts with self-criticism, judgment, and recrimination. Common humanity involves recognizing that suffering is not a private experience – i.e., that all humans fail, make mistakes, and at times engage in dysfunctional behaviors. It contrasts with the psychological state of isolation, in which individuals focus primarily on their own weaknesses or problems and lose sight of the wider perspective of human experience. Lastly, mindfulness involves being aware of one's internal states (such as emotions or cognitions) as these change from one moment to the next, and experiencing things as they occur without holding on to them or actively avoiding them. It contrasts with the

psychological processes of emotional fusion, and over-identification (e.g., Hayes, Strosahl, & Wilson, 2011).

Research on self-compassion has mostly focused on its psychological and behavioral correlates in nonclinical populations. In these, self-compassion has been associated with numerous psychological strengths such as happiness (Hollis-Walker & Colosimo, 2011), optimism, wisdom, curiosity and exploration, personal initiative (Neff, Rude, & Kirkpatrick, 2007) and emotional intelligence (Heffernan, Quinn Griffin, McNulty, & Fitzpatrick, 2010). In addition, self-compassion is positively correlated with life satisfaction, psychological wellbeing, as well as cognitive wellbeing (for a meta-analysis see Zessin, Dickhäuser, & Garbade, 2015).

One of the most consistent findings regarding self-compassion has been its inverse link to psychopathology. In their meta-analysis, MacBeth and Gumley (2012) found a large effect size when examining the negative link between self-compassion and depression, anxiety, and stress. Additionally, self-compassion was negatively linked to the level of symptomatic distress among participants diagnosed with major depression (Krieger, Altenstein, Baettig, Doerig, & Holtforth, 2013), eating disorders (Ferreira, Matos, Duarte, & Pinto-Gouveia, 2014), and with fears of negative and positive evaluation among participants diagnosed with social anxiety

(though not with the anxiety symptoms themselves; Werner et al., 2012).

Considering the mental health benefits of being self-compassionate, it seems important to identify factors that may contribute to a self-compassionate disposition. One factor (identified in a recent meta-analysis) is gender: self-compassion seems to be lower among men as compared to women (Yarnell et al., 2015). Another factor identified has been a history of parental rejection and overprotection (with such histories tied to poorer self-compassion, though this association may be mediated by the development of anxious attachment; Pepping, Davis, O'Donovan, & Pal, 2015). Interestingly, few other factors have been identified to date.

The present work is premised on the idea that particular characteristics of individuals' emotional experiences may also be predictive of self-compassion. Specifically, we set off with the accepted definition of self-compassion – i.e., 'being touched by and open to one's own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering and to heal oneself with kindness' (Neff, 2003a). As noted by Neff and others (e.g., Gilbert, 2005) self-compassion involves the adoption of a compassionate stance toward the self in times of emotional suffering which involve the activation of negative emotions. We reasoned that individual differences in how these emotions are experienced are likely to be tied to greater or lesser self-compassion; in particular, we decided to explore emotion differentiation, i.e., the extent to which individuals represent or experience their emotions as separate and distinct (Barrett, Gross, Christensen, & Benvenuto, 2001) as a possible predictor of self-compassion.

For some individuals, emotions are experienced in a granular manner, and are described using discrete emotional terms (e.g., 'excited', 'anxious', or 'afraid'). For others, they are more abstract and are described only using more general terms (e.g., 'good' and 'bad'). When an individual can identify their own feelings with greater precision (e.g., 'I'm not anxious, and not sad, but am ashamed') they can be said to be more familiar with and aware of their emotional experience. As Neff (2003a) noted, 'Self-compassion requires mindful awareness of one's emotions, so that painful or distressing feelings are not avoided but are instead approached with kindness, understanding, and a sense of shared humanity.' Furthermore, undifferentiated (negative) emotional experience can represent a more global or general distress which hinders the ability to adopt a reflective and meaning-making stance towards one's self, and thus limits the capacity for more adaptive coping (Pascual-Leone & Greenberg, 2007). Indeed, nuanced emotional experiences can provide valuable

information about the origin of an emotion as well as the optimal courses of action. They also clarify motivations, and consequently allow for more appropriate allocation of needed attentional and behavioral resources (Kashdan, Barrett, & McKnight, 2015).

To date, numerous studies have documented the salubrious effects of differentiating emotions, particularly negative ones (for review, see Kashdan et al., 2015; Smidt & Suvak, 2015). For example, negative emotion differentiation has been tied to greater self-esteem, lower neuroticism, and less depressive feelings (Erbas, Ceulemans, Lee, Koval, & Kuppens, 2014; Willroth, Flett, & Mauss, 2019). Moreover, negative emotion differentiation was found to function as a protective factor in the face of various daily stressors; specifically, greater differentiation among negative emotions was found to predict greater negative effects of negative experiences and greater positive effects of positive experiences (Starr, Hershenberg, Li, & Shaw, 2017). Similarly, negative emotion differentiation predicted greater effectiveness of emotion regulation strategies in down-regulating negative emotions (Kalokerinos, Erbas, Ceulemans, & Kuppens, 2019). Interestingly, differentiation between negative emotions was also found to predict adherence for thalassemia treatment (Coifman, Ross, Kleinert, & Giardina, 2014).

In studies of romantic couples, negative emotion differentiation has also been found to predict greater empathic accuracy (Erbas, Sels, Ceulemans, & Kuppens, 2016) and to moderate the negative effects of conflict (Sened, Lazarus, Gleason, Rafaeli, & Fleeson, 2018). In studies of psychopathology, negative emotion differentiation was found to moderate the association between daily rumination and non-suicidal self-injury among individuals with borderline personality disorder (Zaki, Coifman, Rafaeli, Berenson, & Downey, 2013). It was also found to be lower among individuals suffering from several kinds of psychopathology associated with emotional problems including major depressive disorder (Demiralp et al., 2012), social anxiety disorder (Kashdan & Farmer, 2014) and autism spectrum disorders (Erbas, Ceulemans, Boonen, Noens, & Kuppens, 2013).

Unlike the growing evidence linking negative emotion differentiation to adaptive emotion regulation and wellbeing, findings regarding *positive* emotion differentiation have been inconsistent. First, many studies do not report positive emotion differentiation results at all (e.g., Erbas et al., 2018; Kalokerinos et al., 2019). Second, whereas some studies (Dixon-Gordon, Chapman, Weiss, & Rosenthal, 2014; Selby et al., 2014; Tugade, Fredrickson, & Barrett, 2004) found positive emotion differentiation to be tied to psychological well-being, others did not find such associations (e.g., Barrett et al., 2001; Demiralp et al., 2012; Kashdan & Farmer, 2014;

Willroth et al., 2019). Resolving these inconclusive findings regarding positive emotion differentiation is beyond the scope of the current paper. However, it is noteworthy that positive emotion differentiation was found to be associated with well-being indicators only in very circumscribed cases (e.g., among participants with sub-clinical eating disorders (Selby et al., 2014) and in conjunction with borderline personality features (Dixon-Gordon et al., 2014)). The more common finding, of null or negative association between positive emotion differentiation and well-being may be explained by the differential role of positive emotions (vs. negative emotions). In particular, positive emotions have been ascribed the role of building long-term resources and broadening individuals' behavioral and cognitive range (for review see Fredrickson, 2001). Such broadening and building may work best when positive emotions are unconstrained – that is, when they are not experienced in a granular or specific form, but instead, are free to overlap and co-activate. If so, differentiation of positive emotions may actually hamper some of their benefits. Indeed, as Starr et al. (2017) report, lower differentiation of positive emotions strengthened the salutary effects of positive experiences and of savoring on symptoms.

Importantly, both self-compassion and emotion differentiation can be considered regulatory strategies or action tendencies (and thus, manifest themselves at the transitory state level). For example, self-compassion has been induced in the lab or in the clinic using various methods (Leary, Tate, Adams, Allen, & Hancock, 2007; Shahar et al., 2015). Similarly, emotion differentiation has been shown to fluctuate in response to stress (Erbas et al., 2018) or particular interventions (Van der Gucht et al., 2018). At the same time, both variables can also be thought of as aggregate descriptions of stable trait-like individual characteristics (e.g., Erbas et al., 2014; Pepping et al., 2015).

This state-trait ambiguity may challenge attempts to clarify the causal relationship between the two variables. One way to understand this relationship is by utilizing Gross's (e.g., 2015) process model of emotion regulation in which self-compassion and emotion differentiation can be thought of as component processes. Specifically, emotion differentiation is likely to play an important role in early stages of emotion regulation (i.e., *identification* of one's emotions, in which a valuation system detects the instantiation of specific emotions and evaluates the need for their regulation). In contrast, self-compassion is likely to play its part in a subsequent emotion regulation stage (namely, the *selection* of regulatory strategy, in which different regulation strategies are represented and evaluated in light of contextual factors). Gross's

conceptualization accords with the view of several contemporary therapeutic approaches (e.g., Greenberg & Watson, 2006; Linehan, 1993; Young, Klosko, & Weishaar, 2003) which emphasize the importance of accurate emotion identification and labeling. Such accuracy can serve as a preliminary step toward the identification of emotion-related needs and action tendencies and toward the development of positive stances of self-regard, such as self-compassion or self-soothing (see Pascual-Leone & Greenberg, 2007 for an empirical demonstration of this process).

Notably, the theoretical underpinnings of self-compassion (Neff, 2003a) as well empirical findings connecting self-compassion and emotional processes (Jazaieri et al., 2014) suggest that self-compassion can also contribute to emotion differentiation. Specifically, acceptance and kindness towards the self, along with mindful awareness of one's circumstances are likely to make emotions (and particularly, negative ones) less aversive. Thus, self-compassionate individuals would presumably be more acquainted with their emotions, and would experience them in a richer and more detailed manner.

The links between emotion differentiation and self-compassion are of particular relevance within clinical populations in which the regulation of distress (Leyro, Zvolensky, & Bernstein, 2010) and affect is often compromised (for review, see Aldao, Nolen-Hoeksema, & Schweizer, 2010). Identifying the possible role played by undifferentiated emotions in such conditions vis-à-vis the development of compassionate self-regard can mark greater differentiation as a specific target for intervention.

The present study

The extant literature provides a rationale for the expected association between self-compassion and emotion differentiation. However, no study to date has documented a direct link between these two constructs. The present work examined the extent to which emotion differentiation covaries with self-compassion in the context of psychotherapeutic process. In particular, we used data obtained from session-by-session reports provided by clients engaged in psychodynamic psychotherapy, in which emotionally charged moments abound. We hypothesized that those clients who are better at distinguishing among their negative emotional states will also be higher in self-compassion. We also explored clients' ability to distinguish among their positive emotional states, but did so with no directional hypothesis.

We specified our hypotheses in this valence-dependent manner for two reasons: First, the evidence

for the associations between negative emotion differentiation and well-being indicators is much stronger than for positive emotion differentiation. Second, the psychotherapeutic context under study here, in which clients were presumably focused more on their negative emotions than on their positive ones is likely to render their negative emotions (as well as these emotions' differentiation) more central. Of note, though we see a stronger theoretical rationale for considering emotion differentiation as the causal agent, the current design will not allow the inference of causality. Thus, we constructed our regression models based on the temporal order of the measurements, with pre-treatment self-compassion as the predictor of emotion differentiation, and with emotion differentiation as the predictor was used to predict session-by-session as well as post-treatment self-compassion.

Method

Participants

The participants ($N = 136$) were adults undergoing psychotherapy at a major university outpatient clinic. All clients were at least 18 years old ($M_{\text{age}} = 39.2$ years, $SD = 12.9$, age range 19–74 years), and the majority were female (58.5%). In the sample, 40.5% of the clients were married or in a permanent relationship. In addition, 30.6% percent had at least a bachelor's degree, and 81.5% were employed full or part time.

Clients' diagnoses were established based on the Mini International Neuropsychiatric Diagnostic Interview for Axis I DSM-IV diagnoses (MINI 5.0; Sheehan et al., 1998). Of our total sample, 25.7% of the clients had a single diagnosis, 15.4% had two diagnoses, and 16.9% had three or more diagnoses. The most common diagnoses were comorbid anxiety and affective disorders¹ (17.6%), followed by anxiety disorders (13.2%), affective disorders (8.8%), other comorbid disorders (8.8%), comorbid anxiety disorders (5.9%) and obsessive compulsive disorder (3.7%). A sizable group of clients (41.9%) reported experiencing relationship concerns, academic/occupational stress, or other problems but did not meet criteria for any Axis I diagnosis.

Treatments

Individual psychotherapy consisted of once- or twice-weekly sessions of primarily psychodynamic psychotherapy organized and informed by a short-term psychodynamic psychotherapy treatment model (Blagys & Hilsenroth, 2000; Shedler, 2010). Treatment length was open ended; however, given the constraints of the university-based outpatient community clinic,

which operates on an academic schedule, treatment length was often limited to 9–12 months. Clients who had at least ten sessions were included in the analysis.

The mean treatment length was 21.7 sessions ($SD = 6.22$, range = 10–40). A total of 2947 sessions were available for analysis.

Measures

Treatment-level measures

Self-compassion scale (SCS; Neff, 2003b). This 26-item scale assesses six different aspects of self-compassion. Three of these aspects are positive: (a) self-kindness (e.g., 'I try to be understanding and patient towards those aspects of my personality I don't like'), (b) common humanity (e.g., 'I try to see my failings as part of the human condition'), and (c) mindfulness (e.g., 'When something painful happens I try to take a balanced view of the situation'). The other three aspects are negative: (d) self-judgment (e.g., 'I'm disapproving and judgmental about my own flaws and inadequacies'), (e) isolation (e.g., 'When I think about my inadequacies it tends to make me feel more separate and cut off from the rest of the world'), and (f) over-identification (e.g., 'When I'm feeling down I tend to obsess and fixate on everything that's wrong'). Responses for all items are given on a 5-point scale ranging from 'Almost never' to 'Almost always.' A total self-compassion score was computed by reversing the negative subscale items and then adding all items scores. Higher score therefore reflects greater self-compassion. The SCS has an appropriate factor structure, with a single overarching factor of 'self-compassion' accounting for inter-correlations between subscales (but see Hayes, Lockard, Janis, & Locke, 2016), and the scale has demonstrated predictive, convergent, and discriminant validity (Neff, 2003b). The internal consistency in our sample was high at pre-treatment ($\alpha = .92$) as well as at post-treatment ($\alpha = .93$). Clients who had no variability in their response to all items were removed from the analysis.

Session-level measures

Session-level self-compassion index (sc-index; Galili-Weinstock et al., 2018). This brief scale was developed in order to monitor the clients' weekly level of self-compassion. Clients were asked to complete this index at the beginning of each session, with reference to the previous week. To decrease participant burden within the framework of session-by-session data collection, we included only three items from the SCS (Neff, 2003b), each representing a different positive subscale of self-compassion: (a) self-kindness ('When I had a hard time, I gave myself the caring and tenderness I needed'), (b) common humanity ('I tried to see my failings as part of the human condition'), and (c)

mindfulness ('When something upset me I tried to keep my emotions in balance'). We chose the positive items as we were especially interested in exploring of the positive qualities of self-compassion (rather than the absence of negative qualities, such as self-criticism). Clients rated each statement on a 5-point scale ranging from 'Almost never' to 'Almost always'. The three scores were then averaged to compute the total self-compassion index score (with higher score reflecting higher levels of self-compassion). The between- and within-person reliabilities for the scale were computed using procedures outlined by Shrout and Lane (2012; See also Cranford et al., 2006), and these values were 0.90 and 0.73, respectively.

Profile of mood states (POMS; MCNAIR, LORR, & DROPPLEMAN, 1992). The POMS is a widely used instrument that assesses mood variables. For the purpose of this study, we used an abbreviated version of the measure, which was adapted for intensive repeated measurements (Cranford et al., 2006) and consists of 12 words that describe current emotional states. The negative affect scale includes depressed mood (2 items), anxious mood (2 items), and anger (2 items). The positive affect scale includes contentment (2 items), vigor (2 items), and calmness (2 items). Examples of feelings on the POMS are 'anxious,' 'sad,' 'angry,' 'happy,' 'lively,' and 'calm.' Clients were asked to evaluate how they felt during the session on a 5-point Likert scale ranging from 'Not at all' to 'Extremely'. The POMS has been tested on college students and was found to be both valid and reliable (Guadagnoli & Mor, 1989). In the first year of data collection, the POMS measure included three items per subscale; in the second year, one item was removed from each scale to reduce client burden. Only the two items included in both years were used for calculating the differentiation scores.

Procedure

The study was conducted in a university-based outpatient clinic between August 2014 and August 2016. The study procedures were part of the routine monitoring battery in the clinic. Clients were asked to provide written consent to participate in the voluntary study and were told that they could choose to terminate their participation in the study at any time without jeopardizing their treatment. The study was conducted in compliance with the university ethical review board.

The SCS questionnaire was administered to clients as part of the intake procedure (i.e., at pretreatment) and

again following treatment termination. Out of the 136 client who participated in the study, 116 completed the pre-treatment SCS and 98 completed post-treatment SCS. The session-level questionnaires were completed by the clients electronically using computers located in the clinic rooms. The session-level self-compassion index was completed prior to each therapeutic session; the POMS was completed following each therapeutic session.

Data analysis

Calculating emotion differentiation

Negative and positive emotion differentiation indices for each client were based on the within-person average interitem correlations (AICs) between all possible pairs of emotion items (Barrett et al., 2001; Coifman et al., 2014; Zaki et al., 2013). These correlations were calculated using emotion ratings from all available sessions per client. High correlations indicate that clients' emotions tend to change together, such that when one negative/positive emotion is high/low so are the others. In contrast, low correlations indicate that clients' emotions tend to change independently of each other. We then normalized the AICs using Fisher *r*-to-*z* transformations and reversed them so that higher values would represent higher emotion differentiation. This was done separately for negative and positive emotions. Six clients who had no variability in more than 3 POMS items were removed from the analysis due to concern for the validity of their reports (results remained unchanged when these clients were included in the models).

Importantly, to ensure that emotion differentiation's associations with other variables are not due to their association with the mean intensity of the emotions, we included the mean intensity of both positive and negative emotions in all models (see Erbas et al., 2018).

Results

Descriptive statistics

Descriptive statistics and zero-order correlations among key study variables are presented in Table 1. Notably, negative emotion differentiation and positive emotion differentiation were positively correlated. Additionally, negative emotion differentiation was positively correlated with the mean intensity of positive emotions, and negatively correlated with the mean intensity of negative emotions. Lastly, whereas negative emotion differentiation was tied to pre- and post-treatment SCS as

Table 1. Descriptive statistics of (and inter-correlations among) study variables.

Variable	1	2	3	4	5	6	7
1. Neg ED							
2. Pos ED	0.40***						
3. Neg EI	−0.21*	0.04					
4. Pos EI	0.22*	0.08	−0.48***				
5. M. SC-I	0.26**	−0.02	−0.29**	0.43***			
6. SCS T1	0.26**	0.09	−0.22*	0.35***	0.39***		
7. SCS T2	0.35***	0.12	−0.38***	0.46***	0.56***	0.69***	
Mean	0.61	0.50	1.82	3.20	3.13	73.78	73.89
SD	0.23	0.26	0.51	0.67	0.76	18.09	18.76

Note. Neg ED = Negative Emotion Differentiation; Pos ED = Positive Emotion Differentiation; Neg EI = Negative Emotion Intensity; Pos EI = Positive Emotion Intensity; M. SC-I = Mean Session-level Self Compassion Index; SCS T1= Self Compassion at pretreatment; SCS T2 = Self Compassion at posttreatment.

† $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

well as to the mean of the session-level SCS, positive emotion differentiation was not tied to any SC index.

Main analysis

We tested the extent to which clients' emotion differentiation for negative and positive emotions were associated with self-compassion indices. Emotion differentiation was based on emotion measurements taken following each treatment session, and self-compassion measurements were conducted pre, during, and after the treatment. Therefore, in our first two models, negative and positive emotion differentiation were each predicted by pre-treatment self-compassion ($N = 116$; see Table 2). In the last two models average session-level self-compassion ($N = 130$) scores and post-treatment self-compassion ($N = 98$) were predicted by negative and positive emotion differentiation, jointly (see Table 3). In all models, we adjusted for clients' mean intensity of both negative and positive emotions.

Consistent with our key hypothesis, pre-treatment self-compassion predicted greater negative emotion differentiation ($\beta = 0.22$, $p = 0.016$), but not positive emotion differentiation ($\beta = 0.05$, $p = 0.6$). Similarly, greater negative emotion differentiation predicted average session-level self-compassion scores ($\beta = 0.21$, $p = 0.019$) and post-treatment self-compassion ($\beta = 0.21$, $p = 0.030$), whereas greater positive emotion differentiation did not, and indeed showed a trend in

Table 2. Linear regressions predicting negative and positive emotion-differentiation.

Model	Var	B	SE(B)	β	p	Adj R ²
Neg ED	(Constant)	0.55	0.13		<.001	0.083
	SCS-T1	0.003	0.001	0.22	0.016	
	NEG EI	−0.08	0.04	−0.18	0.058	
Pos ED	(Constant)	0.36	0.14		0.009	0
	SCS-T1	0.001	0.001	0.05	0.600	
	POS EI	0.03	0.04	0.07	0.466	

Note. Neg ED = Negative Emotion Differentiation; Pos ED = Positive Emotion Differentiation; Neg EI = Negative Emotion Intensity; Pos EI = Positive Emotion Intensity; SCS T1= Self Compassion at pretreatment.

Table 3. Linear regressions predicting average session-level SC scores and post-treatment SC.

Model	Var	B	SE(B)	β	p	Adj R ²
M. SC-I	(Constant)	1.62	0.49		0.001	0.25
	Neg ED	0.65	0.27	0.21	0.019	
	Pos ED	−0.48	0.25	−0.16	0.052	
	Neg EI	−0.07	0.13	−0.05	0.579	
	Pos EI	0.46	0.10	0.41	<.001	
SCS T2	(Constant)	51.48	13.16		<.001	0.28
	Neg ED	16.81	7.64	0.21	0.030	
	Pos ED	−3.81	6.82	−0.05	0.578	
	Neg EI	−7.67	3.60	−0.21	0.036	
	Pos EI	8.74	2.63	0.33	0.001	

Note. Neg ED = Negative Emotion Differentiation; Pos ED = Positive Emotion Differentiation; Neg EI = Negative Emotion Intensity; Pos EI = Positive Emotion Intensity; M. SC-I = Mean Session-level Self Compassion Index; SCS T2 = Self Compassion at posttreatment.

the opposite direction ($\beta = -0.16$, $p = 0.052$; $\beta = -0.05$, $p = 0.578$) for session-level and post-treatment self-compassion, respectively).

Discussion

Self-Compassion is known to be tied to wellbeing and to adaptive psychological functioning (c.f. Zessin et al., 2015), but few studies to date have explored the smaller-scale processes that are tied to self-compassion. Given this construct's special relevance in the face of negative emotions (e.g. Neff, 2003a), we sought to explore whether the extent to which negative emotions are experienced as distinct (i.e., negative emotion differentiation) would be associated with individuals' tendency to be self-compassionate, before, during, and after treatment.

In particular, we hypothesized that clients' differentiation of negative (but not of positive) emotions will be tied to greater self-compassion. This prediction was fully supported by our data; negative emotion differentiation was tied to clients' pre and post-treatment self-compassion scores as well as to their mean session level self-compassion. In contrast, positive emotion differentiation was not correlated with self-compassion levels.

Thus, clients who were better able to experience (and report) their negative emotions in a more differentiated manner were also more self-compassionate. In other words, clients who struggled to distinguish between their negative emotions before, during, or after psychotherapy sessions were less able to accept themselves with kindness (instead of judgment), and with mindful awareness.

Though we need to exercise caution in assuming directionality, our findings may imply that negative emotion differentiation contributes to self-compassion. In particular, clients higher in negative emotion differentiation might have been better positioned to recognize the origins of their emotional experience, as well as their underlying needs (Barrett et al., 2001; Starr et al., 2017). Greater recognition of basic needs is likely to allow clients to use more self-care and greater self-compassion (e.g. Pascual-Leone & Greenberg, 2007). Theoretically, by making distress be more specific and less generalized, negative emotion differentiation may facilitate a sense of self-understanding and acceptance, which in turn may help the process of meaning-making and the creation of personal narrative (Angus & Greenberg, 2011).

Of course, it is possible that the ties between emotion differentiation and self-compassion are more complex (e.g., Van der Gucht et al., 2018). Specifically, greater self-compassion may itself allow for more negative emotion differentiation. Indeed, greater acceptance of one's self implies a greater capacity to maintain contact with one's emotional experience, which can increase emotion differentiation. Furthermore, reciprocal influence is possible as well. Future studies should examine the possible underlying mechanisms connecting Negative emotion differentiation and self-compassion.

Previous studies found both self-compassion and negative emotion differentiation to be negatively associated with levels of depression, neuroticism, and rumination (Demiralp et al., 2012; Erbas et al., 2014; Neff, 2003b; Neff et al., 2007b), and positively associated with emotion regulation and wellbeing (Diedrich, Grant, Hofmann, Hiller, & Berking, 2014; Smidt & Suvak, 2015; Zessin et al., 2015). However, this study is the first to explore the direct link between self-compassion and negative emotion differentiation. The observed associations between the two are in accord with previous studies in which a negative link was found between self-compassion and alexithymia (Aydin, 2014; Duarte & Pinto-Gouveia, 2017; Rusk & Alice, 2015).

The lack of association between positive emotion differentiation and self-compassion is also in accord with previous studies which demonstrated that it is the differentiation of negative, but not positive emotions, that is

related to positive psychological outcomes and well-being (e.g., Demiralp et al., 2012; Kashdan, Ferrisizidis, Collins, & Muraven, 2010; Pond et al., 2012). Together, our findings are in line with current understandings regarding the different roles of positive and negative affect, their distinct related mechanisms and consequences (e.g. Fredrickson, 2001).

Interestingly, a recent distinction has been made between different levels of emotion differentiation (Erbas et al., 2018), and it was suggested that differentiating between emotions within the same category (e.g. anger and irritation) may play a different role than differentiation between very distinct emotions (e.g. anger and sadness). Future studies could explore whether self-compassion is linked to within or between categories of emotion differentiation and examine whether differentiation between specific types of emotions (e.g. shame vs. anger) is more relevant to self-compassion.

The present study demonstrates the potential of exploring dynamic features of clients' experiences over the course of psychotherapy. Recent work (Lazarus, Atzil-Slonim, Bar-Kalifa, Hasson-Ohayon, & Rafaeli, 2019) considered the role of affective instability and inferential flexibility vis-à-vis therapists' empathic accuracy. Future research can further examine the role of other affect dynamics (e.g., inertia) or consider dynamic features of other therapy-related constructs such as the alliance or therapists' interventions with relation to self-compassion.

Strengths, limitations and future directions

The present study has several strengths. First, the data are taken from a clinical population. Studies of both self-compassion and emotion differentiation in such populations are relatively scarce, which is unfortunate, as research on variables contributing to psychological well-being is particularly pertinent for the study of individuals seeking solace for emotional distress. Second, one of our self-compassion measures relied on the mean of repeated measurements of weekly levels of self-compassion. Such measurement is less biased by situational factors (Bolger, Davis, & Rafaeli, 2003) as well as by other bias sources (e.g., Shrout et al., 2018). Furthermore, while previous studies had explored emotion differentiation in various contexts including emotional lab tasks or daily life activities (Erbas et al., 2014; Pond et al., 2012), this study is the first to examine emotion differentiation within psychotherapy sessions, a unique, emotionally charged context.

These strengths notwithstanding, several limitations of this study should be noted. First, due to the correlational design of this study, causality cannot be

explicitly inferred. Future experimental or longitudinal designs may shed more light on the causal relationships between emotion differentiation and self-compassion (see for example Van der Gucht et al., 2018). Second, both emotion differentiation and self-compassion were evaluated using clients' self-reports. Such reports may be biased by several factors including social desirability, lack of self-awareness, and other forms of biased responding. Future studies may employ alternative assessment tools such as objective raters' reports (e.g., Sbarra, Smith, & Mehl, 2012), text analysis (e.g., Neff et al., 2007a). Third, as clients' emotions were assessed only once at the end of each session, we could not observe emotion fluctuations that may have occurred within the sessions. Moreover, the timing of the session-level measures (i.e., the assessment of self-compassion at the beginning of each session, and of affect at the end of each session) meant that self-compassion was assessed with regards to the previous week whereas affect was assessed with regards to the session itself. Future work may benefit from inclusion of additional post-session self-compassion indices. Lastly, due to our sample's heterogeneity we were unable to determine whether the associations discovered differ among different classes of psychopathology. Though emotion differentiation and self-compassion have been found to be relevant in various conditions, further research is required to determine the extent to which their link hold in more specific populations.

Conclusion

The present work takes a preliminary step in integrating the study of self-compassion with affective science, and particularly with the research of affect dynamics. Understanding the ways in which dynamic affective processes are involved in the implementation of self-compassion holds great promise for promoting self-compassion. Specifically, our findings may imply that psychological interventions aimed at enhancing individuals' ability to experience their negative affect granularly may be effective in promoting self-compassion and thereby achieving better psychological health.

Note

1. The following DSM-IV diagnoses were assessed in the affective disorders cluster: major depressive disorder, dysthymia and bipolar disorder. The following DSM-IV diagnoses were assumed in the anxiety disorders cluster: panic disorder, agoraphobia, generalized anxiety disorder and social anxiety disorder.

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No potential conflict of interest was reported by the authors.

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