Abuse, invalidation and lack of early warmth show distinct relationships with self-criticism, self-compassion and fear of self-compassion in personality disorder

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Background: Cultivating self-compassion is increasingly recognized as a powerful method to regulate hyperactive threat-processes like shame and self-criticism, but fear of self-compassion (FSC) can inhibit this. These difficulties are under-explored in personality disorder (PD) despite their prevalence. Furthermore, little evidence exists regarding how these factors relate to adverse childhood events (ACEs) and attachment. *Method:* 53 participants with a diagnosis of PD completed measures including childhood abuse/neglect, invalidation, early warmth, self-compassion, shame, self-criticism, FSC, and anxious/avoidant attachment. *Results:* Self-compassion was predicted uniquely by low early warmth; self-inadequacy by invalidation and abuse; whereas FSC was predicted by multiple ACEs. FSC and self-compassion were significantly correlated with self-criticism and shame, but not with one another. *Conclusions:* Low self-compassion and high FSC appear to be distinct problems, substantiating physiological models proposing distinct threat and soothing systems. Results are consistent with theories positing that low self-compassion has distinct origins to shame, self-criticism and FSC.

Key-words: Self-compassion, Compassion, Child abuse, Child neglect, Self-criticism, Personality disorders

Whilst many psychotherapies predominantly target barriers to functioning, positive psychology approaches focus on building resources to support functioning. A range of compassion-based therapies exist, which share the principle that compassion is a powerful method of regulating threat-based emotions like shame and self-criticism (Kirby, Tellegen & Steindl, 2015). Compassion has been defined as "a sensitivity to suffering in self and others, with a commitment to try to alleviate and prevent it" (Gilbert et al., 2016). We can cultivate compassion in three orientations: giving compassion to others, receiving from others, and self-compassion, upon which this article focuses. Related to self-compassion is self-reassurance, the specific ability to focus on one's positives when things go wrong and encourage oneself for the future (Gilbert et al., 2017).

Some psychologists have conceptualized a single dimension from self-compassion to self-criticism (e.g. Neff, 2003). However, this conflicts with evidence that the two phenomena involve distinct physiological systems. Self-criticism is associated with amygdala hyperactivity and activates the HPA-axis, leading to secretion of 'stress hormones' like cortisol (Dickerson & Kemeny, 2004; Gotlib, Joorman, Minor & Hallmayer, 2008; Longe, Maratos, Gilbert, Evans, Volker, Rockliff & Rippon, 2010). This circuitry is also activated by other processes centred around negative evaluations of self, including shame elicitation (Gruenewald, Kemeny, Aziz & Fahey, 2004).

In contrast, compassion operates through a system involving the myelinated vagus nerve and hypothalamus, mediated by oxytocin (Brown & Brown, 2017; Porges, 2007). It is theorized to have evolved to motivate cooperative and caring behaviours that were adaptive during human evolution, as well as parent-infant caregiving behaviours which foster secure attachment (Depue

& Morrone-Strupinksky, 2005). The ‘soothing system’ can rapidly downregulate the ‘threat system’ (HPA-axis and sympathetic arousal), presumably since giving and receiving care requires us to inhibit evaluating others as possible threats (Gilbert, 1993, 2015). Supporting this theory, administering oxytocin downregulates the amygdala and motivates prosocial behaviour, even towards those who have violated our trust (Baumgartner et al., 2008). Clinically, this implies that affiliative affect and behaviour could regulate a hyperactive threat-system (including self-criticism and shame), which empirical evidence supports (Kirby, Tellegen & Steindl, 2015). Threat-processing can also be regulated using competitive motives (seeking superiority and status) but this strategy is vulnerable since success is not always under self-control and is vulnerable to negative cognitive biases in psychopathology.

Despite potential benefits of compassion, some individuals experience fear of self-compassion (FSC), which predicts poorer responses to compassion interventions (Kelly, Carter, Zuroff & Borairi, 2013). This fear may stem from learned rules like ‘compassion will impede self-improvement’ or ‘compassion is self-pity’, or conditioned fear responses to compassion due to parents expressing abuse/contempt as well as care (Gilbert, 2010). Physiologically, this has been conceptualized as compassion activating the threat system, and indeed, self-reassurance produces amygdala activation in highly-critical individuals (Longe et al., 2015).

Several key questions remain to be answered. Firstly, to what extent are self-compassion and self-reassurance correlated with self-criticism, shame, and FSC? Theoretically, it should be possible for individuals high in FSC, shame and self-criticism to also have high self-compassion/reassurance (or have low scores in all), since they reflect distinct physiological systems (Gilbert, 2010). However, Gilbert (2000) proposed that shame and self-criticism from an

overactive threat system may overwhelm the soothing system, hindering attempts to be compassionate. FSC may also produce avoidance of self-compassion. These relationships need to be explored in clinical samples, since non-clinical samples have produced floor effects in some forms of self-criticism (Rockliff et al., 2008).

Furthermore, most studies have measured self-compassion with the full-scale Self-Compassion Scale (SCS) score, which combines items measuring self-compassion with reverse-scored items measuring self-criticism. This is incompatible with the conceptualization of self-compassion and self-criticism as reflecting distinct physiological systems. Indeed, factor analysis indicates a two-factor solution that separates positively-worded items from negatively-worded items (López et al., 2015; Muris & Petrocchi, 2017). Using the full-scale SCS risks overestimating the relationship between self-compassion and psychopathy since the negative SCS items are almost completely redundant with trait neuroticism (Pfattheicher, Geiger, Hartung, Weiss & Schindler, 2017) and account for considerably more variance in mental health symptoms than positive items (Muris, Van den Broek, Otgaar, Oudenhoven & Lennartz, 2018). Similarly, factor analyses indicate that self-criticism is distinct from reverse-scoring self-reassurance (Castilho, Pinto-Gouveia, & Duarte, 2015; Kupeli, Chilcot, Schmidt, Campbell & Troop, 2012).

We identified only one study exploring these relationships in a clinical (depressed) sample using the two-factor solution (Gilbert, McEwan, Catarino & Baião, 2014), which found that self-compassion negatively correlated with both FSC and self-criticism. Replication in other clinical populations is therefore warranted.

Secondly, it remains to be established whether self-compassion/reassurance have similar or distinct origins to shame, self-criticism and FSC. Early life experiences strongly influence many processes involved in psychopathology or resilience. Understanding these pathways is important for formulating clients´ difficulties and developing treatments. Explanations can be broadly grouped into those focusing on attachment styles versus those focusing on aversive childhood experiences (ACEs) like neglect/abuse. These are different levels of explanation, but undoubtedly overlap: abuse and neglect are risk factors for both anxious and avoidant attachment (Mickelson, Kessler & Shaver, 1997).

Attachment evolved to enable infants to approach caregivers for protection/care (Bowlby, 1969). However, if caregivers themselves are unpredictable or unsafe, the infant develops negative working models of self and others. These are initially protective but hinder subsequent healthy relationship-building. Bartholomew and Horowitz (1991) define attachment style according to two dimensions: attachment anxiety (characterised by dependent behaviour and negative beliefs about self-worth) and avoidance (self-reliant and emotionally-distant due to negative beliefs about others´ trustworthiness/supportiveness).

The negative self-views in anxious attachment are theorized to lead to difficulties with self-compassion, since individuals view themselves as undeserving of support (e.g. Gillath et al., 2005; Neff & McGehee, 2010). Since avoidant-attachment can be associated with negative or positive self-views, some theorists argue that it should not predict self-to-self relating (Pietromonaco & Feldman Barrett, 2000). However, Social Mentalities theory (Gilbert, 2000) suggests that social experiences influence self-relating not only by influencing working models but because the soothing system (which underlies self- and other-relating) will not develop in the

context of inadequate care. Furthermore, the consequence of avoidant-attachment (avoiding closeness) may prevent the individual from developing relational templates for how to show compassion, consequently inhibiting self-compassion. This implies that both insecure attachment styles should correlate negatively with self-compassion.

In studies of non-clinical populations, self-compassion reliably produces negative correlations with anxious attachment, but weaker or non-significant correlations with avoidant attachment, suggesting the role of negative self-views (Joeng et al., 2017; Neff & McGehee, 2010; Pepping, Davis, O'Donovan & Pal, 2015; Raque-Bogdan et al., 2011; Wei, Liao, Ku, Shaffer, 2011). However, in the only clinical population study we identified, low self-compassion was uniquely predicted by attachment-related avoidance, supporting Social Mentalities model (Mackintosh, Power, Schwannauer & Chan, 2018).

Both avoidant and anxious attachment have been hypothesized to correlate with FSC. The inadequate/inconsistent caregiving underlying insecure attachment may cause conditioned fear responses to compassion, beliefs of not deserving compassion, or lack of compassionate relational templates, all of which are theorized causes of FSC. Indeed, FSC has been significantly correlated with avoidant and anxious attachment in depressed and non-clinical samples (Asano et al., 2017; Gilbert et al., 2011; Gilbert, McEwan, Catarino, Baiao, & Palmeira, 2014; Joeng et al., 2017).

Insecure attachment may not only precede low-self-compassion and FSC, but also maintain them: individuals may avoid others' compassion due to beliefs of self-defectiveness (anxious-attachment) or fear of closeness (avoidant-attachment), preventing fear extinction and development of skills of compassionate relating.

ACEs and (fear of) self-compassion

ACEs research typically distinguishes physical neglect (e.g. lack of adequate clothing, food or supervision), emotional neglect (when caregivers fail to meet a child´s basic psychological needs including love and support), physical abuse, emotional abuse (e.g. criticism or humiliation), and sexual abuse (Bernstein et al., 2003). Another commonly-studied ACE is parental invalidation: inappropriate responses to a child communicating their private experiences (e.g. negating or over-reacting), causing the child to conclude that they have socially-unacceptable personality traits such as being over-sensitive or not trying hard enough (Linehan, 1993). Whilst all the constructs above focus on adverse events or parental behaviours, ACEs can also be measured by recalled childhood *emotions*, such as feelings of warmth/safeness in childhood (Richter, Gilbert & McEwan, 2009). Such measures are important since the same behaviour may be experienced distinctly by different individuals (Cicchetti & Rogosch, 2009). In fact, mental health symptoms are more strongly correlated with recalled *feelings* of lack of warmth or of being threatened than with recalled parental behaviours (Gilbert, Cheung, Grandfield, Campey & Irons, 2003; Richter et al., 2009).

Self-compassion measured by the full-scale SCS correlates with various ACEs including low early warmth, parental rejection, and abuse (Neff & McGehee, 2010; Pepping et al., 2015; Tanaka et al., 2011; Vettese, Dyer, Li & Wekerle, 2011). However, as noted above, use of the SCS full-scale means that this may just reflect previously-established correlations between abuse and self-*criticism* (e.g. Sachs-Ericsson, Verona, Joiner & Preacher, 2006). To our knowledge, only one study has correlated the positive SCS subscale with ACEs. This found self-compassion

to correlate with early warmth, but not parental rejection, in students (Kelly & Dupasquier, 2016). To date this has not been explored in clinical populations.

Only two studies have examined associations between FSC and ACEs. Matos, Duarte & Pinto-Gouveia (2017) found FSC to correlate with low warmth, which may reflect that engaging in self-compassion following a history of low warmth may trigger grief or anger about past experiences, or difficulties cultivating compassion due to a lack of relational templates (Gilbert, 2010). Boykin et al. (2018) found that FSC significantly correlated with childhood maltreatment, but did not distinguish abuse and neglect.

Present study

The present study explored possible origins of self-compassion, FSC, shame and self-criticism by examining their associations with attachment styles and ACEs (abuse, neglect, invalidation and lack of warmth). Relationships between self-compassion, FSC, shame and self-criticism were also explored. Unlike almost all studies examining these relationships, we measure self-compassion using only positive SCS items.

Despite clear clinical implications of modelling these relationships, most studies have examined non-clinical populations. Clinical samples may have higher biological vulnerability, lack of protective factors, and exposure to ACEs throughout the lifespan, which may increase the impact of ACEs and attachment insecurity. Furthermore, some variables such as self-hatred have produced floor effects in non-clinical populations, limiting analysis (Rockliff et al., 2008).

The present study explored these relationships in individuals with PD (predominantly borderline), who typically report numerous ACEs (Johnson et al., 1999). Shame, self-criticism and FSC are elevated in several PDs, including avoidant, dependent, narcissistic and Borderline

personality disorder (BPD) (Arntz, Weertman, & Salet, 2011; Ebert, Edel, Gilbert & Brüne, 2018; Ritter et al., 2014; Scheel et al., 2014). Importantly, BPD is *not* associated with elevated sympathetic activity to threat but with parasympathetic hypoactivity, highlighting the need to further understand self-compassion in this population (Austin, Riniolo & Porges, 2007; Schmahl et al, 2004).

Specifically, we aimed to explore:

1. Associations between FSC and self-compassion/self-reassurance;
2. Associations between these variables and shame, self-criticism, and anxious/avoidant attachment;
3. Which ACEs (childhood abuse, neglect, invalidation and lack of warmth) predicted shame, self-criticism, FSC, and self-compassion/reassurance.

Methods

Participants

Fifty-three adults attending an out-patient PD service (94.3%) or awaiting treatment (5.7%) were recruited. There were 44 females and 9 males. Age ranged from 18 to 57 years (*M*= 32, *SD* = 11.1). Seventy-six percent were white, 11% Asian or Asian British, 6% black or black British, 4% mixed, and 4% other. All met DSM-IV criteria for a diagnosis of a PD (American Psychiatric Association, 1994) as determined by the SCID-II (First, Gibbon, Spitzer, Williams, & Benjamin, 1997); this was a requirement for joining the waitlist or the service. Forty-seven participants had a diagnosis of BPD, three of Narcissistic PD, and one of Personality Disorder Not Otherwise Specified (PDNOS). Data was missing for two participants. Common comorbid diagnoses included Generalised Anxiety Disorder (n=12) and Major Depressive Disorder (n=9). Clients

with florid psychosis, learning disability, PD due to head injury, or previous experience of CFT were excluded.

Patients were receiving standard dialectical behavioural therapy (DBT; Linehan, 2015), consisting of weekly individual therapy, skills groups (e.g. mindfulness) and out-of-ours telephone support. Length of current treatment cycle at time of testing ranged from 0-22 months (M = 6.5, SD =5.2).

Measures

Structured Clinical Interview for DSM-IV-TR Axis-II Personality Disorders (SCID-II; First, Gibbon, Spitzer, Williams, & Benjamin, 1997) is a structured clinical interview tool for clinicians that identifies whether clients meet diagnostic criteria for PD, with high validity and reliability (Lobbestael, Leurgans, & Arntz, 2011; Shear et al., 2000). The SCID-II was administered by qualified, trained clinicians.

Childhood Trauma Questionnaire Short form (CTQ-SF; Bernstein et al., 2003) has 28 items measuring five factors: emotional, physical, and sexual abuse; and emotional and physical neglect. Participants rate frequency of traumas on a 5-point scale from 1 (*never true)* to 5 (*very often true)*. The additional Minimization-denial subscale was not used as it is not empirically supported (MacDonald, Thomas, MacDonald & Sciolla, 2015). CTQ scores correlate highly with semi-structured clinical interviews (Bernstein et al., 1994). Internal consistencies are high for four subscales (α=.81 to .95) and acceptable for physical neglect (α=.61 to .78), as found in the present study (see Table 1).

*Early Memories of Warmth and Safeness Scale (EMWSS***,** Richter, Gilbert & McEwan, 2009) is a retrospective 21-item single-factor measure of feelings of safety, warmth and being cared for in

childhood, with high test-retest reliability (r=.91) and internal consistency (α=0.97). Items include "I felt cared about" and "I felt appreciated the way I was", rated on a 5-point Likert scale from 0 (no, never) to 4 (Yes, most of the time).

Invalidating Childhood Environments Scale (ICES; Mountford et al., 2007) is a retrospective measure of parental invalidation. Participants rate 14 parental behaviours toward them during childhood, from 1 (never) to 5 (all the time).

Self-Compassion Scale-Short Form (SCS-SF) (Raes, Pommier, Neff, & Van Gucht, 2011) has 12-items and developed from an original 26-item scale (Neff, 2003). Participants rate frequency of self-compassionate behaviours on 5-point Likert scales. Recently, researchers have challenged the initial unifactorial model of these scales, favouring two or six factors (Costa, Marôco, Pinto-Gouveia, Ferreira & Castilho, 2016; Muris & Petrocchi, 2017). This study uses the two-factor model distinguishing self-compassion (positively-worded items) from self-criticism (negatively-worded items). In the present article, higher scores on Positive SCS and Negative SCS represent higher self-compassion and higher self-criticism, respectively.

Fear of Compassion towards Self scale (Gilbert et al., 2011) consists of 15 items measured on a 5-point Likert scale, including *"I feel that I don't deserve to be kind and forgiving to myself"*. The original study found high internal consistency (α=0.85 to 0.92). Although conflicting evidence exists regarding whether or not the scale is unifactorial (Asano et al. 2017; Dentale et al., 2017), it has clinical utility for predicting symptoms (Dentale et al., 2017) and CFT treatment response (Kelly, Carter, Zuroff, & Borairi, 2013).

Forms of Self-Criticism/Attacking and Self-Reassuring Scale (FSCRS; Gilbert et al., 2004). This scale consists of 22 items rated on 5-point Likert scales, producing three components: self-

inadequacy; self-hatred; and self-reassurance. The original study found high internal consistency for all subscales (α=0.86 to 0.90).

Experience of Shame Scale (ESS; Andrews, Qian, & Valentine, 2002). This 25-item questionnaire assesses experiential, cognitive and behavioural shame in different domains. Respondents rate to what extent they felt this type of shame in the past year, from 1 (not at all) to 4 (very much). The original paper found high test–retest reliability, *r*=.83 and excellent internal consistency.

Experiences in Close Relationships Scale-Short Form (ECR-S; Wei, Russell, Mallinckrodt, & Vogel, 2007) measures anxious-attachment and avoidant-attachment, each with 6-items. The original study found acceptable internal consistency for both subscales (*α*= .77 to .78), but the present study found poor internal consistency for anxious-attachment (see Table 1).

Procedure

Ethical approval was obtained from the Research Ethics Committee London (Ref 15/LO/0747). Testing took place after weekly DBT groups. All group members were invited to participate by facilitators, and individuals on services´ waiting lists were contacted via email. Participants completed the measures in the following order: demographics, FSCSR, Fear of Compassion towards Self, ECR-S, EMWSS, CTQ, ICES, ESS, and SCS-SF. Subsequently, participants received a £10 shopping voucher and were taught a simple CFT technique as remuneration for participating.

Data analysis

Data analysis was run using SPSS v24 (IBM Corp, 2016). Square-root or logarithmic transformations were applied to variables which did not meet normality assumptions (EMWSS;

CTQ emotional and physical neglect and emotional abuse subscales; anxious attachment, ESS, self-inadequacy, self-hatred, and self-reassurance). The 2-factor solution for the SCS was used (see measures).

The sample size for this study was predetermined at N=53 since the dataset had been collected during a previous project. Therefore, prior to other analyses, sensitivity power analyses were run with GPower, using α=0.05 and 80% power.

Correlations were run between FSC, self-compassion and self-reassurance, and between these variables and self-criticism, shame, and attachment styles. Sensitivity power analyses indicated that the minimum detectable effect was r=0.33 (moderate), which was deemed acceptable (Cohen, 1988).

Multiple regressions were used to explore which ACEs predicted self-compassion, self-reassurance, FSC, shame, self-hatred and self-inadequacy. EMWSS, ICES, and CTQ subscales of Physical abuse and Sexual abuse were included as predictors. CTQ physical neglect was excluded due to unacceptable internal consistency; CTQ emotional neglect/abuse were excluded due to theorized overlap with EMWSS and ICES respectively. VIF values were all <2; indicating low risk of multicollinearity (Field, 2005). Data met assumptions of homogeneity of variance and normality. Sensitivity power analysis indicated a minimum detectable effect-size of f^2= 0.12. Table 2 presents post-hoc power analyses.

Results

Mean CTQ scores indicated that patients reported severe-to-extreme emotional abuse (M= 17.18, SD= 6.49), and moderate-to-severe levels of emotional neglect (M= 17.58, SD= 5.82), physical

neglect (M=11.49, SD=4.64), physical abuse (M=11.39, SD= 6.82), and sexual abuse (M=11.38, SD=7.86), according to CTQ manual cutoffs (Bernstein & Fink, 1998).

Table 1 provides descriptive statistics for all measures, and correlations between measures.

(Insert Table1 here)

Correlations

Figure 1 illustrates the correlations between self-compassion, FSC and other proximal variables.

(Insert Figure1 here)

FSC, shame and all self-criticism measures (self-hatred, self-inadequacy, and Negative SCS subscale) were significantly positively correlated with one another. Self-compassion (Positive SCS subscale) significantly negatively correlated with all self-criticism variables and shame, but showed a non-significant negative correlation with FSC (p=.097).

FSC was significantly correlated with avoidant attachment, but self-compassion was not. Neither FSC nor self-compassion significantly correlated with anxious attachment, although anxious-attachment had poor internal consistency.

Duration of current treatment cycle significantly correlated with anxious attachment (r=.321, p=.021) but no other variables ($p \geq .365$). In case this was suppressing a relationship between FSC/self-compassion and anxious attachment, partial correlations between these variables were run (controlling for treatment duration) but were also non-significant ($p > .348$).

Regressions between ACEs and proximal measures

Table 2 presents regression results. The model for FSC was significant and explained 22.0% of the variance, but no model parameter was individually predictive.

(Insert table 2 here)

The model for self-inadequacy was significant and explained 31.2% of the variance, with ICES and Physical Abuse significantly predicting self-inadequacy (see Table 2).

No other overall models were significant. However, t-statistics indicated that both self-compassion and self-reassurance were significantly predicted only by EMWSS (see Table 2), therefore simple regressions were run for these variables with only one predictor (EMWSS). A significant regression was found for self-compassion ($F(1,46)=12.663$, $p=.001$), where EMWSS explained 21.6% of the variance of self-compassion. A significant regression was found for self-reassurance ($F(1,46)=$, $p=.005$), where EMWSS explained 15.0% of the variance of self-reassurance.

Discussion

Key findings are that self-compassion and self-reassurance were predicted uniquely by low early warmth; self-inadequacy uniquely by invalidation and physical abuse; and FSC by a combination of ACEs. FSC and self-compassion were not significantly correlated. Below we interpret these findings in the context of previous psychological and neurophysiological findings.

Proximal factors and ACEs

Self-compassion and self-reassurance were both predicted uniquely by early warmth. This corroborates other studies showing that parental warmth, but not rejection, is significantly correlated with self-reassurance and self-compassion (Irons et al. 2006; Kelly & Dupasquier, 2016; Richter et al., 2009). Our study extends the literature since only one study (Kelly & Dupasquier, 2016) used only the positive SCS subscale, and all used non-clinical populations, where ACEs are less prevalent.

These findings are consistent with theories positing that early warmth is essential for development of the 'soothing system' that underlies self-compassion as well as social safeness (Gillath, Shaver & Mikulincer, 2005; Gilbert, 2010; Porges, 2007). This theorized pathway is substantiated by evidence that early neglect and low warmth are associated with physiological markers of soothing-system functioning, such as oxytocin release following physical contact with a loved one (Ebert, Edel, Gilbert & Brüne, 2018; Wismer-Fries, Ziegler, Kurian, Jacoris & Pollak, 2005). Physical and emotional abuse have also been associated with oxytocin release, but studies rarely control for early warmth/neglect (e.g. Heim et al., 2009; Seltzer, Ziegler, Connolly, Prososki, & Pollak, 2014). Thus, further research is required to explore whether abuse as well as low warmth impacts soothing-system functioning.

Self-inadequacy was predicted by parental invalidation and physical abuse only. This is compatible with theories viewing self-criticism as internalized criticism from others (Scharff & Tsigounis, 2003), and replicates findings that parental rejection, but not low warmth, predicts self-inadequacy (Irons et al., 2006). This further supports the idea that high self-criticism and low self-compassion are distinct phenomena, with distinct origins. Figure 2 presents a hypothetical model of these pathways.

[Insert Figure2 here]

FSC was significantly predicted by a model using parental invalidation, EMWSS, and physical and sexual abuse as predictors. This corroborates evidence that FSC correlated both with shame memories and low warmth in a non-clinical population (Matos, Duarte & Pinto-Gouveia, 2017). These findings could indicate that a range of developmental pathways converge onto a single factor, FSC (equifinality). Alternatively, the FSC scale might tap into several

distinct processes, each with different origins. Some items of this scale appear to measure soothing system hypoactivity, which we propose stems from low warmth (e.g. “When I try and feel kind and warm to myself I just feel kind of empty”). Other items seem to measure self-inadequacy (“If I become kinder and less self-critical to myself then my standards will drop”), which we suggest stems from invalidation and physical abuse. Others might tap into self-hatred (“I don’t deserve to be kind and forgiving to myself”), or conditioned fear responses to compassion (“if I am too compassionate towards myself, bad things will happen”). A measure that distinguishes these different inhibitors may enable us to better explore their origins. As Figure 2 illustrates, if the FSC scale taps into both threat-system hyperactivity (e.g. self-inadequacy) and soothing-system hypoactivity (causing low self-compassion), we would expect it to correlate with multiple ACEs.

Self-hatred and shame were not predicted by any ACEs. Post-hoc power analysis indicated that these models had power bordering on acceptable (0.79 to 0.80), suggesting that ACEs may predict these variables but are unlikely to explain much variance. Literature on this is limited, although one longitudinal study found that shame in adolescence was predicted by physical reprimands and parental rejection, but not sexual abuse or low warmth (Stuewig & McCloskey, 2005).

Proximal factors and attachment styles. Drawing from theories of social mentalities (Gilbert, 2000) and internal working models (Bowlby, 1969), we hypothesized that clients with low self-compassion or high FSC would be avoidant- and anxiously-attached. FSC was indeed correlated with avoidant attachment, implying that FSC does not simply centre around the negative self-beliefs characteristic of anxious attachment. Probably, the causes of avoidant-attachment

(abusive/unresponsive caregivers) also trigger processes underlying FSC, such as conditioned fear responses to compassion or lack of compassion models. Anxious attachment and FSC did not correlate, but internal consistency was low for anxious-attachment. Most previous studies found significant correlations between FSC and both insecure attachment styles (Asano et al., 2017; Gilbert et al., 2014; Joeng et al., 2017), although one found significant correlations only with anxious-attachment (Gilbert et al., 2011).

Surprisingly, neither self-compassion nor self-reassurance significantly correlated with either attachment style. Based on power calculations conducted, we can be confident that we would have detected a correlation of ≥.327 had it existed. One explanation is that insecure attachment reflects threat-system hyperactivity rather than soothing system functioning: indeed, insecurely-attached individuals show amygdala hyperreactivity when reading about negative attachment experiences (Lemche et al., 2006). However, further research on attachment neurophysiology is required before drawing conclusions. Caution is warranted when interpreting present findings due to the poor internal consistency of anxious-attachment. Furthermore, anxious attachment unexpectedly increased with treatment duration. This could indicate lack of insight of attachment-anxiety early in therapy, which could confound results. It could also reflect that more anxiously-attached clients tend to remain in treatment longer; however, anxious attachment did not significantly correlate with self-compassion nor FSC even after partialing out treatment duration, suggesting that this was not suppressing correlations.

The only study to date examining associations between attachment and self-compassion in a clinical population (anxious/depressed patients) used the full-scale SCS, which limits interpretability (Mackintosh, Power, Schwannauer & Chan, 2018). In non-clinical populations,

self-compassion and self-reassurance produce significant negative correlations with anxious attachment, but non-significantly or much more weakly with avoidant attachment (Gilbert et al. 2011; Pepping, Davis, O'Donovan & Pal, 2015; Raque-Bogdan et al., 2011; Wei, Liao, Ku, Shaffer, 2011). Given the conflicting results, larger-sample longitudinal research and physiological studies are required.

Self-compassion, FSC, shame and self-criticism

Self-compassion and self-reassurance have been conceptualized as “antidotes” to self-criticism (Gilbert, 2010).

In this study, FSC and low self-compassion were correlated with all measures of self-criticism, replicating other findings involving the positive SCS subscale (Gilbert et al., 2011; Gilbert et al., 2017). Shame negatively correlated with self-compassion in the present study, tentatively supporting the hypothesis that self-compassion interventions may be important when shame is elevated (Gilbert, 2010). Interestingly, self-reassurance significantly negatively correlated with self-hatred but not with shame or self-inadequacy, suggesting that even clients highly prone to shame and self-inadequacy could remind themselves of their positive attributes and ability to cope, despite struggling with self-compassion and self-kindness. This may be an effect of therapy since in other clinical and non-clinical populations, self-reassurance correlates more strongly with self-hatred and self-inadequacy (e.g. Castilho, Pinto-Gouveia & Duarte, 2013).

Shame positively correlated with FSC, in keeping with theories suggesting that both stem from interpersonal traumas. Shame also correlated with FSC and low self-compassion (full-scale SCS) in a previous study of eating disorder clients (Kelly, Carter, Zuroff & Borairi, 2013).

FSC was not significantly correlated with self-compassion nor self-reassurance in the present study, although results neared significance for self-compassion (r=-0.24, p=0.09). Gilbert et al. (2011) found only small-to-medium negative correlations between FSC and self-compassion measured by positive SCS (-.21) and self-reassurance (-.33) in students, further supporting the idea that these reflect distinct emotion-regulation systems (Gilbert, 2010). Clinically, this would imply that individuals can have low self-compassion without fearing self-compassion; or that they can engage in self-compassion whilst still experiencing fear, which is compatible with some findings that FSC does not predict compassion affect during CFT exercises (Naismith, Mwale & Feigenbaum, 2018).

However, conflicting evidence exists. Two studies found that self-compassion strongly negatively correlated with FSC: whilst one is limited by using the full-scale SCS (Joeng & Turner, 2015), one used only positive SCS (Gilbert, McEwan, Catarino & Baião, 2014). The contradictory results are explicable by our proposal that the FSC scale appears to combine multiple fears/inhibitors, some representing threat-system hyperactivity like conditioned fear of affiliative emotions or fear of connecting to deep loneliness, and others representing soothing-system hypoactivity like a lack of models of compassion to draw from (see Figure 2). In populations like the present one, variation in FSC may predominantly reflect variation in threat-system hyperactivity; whereas in depressed populations like that of Gilbert, McEwan, Catarino & Baião (2014), variation in FSC may also reflect variation in soothing-system activity, meaning that self-compassion *will* correlate with FSC. More precise measurement of FSC will help elucidate this.

Even if (as our results indicate) self-compassion and FSC do not always correlate, they certainly interact. Self-compassion practice can reduce fear of compassion in all orientations (Jazaieri et al., 2013), which may reflect extinction of conditioned fear of compassion following exposure in a safe context. However, FSC can be a barrier to compassion interventions, predicting poorer treatment response (Cuppage, Baird, Gibson, Booth & Hevey, 2014; Kelly, Carter, Zuroff, & Borairi, 2013).

Strengths & Limitations

Measurement of self-compassion has been a recent source of contention in the literature. A strength of this study is that it separates the positive and negative SCS components.

This study relied on retrospective reporting of ACEs, which typically underestimates rates of abuse/neglect. However, it has been deemed sufficiently valid for major adversities that rely less on judgement/interpretation, such as those measured in this study (Hardt & Rutter, 2004).

Another concern is that the relationship between ACEs and proximal variables may be concealed if the latter are updated through later reparative relationships, including therapy. Clients with PDs typically have long-standing histories of mental health service use (Lieb, Zanarini, Schmahl, Linehan & Bohus, 2004). Nonetheless, all participants were in active treatment or on a waitlist, suggesting that the traumatic sequelae of ACEs had not been entirely overcome. Although data was not collected on previous treatment, current treatment duration only correlated with anxious attachment in this study, and partialing it out did not change results.

Unfortunately, the sample size was not large enough to conduct path models involving multiple dependent variables (Streiner, 2005) or mediation analyses (Fritz & MacKinnon, 2007),

e.g. exploring whether self-criticism or avoidant-attachment mediate pathways from ACEs to FSC.

Future research

This study only measured fear of self-compassion. Future studies might investigate associations between ACEs and fears of other compassion orientations.

Present findings confirm the importance of distinguishing different maltreatment types. Given the considerable comorbidity between low warmth, neglect and abuse, future studies should control for other ACEs when exploring the effects of one.

Qualitative studies suggest that numerous inhibitors of compassion may exist (e.g. Lawrence & Lee, 2014), which explains present findings of multiple pathways to FSC and the inconsistent factor structure of the fear of compassion scales (Asano et al., 2017). A recent study validating a scale of multiple inhibitors of compassion could increase understanding of this construct ([Blinded for anonymity], *Under review*).

Clinical Implications

Whilst longitudinal studies are required to make definitive conclusions about causal pathways, current findings and previous studies of non-clinical populations are consistent with theoretical predictions that early warmth is essential for self-compassion/reassurance (e.g. Porges, 2007), whilst self-inadequacy originates in invalidation and abuse (Scharff & Tsigounis, 2003). This could be integrated into formulations to increase understanding and reduce shame about difficulties.

Absence of a significant negative correlation between FSC and self-compassion indicates that even individuals fearful of self-compassion can engage in it. Research is required to

determine whether such individuals benefit from techniques to decrease FSC prior to increasing self-compassion. If so, identification of the different inhibitors of self-compassion will enhance such treatment. For example, conditioned fear towards compassion should benefit from exposure and response-prevention, whilst FSC grounded in negative self-beliefs may require cognitive restructuring or guided discovery.

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