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Alcohol use and Adverse Childhood Experiences: does Self-Compassion play a mediating role?

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Introductory Chapter

This doctoral thesis was designed to determine more about the impact of childhood maltreatment and specifically to discover if a positive psychological construct such as self-compassion can help to protect people against negative outcomes like hazardous drinking in adulthood.

Adverse Childhood Experiences (ACEs) are shown to be highly prevalent even within community samples (Bellis, Hughes, Leckenby, Perkins & Lowey, 2014; Office for National Statistics, 2020). A focal point in psychological research due to their prevalence and gravity, ACEs are associated with a multitude of serious negative consequences in adulthood (Nelson et al, 2002), one of the most common of which is hazardous drinking (Dube, Anda, Felitti, Chapman, Williamson & Giles, 2001).

Although there is a lot of research connecting ACEs and hazardous drinking in adulthood, much of this focuses on physical and sexual abuse and does not address other forms of abuse and neglect (e.g. emotional abuse) or focuses on adolescent and clinical populations. Subsequently, there is a gap in the research literature investigating a potential association between all ACEs in a community sample.

In addition to this, traditional models of addiction treatment and relapse prevention often neglect the role of unresolved trauma in recovery from heavy alcohol use and other substance difficulties (Najavits, Weiss, Shaw & Muenz, 1998; Miller & Guidry, 2001). Overlooking causal factors for hazarded drinking arguably leaves the root of the problem unresolved and leaves the individual more vulnerable to relapse. Treatments often take a problem saturated approach and do not consider positive personality traits which may help to facilitate meaningful change. Self-compassion has been shown to protect against some

adverse outcomes following ACEs and therefore may mediate the relationship between ACEs and hazardous drinking.

Chapter 1 presents a critical review and meta-analysis of a prospective association between childhood maltreatment and self-compassion. The term childhood maltreatment was employed in the literature review after scoping searches established that this is the most commonly used definition of childhood trauma in the literature base. The meta-analysis showed childhood maltreatment to be significantly negatively correlated with self-compassion ($z = 11.744$, $r = -0.312$ (CI: -.0364 to -.0260), $p < .001$). Furthermore, emotional forms of maltreatment (e.g., neglect and abuse) were found to be associated with low self-compassion, with men reporting higher levels of self-compassion overall than women. In conclusion, childhood maltreatment was associated with decreased levels of self-compassion in adulthood, but the rationale for this requires further exploration.

Chapter 2 presents a cross-sectional empirical study entitled "From Adverse Childhood Experiences to hazardous drinking in adulthood: Does self-compassion mediate this relationship?". The study utilises retrospective self-report measures of ACEs and prospective measures of alcohol consumption and self-compassion to explore any associations between ACEs and hazardous drinking and to determine if self-compassion could mediate any association found. The data did not support an association between ACEs and alcohol use but did evidence a negative link between ACEs and self-compassion. Self-compassion also partially mediated the relationship between ACEs and hazardous alcohol use. Correlational and mediation analysis showed that self-compassion partially mediated the relationship between ACEs and hazardous drinking, however that this effect is small.

Chapter One: Literature Review

A systematic review and meta-analysis of a prospective association between childhood maltreatment and self-compassion

Abstract

In people who have experienced trauma in adulthood, self-compassion is shown to protect against adverse psychological outcomes. Childhood maltreatment is prevalent worldwide, but there is limited research specifically looking at a prospective association between childhood maltreatment and self-compassion. The aim of this systematic review and meta-analysis was to synthesise research findings exploring whether there is an association between childhood maltreatment and self-compassion, with a focus on different types of maltreatment and potential gender differences. The review protocol was preregistered with PROSPERO (CRD4-2019153587). Searches for the relationship between Childhood Maltreatment and Self-compassion were applied to three databases (PsycINFO, PubMed and Scopus). Study eligibility included use of a validated measure of childhood trauma and self-compassion. Ten articles were included in the final review and five were included in the meta-analysis. The meta-analysis showed childhood maltreatment to be significantly negatively correlated with self-compassion ($z = 11.744$, $r = -0.312$ (CI: -.0364 to -.0260), $p < .001$). Narrative synthesis observed that emotional forms of maltreatment (e.g., neglect and abuse) were associated with low self-compassion. Men reported higher levels of self-compassion than women but were underrepresented in the overall sample. In conclusion, childhood maltreatment was associated with decreased levels of self-compassion in adulthood, but the reasons for this require further research.

Introduction

Childhood maltreatment is most often defined as the experience of abuse (physical, sexual, and emotional) or neglect (physical and emotional) occurring during childhood (Bernstein et al., 2003). This nature of maltreatment is shown to be highly prevalent even in community samples (Bellis et al., 2014). As of January 2020, it was estimated that one in five adults aged 18-74 years in England and Wales had experienced at least one form of child abuse before the age of 16 years, with the frequency of child neglect in the same sample estimated at 1 in 100 (Office for National Statistics [ONS], 2020). Furthermore, as of 31st March 2019, 52,260 children in England were the subject of a child protection plan due to the experience or risk of child abuse or neglect (ONS, 2020). This level of prevalence is concerning given that childhood maltreatment is thought to be linked to a number of serious negative mental health consequences in adulthood.

Childhood maltreatment has shown to be associated with an increased risk of mood, anxiety and drug disorders in both a retrospective (completion of self-report questionnaires) and prospective (data gathered from child protection database) sample of people aged 16-27 years in New Zealand (Scott, McLaughlin, Smith & Ellis, 2012). There was no difference in the strength of association between the prospective and retrospective groups. In a retrospective sample of American adults, ACEs were shown to be significantly related to adult alcohol misuse (Dube, Anda, Felitti, Edwards & Croft, 2002) and in the same cohort, presence of ACEs increased the risk of suicide by 2-5 times (Dube, Anda, Felitti, Chapman, Williamson & Giles, 2001). Similar findings were reported in a recent meta-analysis conducted by Angelakis, Gillespie & Panagioti (2019) who concluded that adults who had experienced any form of childhood maltreatment were shown to be as much as two or three times more likely to attempt suicide, in comparison to adults with no history of childhood

maltreatment. Thus, negative consequences of childhood maltreatment can be serious and are common amongst different populations.

Given the links between childhood maltreatment and serious negative consequences in adulthood, it is important to identify positive emotions and character traits which can protect against the effects of childhood maltreatment. As such, emphasis has been placed on the role of positive psychology over the last two decades (Seligman, Steen, Park & Peterson, 2005). Positive psychology focuses on an individual's strengths and resourcefulness and moves away from traditional problem-saturated approaches to focus on "what makes life worth living" (Peterson & Park, 2014, p2).

Self-compassion is one example of a positive construct associated with psychological well-being and resilience (Neff, Rude & Kirkpatrick, 2007; Neely, Schallert, Mohammed, Roberts & Chen, 2009; Zessin, Dickhäuser & Garbade, 2015). Self-compassion is a self-reflective process, commonly defined by three bipolar dimensions: self-kindness vs self-judgment, common humanity vs isolation and mindfulness vs over-identification (Neff, 2003a). That is, extending the same kindness to oneself that you would extend to a friend, as opposed to being harsh and judgemental; accepting that making mistakes is part of the human condition, rather than something individual and isolating; and noticing your thoughts in a balanced awareness, instead of avoiding or over identifying with them (Neff, 2003b; Scoglio et al., 2018). As such, self-compassion is comprised of a number of constructs which may be protective when exploring resilience factors in survivors of childhood maltreatment. Indeed, a robust effect size relating to the association between self-compassion and mental health symptoms (e.g. depression, anxiety and stress) was found in a meta-analysis of 14 studies, where higher levels of self-compassion were related to lower levels of psychopathology (MacBeth & Gumley, 2012). Thus, self-compassion may play an important role in reducing anxiety and depression and increased ability to cope with stress.

It has been hypothesised that the ability to engage self-compassion is crucial in overcoming trauma related distress (Gilbert and Irons, 2005). This relationship has been increasingly explored in recent years. For example, in a sample of US veterans who had served in combat, higher levels of self-compassion were associated with a reduced risk of developing Post-Traumatic Stress Disorder (PTSD; Hiraoka et al., 2015). A similar association has been found with trauma exposed college students, with increased self-compassion being linked to lower levels of PTSD avoidance symptoms (Thompson & Waltz, 2008). Self-compassion has also been shown to reduce symptoms of depression and PTSD in veterans with a PTSD diagnosis (Kearney et al., 2013). Hence, self-compassion may buffer the effects of experiencing traumatic events in student and veteran samples.

Similar findings also exist within clinical samples. In a sample of women seeking treatment for problems related to intimate partner violence, lower self-compassion was related to higher trauma-related symptoms, such as anxious arousal, depression and dissociation (McLean, Fiorillo & Follette, 2018). In women with trauma histories, Scoglio et al.. (2018) found that emotional dysregulation (a trait often associated with complex trauma) mediated the relationship between PTSD symptom severity and self-compassion. They hypothesised that difficulties in emotional regulation would likely impact on an individual's ability to practice self-compassion, which partially relies upon noticing and experiencing feelings without suppressing or becoming consumed by them. This is something very difficult for someone who is emotionally dysregulated to achieve (Linehan, 2015). Thus, emotion regulation may be important in being able to show compassion to oneself. It may be that emotion regulatory coping skills were not learned during childhood as a result of the maltreatment experienced and that treatment works to re-establish these skills to foster greater self-compassion. It could also be argued that Scoglio et al..'s findings are tautological on the basis that the principles of emotional regulation and self-compassion do coincide with

each other (e.g. recognising and accepting emotions as well as facing negative emotions, Neff, 2003a; Neff, 2003b).

Research into self-compassion as a positive psychological construct has exploded in the last decade, however relatively few studies look at the direct relationship between childhood maltreatment and self-compassion. A recent meta-analysis summarised research on the association between trauma and/or PTSD and self-compassion (Winders, Murphy, Looney & O'Reilly, 2020). These findings lend support to an association between self-compassion and decreased PTSD symptomology, however do not differentiate between types of trauma and self-compassion. Thus, there is a gap in the literature base looking at childhood maltreatment and self-compassion specifically.

There is even less research looking at the association between different types of childhood maltreatment and self-compassion or moderators between these two variables. One such moderator might be gender. There is evidence of gender differences within self-compassion, with women generally reporting lower levels of self-compassion than men (Bluth & Banton, 2014; Bluth et al., 2017; Neff & McGehee, 2010; Yarnell et al., 2015). However, it is noteworthy that these differences are often small in effect size and not always replicated (Honsel, Drossaert & Köhle, 2020). Furthermore, the role of gender on the association between childhood maltreatment and self-compassion is unclear.

Therefore, the aims of this systematic review were to synthesise and evaluate the existing evidence base investigating an association between childhood maltreatment and self-compassion, with emphasis on whether this differs depending on type of trauma and whether any gender differences exist. The methodological quality of papers was examined using a validated quality assessment measure and a meta-analysis was performed to determine an

overall effect size of the relationship between childhood maltreatment and self-compassion. The clinical implications and directions for future research were also discussed.

Search and Rationale

Self-compassion has primarily been operationalised in the literature using the Self-Compassion Scale (SCS; Neff, 2003a) and the Self-Compassion Scale Short-Form (SCS-SF; Raes, Pommier, Neff & Van Gucht, 2011). As the most widely used measures of self-compassion, both the SCS and SCS-SF were used in the study inclusion criteria. The Forms of self-criticising/attacking and self-reassuring scale (FSCSR; Gilbert, Clarke, Hempel, Miles & Irons, 2004) was considered as an alternative measure of self-compassion, given that the scale overlaps with some of the SCS-SF self-kindness vs self-judgement items. This was not included in the search criteria however as scoping searches did not yield any results when this scale was included as a variable of interest. On balance, the SCS-SF was felt to be a broader measure of self-compassion.

We applied a broader inclusion criterion to the measurement of child maltreatment (see Method for description of measures) to reflect the diversity in conceptualisation and measures used in the literature base, with the aim of capturing as many relevant studies as possible. All measures

For the purpose of analysing the association between childhood maltreatment and self-compassion, only quantitative studies which investigated a relationship between the two variables of interest were included in the review.

Method

The protocol for this systematic review was pre-registered with PROSPERO, under the reference CRD4-2019153587.

Search strategy and study eligibility

Our searches were undertaken in two stages. The original search was conducted in September 2019 and a further search in December 2020 to ensure that recent publications were also included. We searched the following Boolean operators in Scopus, PsychInfo and Pubmed databases:

"Adverse childhood experiences" OR "ACEs" OR "Childhood Trauma" OR "Child Neglect" OR "Child Maltreatment" OR "Child Abuse" AND "Self-compassion" OR "Self Compassion".

No restrictions were placed on publication date and only studies published in English language were included. Outcome measures for self-compassion were the SCS and SCS-SF. Childhood maltreatment was measured retrospectively, with the main outcome measures being the Childhood Trauma Questionnaire-Short Form (CTQ-SF; Bernstein et al., 2003). Other measures included the Child Abuse and Trauma Scale (CAT; Sanders & Becker-Lausen, 1995), the Traumatic Life Events Questionnaire (TLEQ; Kubany et al., 2000a) and the Invalidating Childhood Environments Scale (ICES; Mountford, Corstophine, Tomlinson, & Waller, 2007).

The SCS is a self-report measure which assesses trait self-compassion through either 26 (full scale) or 12 (short form) statements rated on a five-point likert scale ('Almost never' to 'Almost always'). Both scales contain six subscales: Self-Kindness, Self-Judgment, Common Humanity, Isolation, Mindfulness and Over-Identification. The SCS has high internal consistency [Cronbach's alpha = 0.94 (Neff, Rude & Kirkpatrick, 2007) and good

test-retest reliability (r = 0.93; Neff, 2003a). The SCS-SF has near a near perfect correlation with the original full scale when examining total scores (Raes et al., 2011).

The CTQ-SF is a 28 item scale which measures childhood trauma retrospectively on a five-point likert scale across five domains of maltreatment (physical, sexual and emotional abuse; emotional and physical neglect), plus a three-item minimisation-denial scale to assess validity of responses. Validation of the original scale found high internal consistencies for four subscales ($\alpha = 0.81$ to 0.95) and acceptable internal consistency for physical neglect ($\alpha = 0.61$ to 0.78). The TLEQ is a brief self-report measure of lifetime trauma exposure. Whilst the TLEQ is not exclusively a measure of childhood maltreatment, it does contain dichotomous measures of both childhood sexual abuse and childhood physical abuse and was included on this basis. Finally, the ICES is a self-report measure of parental invalidation during childhood. In part one, a total of 14 parental behaviours are rated from 1 (never) to 5 (all the time). The ICES has demonstrated good internal consistencies for maternal and paternal invalidation in both clinical and non-clinical samples.
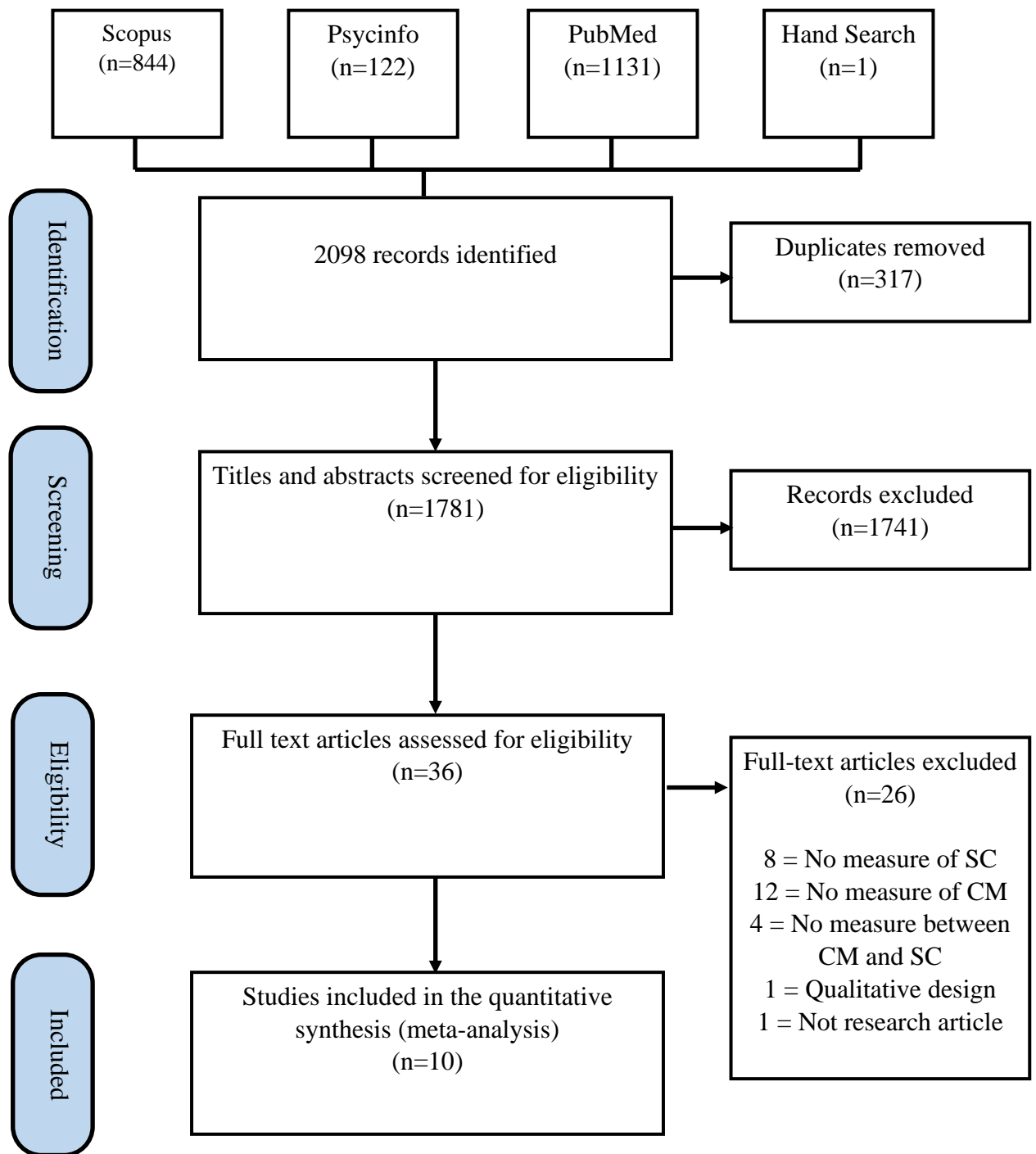
Two questionnaires feature in the review which were not originally included in the inclusion criteria due to not exclusively measuring childhood maltreatment. These are the Family Experiences Questionnaire (Briere & Runtz, 1990) and the Childhood History Questionnaire (Milner, Robertson & Rodgers, 1990), elements of both were used in Miron, Orcutt, Hannan & Thompson, (2014), alongside the FEQ to derive scores for child abuse subtypes.

The search terms identified 2098 records initially. After removing duplicates, title and abstract exclusion was conducted independently by the lead author, which led to full text review of 36 articles. Of these, 26 were excluded (eight had no measure of self-compassion, 12 had no measure of childhood maltreatment, four did not measure an association between

childhood maltreatment and self-compassion, one was a qualitative paper and one was not a research article). This left ten articles for inclusion in the systematic review, five of which contained data suitable for inclusion in the meta-analysis. Two authors independently conducted full text screening and extraction of data, with high levels of agreement (95%). Any disagreements were resolved by the research team. The reference sections of each article selected for full text screening were also checked for any studies which might have been missed by data base searches. See Figure 1 for PRISMA flowchart.

Figure 1. summarises the literature search which led to the selection of nine studies for inclusion in the systematic review.

Figure 1. Flow chart showing article identification and selection (PRISMA, 2009)

Scopus (n=844)	Psycinfo (n=122)	PubMed (n=1131)	Hand Search (n=1)

Identification

2098 records identified → Duplicates removed (n=317)

Screening

Titles and abstracts screened for eligibility (n=1781) → Records excluded (n=1741)

Eligibility

Full text articles assessed for eligibility (n=36) → Full-text articles excluded (n=26)

8 = No measure of SC
12 = No measure of CM
4 = No measure between CM and SC
1 = Qualitative design
1 = Not research article

Included

Studies included in the quantitative synthesis (meta-analysis) (n=10)

Note. SC = Self-Compassion, CM = Childhood Maltreatment

Article eligibility

A screening tool was developed to select relevant articles for inclusion (See Appendix 1). Articles were included if they 1) sampled participants over the age of 16 years; 2) included a quantitative design (e.g. cross sectional); 3) measured both childhood maltreatment and self-compassion using previously validated scales; 4) reported an analyses of the association between the two constructs.

Initially, it was planned that studies would be included only if they recruited participants over the age of 18 years, however during searches, three articles were found that met all other study criteria, but included participants aged 16 and 17 years old. Mean ages of participants in these studies were 18.17 years (SD = 0.97), 19.49 years (SD = 2.32) and 20.30 years (SD = 1.29) years respectively. Based on the other criteria, a decision was made to include these studies for exploratory purposes.

Data extraction and study quality assessment

A customised proforma was applied to guide data extraction. Extracted data included location (area and country), sample size and demographics, study aims, outcome measures, data analysis, major findings and zero-order correlation coefficients if applicable (see Table 1). Data extraction was undertaken by the primary author and independently reviewed by the second author (AJ).

Quality appraisal was conducted to determine the methodological quality of individual papers using the Appraisal Tool for Cross-Sectional Studies (AXIS tool; Downes, Brennan, Williams & Dean, 2016; see Appendix 2). This qualitative tool facilitates assessment of the risk of bias using twenty questions and was selected based on being designed specifically for use with cross-sectional research studies. Question twenty assessed whether ethical approval or consent of participants was obtained. This measured two different

quality variables and was therefore split into two questions by the primary author, applying twenty-one criteria in total. Application of this tool allowed consistent assessment of the overall quality, strengths, weaknesses and replicability of each research paper. To ensure a robust quality assessment, the third author also applied the AXIS tool to the selected literature (LC). Any uncertainty was resolved through discussion with the second author (AJ) until consensus was reached.

Analysis

Major findings from the included studies were extracted and displayed in Table 1. These findings were then synthesised into a narrative review looking at the current evidence base for an association between childhood maltreatment and self-compassion. We paid particular attention to the association between any differences in types of childhood maltreatment and self-compassion, as well as any gender differences. Of the ten studies reviewed, five reported correlation coefficients between childhood maltreatment and self-compassion which allowed for pooled estimates to be computed. Therefore, a meta-analysis was run on this quantitative data for the primary outcome measures. Correlation coefficients were transformed to Fisher's Z (Hedges & Olkin, 1985; Rosenthal & Rubin, 1982) to improve their distribution. Associated Standard Errors were calculated using the formula $1/\sqrt{}$ (total N of sample – 3). A random effects, restricted maximum likelihood meta-analysis was conducted to generate pooled effect size between childhood maltreatment and self-compassion and to determine the level of heterogeneity between the included studies. A pooled effect size is closer to the 'true' effect size as larger studies are given greater weight (Borenstein, Hedges & Rothstein, 2007). As a sensitivity analysis we conducted the meta-analyses with and without studies including participants under the age 18, to determine their contribution to the overall effect size. The I^2 statistic was used as a measure of heterogeneity (50% is indicative if moderate heterogeneity > 75% is indicative of substantial heterogeneity:

Higgins, Thompson, Deeks & Altman, 2003). Funnel plots were also generated to determine risk of publication bias across all included studies. Analysis was conducted using JASP computer software (Version 0.11.1.0).

Results

Study (participant) Characteristics and Clinical Heterogeneity

Study characteristics of the ten selected for the literature review are detailed in Table 1. All studies used a cross-sectional design and had been published in the last ten years, with eight of the papers published between 2016 - 2020.

The total number of participants across the identified studies was 3701. The mean number of participants was 370, the median was 367.5 and the interquartile range was 333. Of the total participants the majority were female (78%), and white (48%) with a mean age of 23.10 years (SD = 4.01). Three studies recruited exclusively female participants (Miron et al.., 2014; Reffi, Boykin & Orcutt, 2018; Messman-Moore & Bhuptani, 2020). Eight studies were conducted with samples of undergraduates (Barlow, Turow & Gerhart, 2017; Hou et al.., 2020; Keng & Wong, 2017; Messman-Moore & Bhuptani, 2020; Miron et al., 2014; Miron, Seligowski, Boykin & Orcutt, 2016; Reffi et al., 2018; Wu, Chi, Lin & Du, 2018) and two studies included a clinical sample (Naismith et al., 2019; Vettese, Dyer, Li & Wekerle, 2011). Of the clinical samples, one study (Vettese et al., 2011) recruited from a substance treatment programme for youths with addiction and mental health difficulties and the other (Naismith et al., 2018) utilised a sample of adults with a diagnosis of Personality Disorder (DSM-IV; APA, 2000) who were receiving or awaiting treatment from a Personality Disorder service. It is worthy of note that none of the studies utilised a community sample. The majority of the studies were conducted in the USA (Barlow et al., 2017; Miron et al., 2014; Miron, et al., 2016; Reffi et al., 2018; Messman-Moore & Bhuptani, 2020), two in China (Wu et al., 2018; Hu et al., 2020), one in Canada (Vettese et al., 2011), one in Singapore (Keng & Wong, 2017) and one in South America (Naismith et al., 2019).

Table 1. Population characteristics and major findings of studies included in the review.

	PARTICIPANTS		MEASURES		DESIGN		FINDINGS	
STUDY AND LOCATION	N (female) Mean age in years (SD)	Description of Sample	CM	SC	Study Aims	Analyses	Major Findings	Correlations/ Covariates
VETTESE ET AL. (2011) **TORONTO, CANADA**	81 (28) Aged 16-24 years M = 19.49 (2.32)	Participants seen at intake to a substance treatment programme in a hospital-based, joint youth addictions and mental health treatment program. Majority Caucasian (72%), unemployed (52%), and poly substance users (87.7%).	CTQ-SF	SCS	To explore whether SC mitigates the association between early maltreatment history and later emotion regulation problems in young adulthood.	Stepwise multiple regression analysis was conducted to see if SC mediated the statistical association between CM and emotional dysregulation difficulties.	Participants reported: Emotional neglect: 56.7% (M=10.8) Emotional Abuse: 53.4% (M=11.3) Physical Abuse: 26.7% (M=8.1) Physical Neglect: 36.7% (M=7.8) Sexual Abuse: 23.3% (M=7.1) CM significantly predicted SC (R^2=.11; F=9.75, p<.01; β=.33, p<.01). SC mediated the relationship between childhood maltreatment and emotion regulation difficulties.	SCS and CTQ r = -.34, p <.01
MIRON ET AL. (2014) **ILLINOIS, USA**	667 (667) M = 18.71 (1.03)	Undergraduate students from an introductory psychology course Majority European-American sample	TLEQ CHQ CPA and CEA measured by items from the **FEQ** and the **CHQ**	SCS	To examine the relationship between different forms of CM (e.g. CSA, CPA, CEA), SC and problematic alcohol use.	Path Analysis Pearson correlations	Both a history of CSA and CPA directly predicted problematic alcohol abuse in college in a sample of undergraduate females. A history of CEA however indirectly predicted alcohol problems via low levels of self-compassion.	SCS and CSA = -.05 SCS and CPA = -.04 SCS and CEA = -.20, p < .001

MIRON ET AL. (2016) **ILLINOIS, USA**	377 (241) M = 19.12 (1.73)	Undergraduate students enrolled in an introductory psychology course. Majority European-American (59.8%) and African American (22.8%) sample.	TLEQ * *Two items from the TLEQ were used to assess experiences of CSA at 12 years or younger. History of CPA resulting in injury was assessed by a single TLEQ item.	SCS	To examine the influence of self-compassion and fear of self-compassion (FSC) for adult survivors of CM. Specifically pathways from CA histories to symptoms of depression and PTSD through SC and FSC.	Path analyses Pathways from CA histories to symptoms of depression via SC and FSC were tested using bias-corrected bootstrapped confidence intervals (Hayes, 2013).	The association between participant sex and SC was significant F(1,371) =16.07, P<.001 with men reporting greater SC than women. 72 participants (19.10%) reported any type of abuse history; 40 (10.61%) CPA, 48 (12.73%) CSA. A chi-square analysis showed a significant association between CPA and CSA in 12 (3.18%) participants reporting a history of both CSA and CPA, X^2(1,N=350)=11.95, p<.01. Any CA was associated with significantly lower SC t(346) = -2.16,p<.05 Univariate ANOVAS showed no significant difference in SC based on child abuse type, F(3,347)=1.71, p=.16	None reported
BARLOW ET AL. (2017) **USA**	466 (322) M = 21.21 (5.83) Majority White European Ethnicity: (81.5%)	First year college students	CAT	SCS	The cross-sectional study aimed to examine trauma appraisals, emotional regulation (ER) and SC simultaneously amongst survivors of child sexual abuse, as well as their contributions to PTSD symptoms.	Descriptive Statistics and Pearson's Correlations Mediation analyses was used to assess multiple mediating pathways between the childhood abuse and adult PTSD symptoms, analyse associations among mediating variables and directly compare the associations. Bootstrapped estimates of indirect associations were used.	All types of childhood abuse were significantly positively associated with negative trauma appraisals, ER difficulties and PTSD symptoms and negatively associated with SC. A mediation model showed that self-compassion mediated associations between childhood abuse and PTSD symptoms. The final model accounted for 21% of the variance in self-compassion.	SCS & CAT Total r = -0.33, p < .001 SCS & CSA r = -0.16, p < .01 SCS & Neglect r = -0.33, p < .001 SCS & Punishment r = -.20, p <.01 SCS & EA = -0.34, p < .001

KENG & WONG, 2017 **SINGAPORE**	290 (209) Aged from 18 -31 years M = 19.93 (1.51)	Undergraduate students recruited from a research participant pool	ICES	SCS		Means, standard deviations and Pearson's r correlations were calculated for all variables. A series of hierarchical regressions were conducted to test the moderating effect of trait self-compassion.	ICES scores were significantly negatively correlated with trait self-compassion. At Step 2 of the model, SC was not found to significantly moderate the relationship between an ICE and BPD symptomology.	ICES and SCS r= -.24, p<.01
NAISMITH ET AL. (2019) **BOGATA, COLUMBIA**	53 (44) Aged from 18-57 years M = 32 (11.1) Majority White sample (76%)	Adults attending an out-patient Personality Disorder (PD) service (94.3%) or awaiting treatment (5.7%). All met DSM-IV Criteria for a PD.	CTQ-SF ICES	SCS	To explore the origins of SC, fear of self-compassion (FSC), shame and self-criticism by examining their associations with attachment styles and ACES (abuse, neglect, invalidation and lack of warmth).	Correlations and multiple regression (MR) analyses. CTQ Physical neglect was excluded from MR due to unacceptable internal consistency. CTQ emotional neglect/abuse was excluded due to theorised overlap with EMWSS and ICES respectively.	SC was significantly negatively correlated with CTQ. The MR model for SC was not significant. There was a significant regression found between SC F(1,46) = 12.663, p=0.001, where EMWSS explained 21.6% of the variance of SC.	SCS and CTQ: r = -0.297 p < 0.05
REFFI ET AL. (2018) **ILLINOIS, USA**	245 (245) M = 19.27 (1.50) Initially 306 participants, but 36 removed for heavy drinking, 7 for substance misuse and 18 extreme outliers or missing data.	University students on psychology course. Average age of final sample = 19.27 (SD 1.50) Majority White (58.8%) and Black (22.9%) sample	CTQ	SCS	To determine if self-compassion predicts emotional dysregulation more than other relevant predictors (e.g. childhood maltreatment and substance use).	Hierarchical regression analysis in order of: CM, current substance use and self-compassion. Mediation analysis tested for an indirect effect on emotional dysregulation via self-compassion. The magnitude of the indirect effect was examined using bootstrap analysis with bias-corrected.	CM was significantly associated with self-compassion and self-compassion was associated with emotional dysregulation. The indirect effect of childhood maltreatment on emotional dysregulation through self-compassion was significant. The effect of CM on emotional dysregulation was statistically significant, this stayed significant although the effect was reduced when SC was added to the model	SCS and CTQ r = -.21, p <.001

WU ET AL. (2018) **HONG KONG** **CHINA**	358 students (226) 95% sample were between 18 and 21 years of age. M = 19.19 (1.46)	University Students Ages of participants ranged from 18 to 34 years (M = 19.19; SD = 1.46). .	CTQ-SF	SCS	To explore the potential role of self-compassion and gratitude in explaining the relationship between childhood maltreatment (CM) and adult depressive symptoms (DS).	SPSS was used to run descriptive statistics including correlations. Process analysis was bootstrapped 5000 times to estimate the indirect effects with 95% confidence intervals. Indirect effects (through SC and gratitude) of each type of CM on DS were examined whilst controlling for age, gender and four other types of CM.	Self-compassion was negatively correlated with emotional abuse and emotional neglect. The prevalence of CM were: Emotional Abuse – 29.6% Emotional Neglect – 64.5% Physical Abuse – 14.8% Physical Neglect – 62.2% Sexual Abuse – 15.9% The indirect effect of emotional abuse through SC was significant (β=0.267, p=.003, 95% CI [0.100, 0.466]) EN was associated with DS indirectly through SC (β=0.088, p=.029, 95% CI [0.020, 0.173])	SC and EA = -.12, p <.05 SC and EN = -.12, p <.05 SC and PA = .02 SC and PN = -.03 SC and SA = .03
HOU ET AL., 2020 **SHANGHAI, CHINA**	578 (276, 47.8%) Aged between 17-24. M = 20.30 (1.29)	Chinese College Students	CTQ-SF	SCS	To explore mediation and moderation mechanisms between childhood maltreatment and young adult depression symptoms.	Descriptive Statistics and Bivariate Correlations Structured Equation Modelling (SEM) with maximum likelihood estimation was used to test the moderated mediation model.	Childhood maltreatment was negatively correlated with self-compassion (r = -.33, p< .01). Self-compassion significantly moderated the relationship between childhood maltreatment and negative automatic thoughts (β = -.09, p<.05). This indirect effect was weaker at high levels of self-compassion (β = .12, p<.01), rather than low levels of self-compassion (β = .22, p< .001).	SCS and CTQ r = -.33, p< .01

MESSMAN-MOORE & BHUPTANI, 2020 OHIO, USA	586 (586) Aged 17-26 M = 18.71 (0.97)	Undergraduate students Majority upper/middle class caucasian sample	CTQ-SF	SCS	To expand understanding of the relationship between child maltreatment and self-compassion by assessing maltreatment severity.	Bivariate correlations Path Analysis using the maximum likelihood estimations tested 5 distinct parallel mediation models for each type of childhood maltreatment (emotional, physical and sexual abuse, physical and emotional neglect)	Child emotional maltreatment severity (emotional abuse and emotional neglect) showed the strongest correlations to the SC subscales. Emotional abuse was significantly negatively correlated with self-kindness (r = -.13, p < .01). Emotional neglect was significantly negatively correlated with self-kindness (r = -.20, p<.001), common humanity (r= -.13, p <.01) and mindfulness (r = -.13, p<.01). In all models, increased severity of childhood emotional abuse and emotional neglect were associated with lower self-kindness.	A large number of correlations were reported, with high levels of multicollinearity (See results).

*Note.*CM = Child Maltreatment; SC = Self-Compassion; CAT = Child Abuse and Trauma Scale; SCS = Self-Compassion Scale; CTQ = Childhood Trauma Questionnaire; CTQ-SF = Childhood Trauma Questionnaire – Short Form; TLEQ = Traumatic Life Events Questionnaire; FEQ = Family Events Questionnaire; CHQ = Childhood History Questionnaire; EMWSS = Early Memories of Warmth and Safeness Scale; ICES = Invalidating Childhood Environments Scale; CSA = Childhood Sexual Abuse; CPA = Childhood Physical Abuse; CEA = Childhood Emotional Abuse; EA = Emotional Abuse; EN = Emotional Neglect; FOC = Fear of Self-Compassion; CA = Childhood Abuse

Measurement of childhood maltreatment

There was variability in the definition and measurement of childhood maltreatment. The CTQ-SF was used as the primary outcome measure of childhood maltreatment in six of the studies (Hou et al., 2020; Messman-Moore & Bhuptani, 2020; Naismith et al., 2018; Reffi et al., 2018; Vettese et al., 2011; Wu et al., 2018). This was primarily used to calculate a total score of childhood maltreatment, however Wu et al. (2018) calculated correlation coefficients by type of maltreatment. The TLEQ was used as a dichotomous measure of childhood sexual and physical abuse in Miron et al. (2016), whereas Miron et al. (2014) opted to measure childhood maltreatment by type using a combination of assessments (CHQ, FEQ & TLEQ). Barlow et al. (2017) used the CAT as their primary outcome measure for childhood maltreatment, while Keng & Wong (2017) opted for the ICES and focused on parental invalidation, a component of emotional neglect (Ludwig & Rostain, 2009). All studies used the SCS to measure self-compassion, except for Naismith et al. (2018) who chose the SCS-SF.

Five studies (Barlow et al., 2017; Naismith et al., 2018; Reffi et al., 2018; Hou et al., 2020; Vettese et al., 2011) were selected for inclusion in the meta-analysis on the basis that they reported correlation coefficients between total childhood maltreatment score and total self-compassion score. Of the five remaining studies, three (Keng & Wong, 2017; Miron et al., 2014; Wu et al., 2018;) provided correlations for the association between childhood maltreatment type and self-compassion. One study reported correlational analysis on the association between type of childhood maltreatment and the individual constructs of self-compassion (Messman-Moore & Bhuptani, 2020) and one study did not report any correlations between the two variables of interest (Miron et al., 2016).

Although there was variation in measurement and analysis of the outcome variables, all studies reported significant findings between child maltreatment and self-compassion.

Table 2. Quality Assessment Data using the AXIS.

Study	1 Clear aims?	2 Appropriate Design?	3 Sample Size Justified?	4 Clearly defined target population?	5 Appropriate pop base?	6 Rep sample?	7 Non response?	8 Appropriate measures?	9 Validated measures?	10 Clear statistical reporting?	11 Replicable methods?	12 Basic data described?	13 Concerns about non-response bias?	14 Info about non-responders?	15 Results internally consistent?	16 Results described in method	17 Authors discussion justified by results?	18 Study limitations discussed?	19 Sources of conflict?	20 Ethical approval?	20a Participant consent?
Barlow et al., 2017	✓	✓	X	✓	✓	✓	N/K	✓	✓	✓	✓	✓	X	X	✓	✓	✓	✓	X	✓	✓
Hou et al., 2020	✓	✓	X	✓	✓	✓	N/K	✓	✓	✓	✓	✓	X	X	✓	✓	✓	✓	X	✓	✓
Keng & Wong, 2017	✓	✓	X	✓	✓	✓	N/K	✓	✓	✓	✓	✓	X	X	✓	✓	✓	✓	X	✓	✓
Messman-Moore & Bhuptani, 2020	✓	✓	X	✓	✓	✓	N/K	✓	✓	✓	✓	✓	X	X	✓	✓	✓	✓	X	✓	✓
Miron et al., 2014	✓	✓	X	✓	✓	✓	N/K	✓	✓	✓	✓	✓	X	N/A	N/K	✓	✓	✓	N/K	✓	N/K
Miron et al., 2016	✓	✓	X	✓	✓	✓	N/K	✓	✓	✓	✓	✓	X	X	✓	✓	✓	✓	N/K	✓	✓
Naismith et al., 2018	✓	✓	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X	✓	✓	✓	✓	X	✓	N/K
Reffi et al., 2018	✓	✓	X	✓	✓	✓	✓	✓	✓[2]	✓	✓	✓	X	✓	✓	✓	✓	✓	N/K	✓	✓
Vettese et al., 2011	✓	✓	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	X	N/K	✓
Wu et al., 2018	✓	✓	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X	✓	✓	✓	✓	X	✓	N/K

Key. ✓ = Yes, X = No, N/K = Not known, N/A = Not Applicable

Quality assessment

Quality assessment using the AXIS tool is presented in Table 2. All studies reported clear aims, used appropriate samples, replicable designs, validated measures, and they described their results clearly as outlined in the methods section of the respective paper. The discussion sections of all papers were guided by the results, and limitations were discussed. A justification for sample size (e.g. a power analysis) was omitted from all papers and only two studies (Reffi et al., 2018; Vettese et al., 2011) provided any information about participants who did not respond. Non-response information may be difficult to obtain, however. Most papers reported good internal consistency for the SCS (Cronbach's $\alpha = 0.80 - 0.92$ [Cronbach, 1951]) and at least acceptable internal consistency for the CTQ ($\alpha = 0.78 - 0.95$). Three studies (Messman-Moore & Bhuptani, 2020; Naismith et al., 2018 and Wu et al., 2018) which calculated internal consistency for individual CTQ constructs all found the physical neglect item to have poor internal consistency ($\alpha = 0.56 - 0.57$). This could be due to a low base rate, but we do not have access to the number of participants who endorsed individual items to determine this.

Barlow et al. (2017) stated good test-retest reliability for the CAT but did not provide statistics to confirm this statement. Good internal consistency for the ICES was found in Keng & Wong's (2017) sample (Cronbach's alpha was .80 and .81 for paternal and maternal invalidation respectively). Miron et al. (2014) and Miron et al. (2016) only reported on the reliability of the SCS but not on their measures of childhood maltreatment. However, in both studies, the authors were transparent in their use of their measures to primarily conceptualise type of childhood maltreatment as dichotomous variables, rather than total scores.

The majority of authors declared no sources of conflict for their research. This was not addressed in two studies (Miron et al. 2014; Reffi et al. ,2018) and Miron et al., 2016

acknowledged that one of the authors were working on a related project. On investigation, this was a unique longitudinal trauma study and unlikely to be a source of conflict. Ethical approval was clearly stated in all papers except Vettese et al. (2011). Finally, all papers except three (Miron et al., 2018; Naismith et al., 2018; Wu et al., 2018) reported on the process of participant consent. Compensation for participation varied among studies. Students in Barlow et al.'s (2016) research completed online questionnaires in partial fulfilment of a course requirement, raising questions about voluntariness and internal motivation to participate. Research credit was provided as an incentive for participation in two studies (Miron et al., 2016, Messman-Moore & Bhuptani, 2020), which is a common agreement in most universities. In respect of the two studies involving clinical populations, Vettese et al. (2011) offered a $10 incentive to their participants. Naismith et al. (2018) did not offer any payment for participation., however they asked adults attending an out-patient PD Service to complete questionnaires after attending a DBT group.

Association between childhood maltreatment and self-compassion

The major findings across all ten studies are displayed in Table 1. Five studies reported a significant negative association between total childhood maltreatment and self-compassion (Barlow et al., 2017; Hou et al., 2020; Naismith et al., 2018; Reffi et al., 2018; Vettese et al., 2011). As variables of interest were measured consistently in all but one of these studies, between study reliability is likely to be high. The differences in population characteristics adds support to the association between childhood maltreatment and self-compassion being stable across two very different clinical samples, as well as in undergraduate populations in the USA and Canada. It is important to note though that these findings cannot necessarily be generalised to other populations, particularly considering that much of the overall sample comprised of white females.

There were mixed findings in relation to an association between both physical and sexual abuse and self-compassion. Whereas one paper found a significant negative correlation between self-compassion and both child maltreatment subtypes (Barlow et al., 2017), two did not support any association between these variables (Miron et al., 2014; Wu et al., 2018). Barlow et al., (2017) were the only researchers in the meta-analysis to use the CAT to capture childhood maltreatment rather than the CTQ-SF though and this may account for the difference in findings.

Despite these differences in measurement, childhood emotional abuse was shown to be consistently negatively correlated with self-compassion (Barlow et al., 2017; Miron et al., 2014; Wu et al., 2018). Thus, showing support for a negative association between these two variables among undergraduate samples in the USA and China. An association between emotional neglect and self-compassion was also supported (Barlow et al., 2017; Wu et al., 2018) lending further evidence to suggest higher levels of emotional forms of childhood are related to lower levels of self-compassion. Nonetheless, it is important to note that this finding is limited by the differences in conceptualisation and measurement of emotional neglect in the two studies.

No significant association was found between physical neglect and self-compassion, however as previously reported, physical neglect had low reliability across studies, suggesting that this variable yielded inconsistent results across studies, which limits the validity of this finding. Furthermore, one study found no difference in self-compassion scores when compared with child maltreatment type.

When childhood maltreatment types were compared to the individual subscales of the SCS, childhood emotional abuse and emotional neglect showed the strongest associations with all subscales (Messman-Moore & Bhuptani, 2020). Emotional neglect in particular was

negatively correlated with self-kindness, common humanity and mindfulness and positively correlated with self-judgement, isolation and over-identification. There is no information in the article related to whether the statistical power of the data was strong enough to support the large number of correlations conducted. A visual check of bivariate correlations in this study identified multicollinearity between some variables ($r = 0.8$), which can reduce the reliability of associations found (Field, 2009).

There were very limited findings in relation to gender, which is perhaps a reflection of having a majority female sample. Only one study looked at gender differences in self-compassion and found a significant association, with men reporting higher levels than women (Miron et al., 2016). An association was also found between participant gender and a history of both childhood sexual and physical abuse, with 11 women and 1 man reporting both abuse types. It is important to consider this in the context of the uneven gender distribution in the sample (241 women and 136 men). There were no gender differences found between childhood sexual abuse only or childhood physical abuse only, just when they had been experienced together.

Meta-analysis

To test whether there was an overall effect found between childhood maltreatment and self-compassion, we generated a Forest Plot (see Figure 2.). Figure 2. summarises the correlation coefficients, confidence intervals and participant sizes of all five qualifying studies. A significant pooled association was found between the studies ($z = -11.744$ $r = -0.312$, (CI: -0.364 to -0.260), $p < .001$) however there was also evidence of considerable heterogeneity, $p < .001$, $I^2 = 99.75\%$. This means that whilst the combined effect size of the studies was significant, suggesting that studies found a similar association between childhood maltreatment and self-compassion, the scale of the heterogeneity score suggests that this

could be caused by something other than chance. It is possible that the small number of studies included and the large variation of sample sizes between studies has increased the heterogeneity score.

Figure 2. Forest plot showing variation in correlation coefficients across studies.
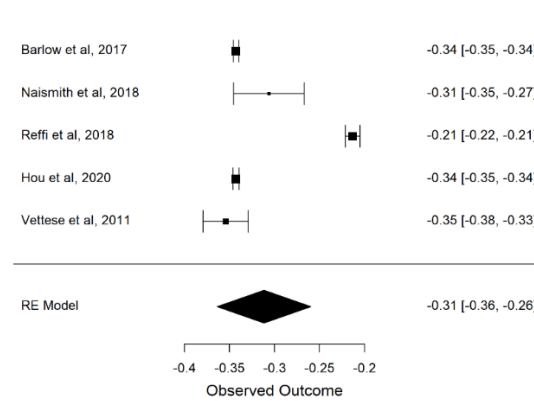
Sensitivity analyses were conducted, which just included studies with participants aged 18 years or over (see Figure 3). The overall effect remained significant, although did reduce slightly (z = -7.263, r = -0.287 (CI: -0.364 to -0.210), p > .001). This showed that when just analysing studies containing participants aged 18 years or over, the overall significance of the association between childhood maltreatment and self-compassion decreased slightly but remained significant. This had little impact on the heterogeneity score which remined significant, $p < .001$, $I^2 = 99.59\%$.
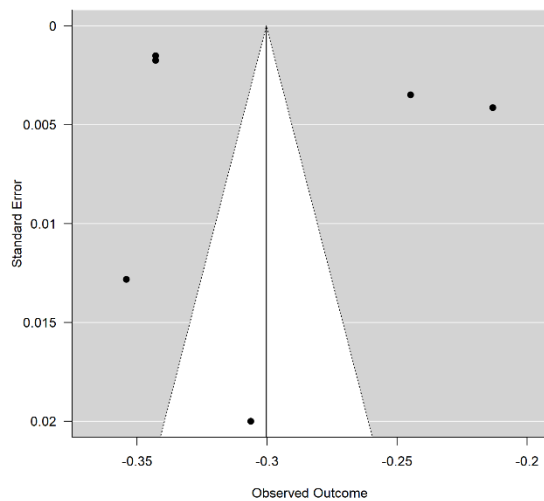
Figure 3. Forest plot showing variation in correlation coefficients for studies 18+
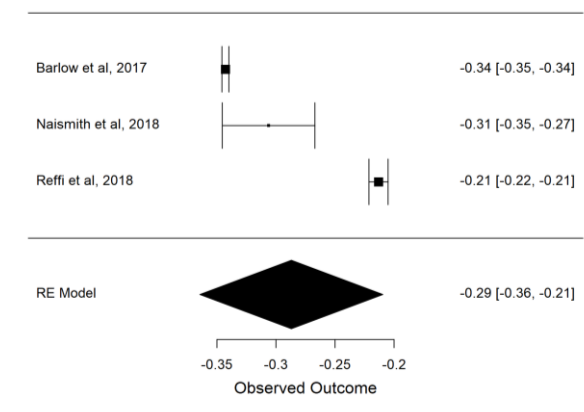
Funnel plots were generated to check for study bias in the meta-analysis and are displayed in Figure 4a (all studies) and 4b (studies with participants 18 years or over). Both plots were asymmetrical, which can be an indication of publication bias, however the presence of heterogeneity can also result in an asymmetrical funnel. The Forest Plots discussed in the results showed significant heterogeneity, therefore it is likely that this is the primary cause of the asymmetry.

Figure 4. Funnel Plots

a: Funnel Plot for All Five Studies   **b. Funnel Plot for Studies 18+**
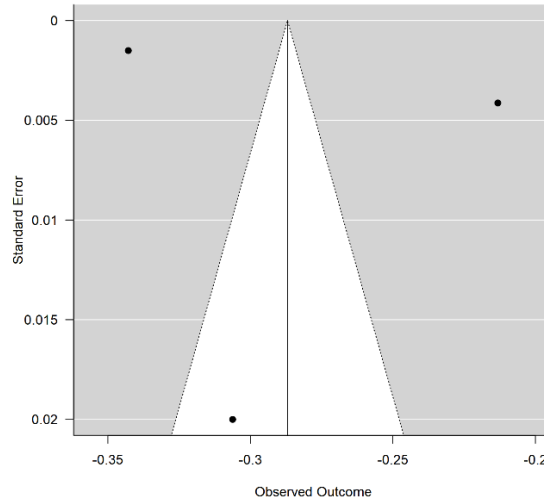
Discussion

This is the first known systematic review and meta-analysis specifically examining the association between childhood maltreatment and self-compassion in adulthood. The aim of the review was to synthesise and evaluate the existing evidence base investigating an association between childhood maltreatment and self-compassion. We also examined whether the association differed depending on the type of trauma experienced and whether any gender differences existed. This review of ten cross-sectional studies provides evidence of a negative association between childhood maltreatment and self-compassion in adulthood. In respect of different types of childhood maltreatment, increased reports of childhood emotional abuse were found to be most consistently associated with lower self-compassion scores. There was also some evidence of gender differences in self-compassion, with men reporting higher levels than women, however this was only found in one study and therefore might not be the case in all samples.

There were several strengths across the included studies, according to the performed quality assessment. All studies met most of the quality appraisal criteria, showing that the overall study design and reporting was of a good quality. All but one of the studies (Barlow et al., 2017) included in the meta-analysis used the Childhood Trauma Questionnaire as their measurement of childhood maltreatment, which increases the reliability of the meta-analysis. Furthermore, the review comprised of both clinical and non-clinical samples recruiting males and females, which is representative of a multitude of people, although there were also some limitations to the sample characteristics.

In respect of study limitations, the pooled participant group largely comprised of young, white, female undergraduates, which limits the generalisability of the review findings to other populations and whilst some gender differences were found, less is known about the

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nature of self-compassion in males. Similarly, the studies predominantly took place in the USA and China, where cultural beliefs differ hugely. Subsequently, there was not enough diversity in the sample to gain an understanding of the impact of cultural differences on measurement of child maltreatment or conceptualisation of self-compassion. This is an important consideration when comparing American and Chinese samples where there are cultural differences that extend to child rearing. What one culture considers to be necessary parental discipline, another may view as punitive or abusive (Wong et al., 2009). Wu et al. (2018) reflect on this in their research and commented that strict physical discipline is considered as an important part of developing a child's ability to cope with hardship within the Chinese culture (Wong et al., 2009), whereas in America whilst corporal punishment is legal, there is contentious debate about the morality of physical chastisement of children (Miller-Perrin & Perrin, 2018). Whether actions are deemed to be culturally acceptable will impact on reporting on childhood maltreatment, even when the same scale is used cross culturally to capture this information.

The finding that childhood maltreatment is negatively associated with self-compassion in adulthood supports a growing literature base showing an inverse relationship between the experience of trauma in general and decreased self-compassion (Tanaka, Werkerle, Schmuck & Paglia-Boak, 2011; McLean, Bambling & Steindl, 2018). It is acknowledged that correlational analysis does not allow inferences to be made about the pathway between childhood maltreatment and self-compassion. Nonetheless, from a clinical perspective it helps clinicians to be aware that when working with a survivor of childhood maltreatment, the evidence base suggests that they may also have low levels of self-compassion. This is an important consideration given that high levels of self-compassion have been shown to protect against adverse outcomes following trauma exposure (Kearney et al., 2013; Hiraoka et al., 2015), whereas lower self-compassion has been linked to higher

trauma related pathology (McLean et al., 2018). Self-compassion is not a static mechanism (Messman & Bhuptani, 2020; Fritz et al., Wilson, Mackintosh & Power, 2019) and can be increased under the right conditions. The review findings lend support to the utility of clinical interventions aimed at increasing self-compassion in trauma survivors, such as Compassion Focused Therapy (Gilbert, 2010) and Acceptance and Commitment Therapy (Yadavaia, Hayes & Vilardaga, 2014), which have become increasingly used across numerous clinical settings in recent years to target trauma symptoms.

The systematic review revealed limited findings in respect of gender differences in self-compassion, with only one study exploring this relationship (Miron et al., 2016). Whilst these findings showed that men reported higher levels of self-compassion than women, in line with existing research (Neff & McGehee, 2010; Yarnell et al., 2015), none of the other studies explored the contribution of gender, which suggests that further research into this area is needed.

Systematic review of the correlations between self-compassion and different types of childhood maltreatment showed that people who had experienced emotional abuse and emotional neglect, most consistently reported low self-compassion. Only four studies looked at childhood maltreatment by type and all comprised of undergraduate students, therefore there are limits to the generalisability of this discovery, however it does support existing findings regarding emotional forms of abuse being connected to low levels of self-compassion (Ross, Kaminski & Herrington, 2019). One possible explanation for this association is that children exposed to emotional abuse and neglect may be likely to experience a parent being overly critical or verbally abusive towards them and can internalise this critical voice and become self-judgemental, which could impact upon their ability to show themselves compassion (Gilbert and Proctor, 2006; Stark, Schmidt & Joiner, 1996). Emotional abuse and neglect can be both harder to identify and are often considered to be less

serious than other more obvious types of maltreatment (Bottoms et al., 2016). Consequently, it is likely that more children may endure emotional forms of maltreatment for longer periods of time, thus increasing a sense of threat and decreasing capacity to relate to themselves in a caring manner. It is also possible that emotional abuse and neglect often coincide with other forms of abuse and that the experience of multiple forms of maltreatment have a stronger association with lower self-compassion, however it is not possible to determine this from the review findings. Another possible explanation for this association could be that people who are low in self-compassion are more likely to experience low mood than others and this could impact upon their recollections and reporting of emotional interactions within childhood.

Strengths and limitations of the review process are acknowledged. The search strategy included all the main descriptors of childhood maltreatment in order to capture as many articles as possible and increases confidence that all studies of interest were included. All but two of the studies (Miron et al., 2014; Vettese et al., 2011) were published in the last four years, between 2016-2020, which likely reflects the emerging role of self-compassion as a positive psychological construct in the wider literature base. On this basis, the review reflects a current and relevant contribution to psychological research.

In respect of limitations of this review process, it is important to reflect on the potential problems with drawing comparisons between retrospective and prospective measures. A recent longitudinal study conducted by Newbury et al., (2018) analysed agreement between retrospective and prospective reports of childhood maltreatment, collected at ages 5, 7, 10 12 and 18 years. The CTQ administered at 18 years captured events up to the age of 12 years. They found only slight to fair agreement between prospective and retrospective reports (all Kappa's ≤ 0.31) demonstrating that maltreatment experienced in childhood and adult recollections of these experiences do differ significantly, with children generally underreporting trauma in comparison to reports in adulthood. This validates

previous findings from Everson et al., (2008) and Reuben et al. (2016) and raises important questions about the validity of drawing conclusions from comparisons between prospective and retrospective measures. However, prevalence of childhood maltreatment found by Newbury et al., (2018) did correspond with national and global estimates irrespective of method of measurement, which offers some support for the consistency of figures reported. Similarly, they found retrospective recollections to be the best predictor of affective forms of psychopathology, which is well connected with childhood maltreatment, lending further support for this type of measurement.

Another limitation is that whilst a significant effect size for the association between childhood maltreatment and self-compassion was found, the strength of the meta-analysis is limited by the number of studies with qualifying data and any inferences drawn from the overall effect size should be made with caution. There was evidence of considerable heterogeneity found in the forest plots, which could be due to the small sample of papers included and large variation of sample sizes within studies, however it could also be that the effect size was caused by something other than chance.

Results of the systematic review and meta-analysis are generalisable to an extent: studies took place in four countries and all had similar findings across clinical and non-clinical samples. However as previously noted, the majority of participants were young, white, female undergraduates which does limit the generalisability to a wider, diverse community population.

In conclusion, the review findings suggest that childhood maltreatment is shown to be associated with decreased self-compassion. This is particularly true of emotional abuse and emotional neglect, suggesting that there is something specific about the association between maltreatment of this nature and self-compassion, however further longitudinal research would

be recommended to learn more about the nature of this association. Men appear to demonstrate higher levels of self-compassion than women overall however, are underrepresented in this sample and more research into gender differences is recommended.

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Chapter 2: Empirical Paper

<u>Alcohol use and Adverse Childhood Experiences: does Self-Compassion play a</u>

<u>mediating role?</u>

Abstract

Adverse Childhood Experiences or ACEs (e.g., childhood abuse, neglect or significant household dysfunction) are shown to be positively associated with hazardous drinking in adulthood. However, much of this research focuses exclusively on the role of sexual or physical abuse in predicting severity of alcohol use or predominantly targets clinical or adolescent samples. Furthermore, an emerging literature base suggests that self-compassion can protect against negative outcomes following ACEs. The current study examined the association between total ACEs and alcohol use in a mixed community/student sample and whether self-compassion mediates this relationship. In total, 204 adult participants completed a number of online measures assessing ACEs, hazardous alcohol consumption and self-compassion. Correlational and mediation analyses were completed with 173 full data sets. The data did not support an association between ACEs and alcohol use but did evidence a negative link between ACEs and self-compassion. Self-compassion was also shown to partially mediate the relationship between ACEs and hazardous alcohol use. Correlational and mediation analysis showed that self-compassion partially mediates the relationship between ACEs and hazardous drinking, however that this effect is small. Whilst this relationship was only partially mediated in the current study, the findings add to a growing literature base suggesting self-compassion is likely to be an important therapeutic target to help protect against negative health or psychological outcomes following childhood trauma.

Introduction

The term 'Adverse Childhood Experiences' is used to describe a range of experiences, whereby a child is exposed to toxic or traumatic stress and which are generally measured under the three specific domains of: abuse, neglect or household dysfunction. Once thought to be limited to clinical samples, Adverse Childhood Experiences (ACEs) are now globally acknowledged as a key public health issue (WHO, 2016). The prevalence of ACEs in the general population is difficult to accurately estimate for a multitude of reasons, including differences in definitions and the measurement of childhood adversity (Asmussen, Fisher, Drayton & McBride, 2020; Finklehor, 1999). What is known however, is that many more people are exposed to childhood adversity than previously thought. Bellis, Hughes, Leckenby, Perkins & Lowey (2014) observed that in a deprived and ethnically diverse UK community sample, 47% of individuals reported at least one ACE (including 19% people who reported one ACE, 16% reported two to three and 12% reported four or more ACEs). A recent survey conducted by the Office for National Statistics (2019) identified 49,570 children in England and a further 4,810 in Wales were under local authority care due to experiencing or being at risk of experiencing abuse or neglect. Furthermore, the corresponding report estimated that adults who have experienced abuse before turning 16 years old are also 39% more likely to experience domestic abuse later in life, compared to adults who did not experience abuse in this time frame (Office For National Statistics, 2019).

There is an increased emphasis on the importance of taking a lifespan perspective when looking at the impact of ACEs (Hughes et al., 2017). The experience of adversity at an early age can have a profound negative impact upon how a child relates to themselves, others and the world around them, which in turn can reduce their ability to cope with adversities in later life. The link between ACE exposure and poor health outcomes in adulthood is well documented (Bair-Merritt, Blackstone & Feudtner, 2006; Korotana, Dobson, Pusch,

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Josephson, 2016), however the National ACE survey in Wales also found that people who have been exposed to ACEs are also at an increased risk of becoming parents at a young age, developing poor mental health, using mind-altering substances, having contact with the Criminal Justice System (CJS) and premature death (Bellis et al., 2015).

Exposure to multiple ACEs has also been shown to increase the likelihood of using alcohol as a maladaptive coping strategy, which is shown to have multiple risks when ACEs are measured both retrospectively in adulthood and longitudinally from adolescence to adulthood (Allen, Moore, Kuperminc, & Bell, 1998; Miller, Maguin, & Downs,1997; LeTendere & Reed, 2017). This has been found to be particularly true in young adulthood in a sample of 1234 young Finnish adults (Kestilä et al., 2008). However, exposure to several ACEs has also been shown to increase the likelihood of hazardous drinking in midlife in samples from well researched cohort studies, such as the UK ACEs study (Bellis et al., 2014), the USA Kaiser Permanente study (Dube et al., 2002) and in longitudinal data from the UK Whitehall Study II (Leung, Britton & Bell, 2015). ACEs have also been linked to a diagnosis of lifetime alcohol dependence (Pilowsky, Keyes & Hasin, 2009). This is concerning given that alcohol use is also recognised as a significant contributing factor to the global burden of disease and is thought to contribute to at least three million deaths worldwide each year (WHO, 2016).

As such, it is becoming increasingly important to further explore the nature of the relationship between ACEs and alcohol use, given the reported negative consequences for the individual, for others and for society in general (Bellis et al., 2014; Felitti et al., 1998). A number of the studies detailing the relationship between ACEs and alcohol use report primarily on the role of sexual or physical abuse in predicting level of alcohol use (Spak, Spak, Allebeck, 1997; Sartor et al., 2007) and do not account for other ACEs such as emotional abuse, physical neglect and emotional neglect. This is problematic as patterns of

alcohol use may be related to type of ACE experienced (Evren, Kural & Cakmak, 2006; Lotzin et al., 2016). Additionally, research into this area often either targets clinical samples and omits the wider community or focuses on adolescents and young adults. There is a definite need to understand more about the nature of the relationship between all ACEs and hazardous drinking with an adult community population.

Despite the wealth of evidence linking ACEs and alcohol, traditional models of addiction treatment and relapse prevention often neglect the role of unresolved trauma in recovery from heavy alcohol use and other substance difficulties (Miller & Guidry, 2001). Although potentially due to lack of funding and service pressures, sole focus on alcohol use reduction as the treatment target and overlooking causal factors may increase vulnerability to relapse to heavy alcohol use. This then has implications on the quality of life of the individual and places increasing pressure on mental health services due to a high number of readmissions and associated cost.

Whilst the link between ACEs and alcohol use is well established, the mechanisms that lead people who have experienced multiple ACEs to become hazardous drinkers are unclear. Not all people who suffer ACEs will go on to drink heavily and many can create positive changes (Stige, Bindar, Rosenvinge & Traen, 2013). There is a wealth of research detailing the link between ACEs and negative health outcomes (Banyard, Edwards & Kendall-Tackett, 2008; Shonkoff & Garner, 2012), but less is known about protective factors. Self-compassion has emerged as an important construct for psychological well-being over the last decade (Germer & Neff, 2014; Homan, 2018; Zessin, Dickhäuser & Garbade, 2015). Neff (2003b) conceptualises this as showing oneself the same kindness that one would towards a friend, accepting human fallibility (that is, understanding that making mistakes is part of the human experience) and being mindful and taking a balanced approach (e.g. not suppressing or exaggerating feelings, but accepting them for what they are). This is different

to compassion as a standalone definition, which is commonly known as "a sensitivity to suffering in self and others, with a commitment to try to alleviate and prevent it" (Gilbert et al., 2017, p. 1).

Self-compassion has been shown to partially mediate the relationship between victimisation and psychological maladjustment and reduced negative consequences in adolescents (Játiva & Cerezo, 2014) and can be directly linked to PTSD symptom severity (Barlow, Turow & Gerhart, 2017). Similarly, self-compassion has been shown to mediate the relationship between childhood maltreatment and emotional dysregulation in adulthood (Vettese, Dyer, Li & Wekerle, 2011), indicating that individuals who possess higher levels of self-compassion are better equipped to cope with distressing life events. As well as struggling to be compassionate towards themselves, people who lack self-compassion can often find it difficult to receive compassion from others or to exhibit compassion towards others. These specific difficulties have been conceptualised in Gilbert, McEwan, Matos & Rivis' (2010) work regarding 'Fear of compassion' and their validated scale which measures this. It is hypothesised that fear of compassion could derive from learnt social scripts viewing compassion as demonstrating weakness or pity or as a conditioned fear response to compassion as a result of receiving abuse or contempt from primary caregivers in childhood (Gilbert et al., 2010).

Childhood emotional abuse specifically has been shown to reduce individual levels of self-compassion (Tanaka, Wekerle, Schmuck, Paglia-Boak & The MAP Research Team, 2011) and may also be linked to negative coping styles. This can perhaps be understood in the context of feelings of shame following childhood trauma, which can have a profound impact upon personal identity (Dutra, Callahan, Forman, Mendelsohn & Herman, 2008) and lead to maladaptive coping strategies (Briere, Hodges & Godbout 2010). Since taking a self-compassionate position is related to an individual's attitudes towards themselves and to their

coping style during challenging times, it appears possible that higher levels of self-compassion could conversely be related to lower levels of level of alcohol consumption and may even mediate (i.e., explain part of the variance) the relationship between ACEs and hazardous drinking.

In consideration of the existing research, the aim of the current study is to determine using a convenience sample (i) whether all ACEs are associated with hazardous alcohol use in adulthood, and (ii) to investigate if self-compassion will mediate the impact of adverse childhood experiences on hazardous alcohol use. Specifically, the following hypotheses were made: 1.) There will be a positive correlation observed between reported ACEs and levels of alcohol consumption; 2.) Number of ACEs reported will predict lower levels of self-compassion. 3.) Self-compassion will mediate the relationship between number of ACEs and hazardous drinking in adulthood. The study methods and analyses strategy were preregistered on aspredicted (#12631) prior to any data collection.

Method

Design

The present study used a cross-sectional design with quantitative data. The dependant variable was hazardous drinking as measured by the Alcohol Use Disorders Identification task (AUDIT) and the predictor variable was the number of ACEs participants reported on the Adverse Childhood Experience-International Questionnaire (ACE-IQ). Self-compassion was the mediator variable, which was measured by the Self-Compassion Scale-Short Form (SCS-SF). The recruitment target was 200 participants, as identified in a power analysis to be a sufficient sample to detect a small effect size (r=0.10) in a mediation analysis with 80% power (Fritz & Mackinnon, 2007).

Participants

Participants were recruited using an opportunity sampling method from the University of Liverpool and via social media platforms. In total, 231 people enrolled in the study and 204 of these submitted questionnaires. Results from 173 participants were used for the data analysis after partially completed cases were removed (e.g., people who completed only the first two measures). Of these, 149 were women (86.1%) and 24 were men (13.9%). Participant demographics are represented in Table 1. The mean age of the sample was 29.5 years (SD = 12.3), and the age range was 18-64 years. The majority of participants were of White British ethnicity and were employed on a full-time basis. Study inclusion criteria was English speaking adults over the age of 18 years and exclusion criteria was anyone under the age of 18 years or who did not speak English. The study was advertised via word of mouth and internet/social media. Ethical approval was obtained from the University of Liverpool Ethics Committee prior to any data collection (see Appendix 3).

Measures

All measures used for the research can be found in Appendices 4-13 respectively.

AUDIT

The Alcohol Use Disorders Identification Test (AUDIT; Babor et al.., 2001) is a self-report 10-item tool developed by the World Health Organisation to identify hazardous alcohol use. Questions measure the amount and frequency of drinking, alcohol dependence and problems caused by alcohol. Examples include 'How often during the last year have you failed to do what was normally expected of you because of drinking?' and 'Have you or someone else been injured because of your drinking?'. Eight questions are rated upon a five-point Likert scale (Never, Less than monthly, Monthly, Weekly, Daily or almost daily) and the final two are rated on a three point likert scale (No; Yes, but not in the last year; Yes, during the last year). A total score is calculated by adding the score for each item. The threshold for hazardous drinking as measured by the AUDIT is eight or over (Babor et al., 2001). The AUDIT has been found to have a high internal consistency (α=.86; Sinclair, McRee & Babor,1992). This is consistent with the current study where a good internal consistency was found, McDonald's $\omega = 0.88$ (McDonald, 1970, 1999).

ACEs

The Adverse Childhood Experiences-International Questionnaire (ACE-IQ; World Health Organisation, 2011) is designed to measure ACE's, as well as the association between them and risk behaviours in later life. Questions cover physical (PA), sexual (SA) and emotional abuse (EA), physical (PN) and emotional neglect (EN) by parents or caregivers; parental alcoholism (AP), domestic violence towards mother (DV), parental mental illness (MI), loss of parent by divorce or death (LP); bullying (B); witnessing community violence (COMM V), and exposure to collective violence (COLL V). In addition to examining individual ACEs, an ACE overall score was constructed. Exposure to any type of abuse,

neglect, or household dysfunction counted as one point; and categories were summed for a total score between 0 and 13 points. In the present study, an acceptable internal consistency was found; $\omega = 0.73$, $\alpha = .0.73$. All scale items except for "incarcerated parent" were included in the analysis. This item was excluded on the basis that it was not endorsed by any participant and therefore had no variance. Ashton, Bellis, Davies, Hardcastle & Hughes (2016) also found this ACE-IQ item to be the least reported amongst their Welsh adult sample.

Self-Compassion

Self-Compassion Scale Short-Form (SCS-SF; Raes et al.. 2011) was used to measure the mediating variable of self-compassion. The SCS-SF is a 12 item self-report scale, which has a near perfect correlation with the original full scale when examining total scores (Raes et al.., 2011). Each item is a statement and participants are asked to rate how much they endorse the item on a five point likert scale from 'Almost never' to Almost always'. Examples include: 'I try to see my failings as part of the human condition' and 'When something upsets me, I try to keep my emotions in balance'. The overall score on the SCS-SF has shown to have good internal consistency with estimates of Cronbach's alpha around .85 (Kelly et al.., 2013; Raes et al.., 2011). In the current study, the full 12 item scale had adequate internal reliability, $\omega = 0.81$.

Additional Measures

Fear of Compassion Scale (FCS; Gilbert et al.., 2011) is a is a self-report five-point likert scale measuring the following: Fears and difficulties in feeling compassion from others (13 items), for others (15 items) and for self (13 items). Item examples include the following: 'There are some people in life who don't deserve compassion', 'If people are kind, I feel they are getting too close' and 'I feel that I don't deserve to be kind and forgiving to myself'. For

the purpose of the analysis, only the 13-item fear of self-compassion (FoSC) subscale was used. This had excellent internal consistency, $\omega = 96$.

The Hospital Anxiety Depression Scale (HADS; Zigmond and Snaith, 1983) was included as an exploratory measure and for the purpose of being able to control for levels of anxiety and depression. The 14 item self-report questionnaire measures symptoms of anxiety and depression on a four-point likert scale. The HADS has been validated for use in both hospital and community settings and has good internal consistency with Cronbach's α for both subscales; anxiety = 0.83, depression = 0.86 (Bedford et al., 1997). In the current study, both subscales showed adequate internal reliability; anxiety, $\omega = 0.80$ and depression; $\omega = 0.78$.

The Alcohol Timeline Follow Back (TLFB; Sobell & Sobell, 1992) was used to establish recent (previous week) and normal alcohol consumption. This has been validated for with clinical and community samples and is found to have high test-retest reliability

The Lifetime Drinking History Questionnaire Short Form (LDH-SF; Friesema, Veenstra, Zwietering, Knottnerus, Garretsen & Lemmems, 2004) was also administered to measure lifetime drinking patterns. Correlation coefficients show that the assessment has good construct validity of current intake (0.83 for men and 0.81 for women) and reasonable validity for reported lifetime intake of 0.75 for men and 0.70 for women (Friesema et al., 2004).

Procedure

Research was advertised through the University of Liverpool Experimental Participant Recruitment (EPR) system within the School of Psychology, in addition to social media. Participants were invited to take part in an online research study 'investigating an association between negative life experiences, alcohol and the role of self-compassion'. A

link was contained in adverts which directed participants to the study page. First, they were given an information sheet (Appendix 11) and asked to provide informed consent (Appendix 12). Participants then completed the questionnaires in a predetermined order (AUDIT, TLFB, SCS-SF, FCS, HADS, ACE-IQ, LDH-SF). The LDH-SF takes the longest time to complete and as such was presented last to mitigate against participants dropping out during completion and not proceeding to the other questionnaires.

On completion, participants were shown a debrief sheet (See Appendix 13) thanking them for their time and signposting them to local organisations, in the event that they felt affected by any of the topics explored in the study. Finally, they had the opportunity to enter a prize draw to win a £100 Amazon voucher. All email addresses were stored in a separate database on Qualtrics and were not linked to individual responses. The study took approximately 25 minutes to complete.

Data reduction and analysis

Data screening was performed using SPSS v25 (IBM Corp, 2017). Five scores were identified as univariate outliers and three scores were identified as multivariate outliers. Multivariate outliers were removed, and the remaining five univariate outliers had their scores adjusted i.e. depending on whether or not they were at the top or bottom of the range, they were allocated a score one unit higher or lower than the next score respectively (Tabachnick & Fidell, 1996).

Checks for normality were conducted using kurtosis and skewness to determine whether the data followed a normal distribution. Only data on the TLFB normal and TLFB total scales reached significance at the >1.96 level (Field, 2009), showing that data from these variables were not normally distributed. Data from these variables were transformed prior to data analysis.

Descriptive statistics and Pearson's correlations were used to explore the relationships among all variables. Mediation analysis was used to assess whether the associations between ACEs and hazardous drinking were mediated by self-compassion. Bias-corrected bootstrapped (1000 samples) confidence intervals were calculated. Finally, exploratory analyses were undertaken to further explore the contribution of individual ACE-IQ items on participant's SCS-SF and AUDIT scores using descriptive statistics and correlational analyses. Data collected from the FOC and LDH-SF were also included in the exploratory analyses.

Results

Participant demographics

The sample was predominantly female and of white British ethnicity and 65% of participants were aged under 30. Descriptive statistics are presented in Table 3. Participants reported a mean ACE score of 2.44 (SD=2.28), with the most reported ACE being loss of a parent (through parental separation or death), with 82 participants (47.4%) reporting this lived experience. 76.3% of the sample reported one or more ACE, 57.2% had experienced two or more, 37.6% three or more and 31.2% four or more. The mean AUDIT score of 9.23 (SD=6.62) was above the threshold for hazardous drinking but with a large standard deviation. There was no significant difference between reported AUDIT scores for men and women, $t(171) = -1.33$, $p = 0.185$ and the mean AUDIT score for both men ($M = 10.66$, SD $= 7.61$) and women ($M = 8.77$, SD $= 6.28$) was above the cut off for hazardous drinking. The mean score for self-compassion was slightly below the average score of 36, as derived from the validation of the SCS-SF in a sample of more than 400 students in the USA (Raes et al., 2011), indicating the overall sample reported lower than average levels of self-compassion. Men ($M = 36.04$, SD $= 7.94$) reported slightly higher self-compassion scores than women ($M = 32.95$, SD $= 6.28$), however this difference did not reach statistical significance, $t(171) = -1.86$, $p = 0.064$. No significant gender differences were found on any of the study variables.

Associations between ACEs and Alcohol use

Zero-order correlations are shown in Table 3. There was no significant correlation found between ACEs and AUDIT scores $r = .094$, $p = .221$ or ACEs and TLFB total; $r = 0.049$, $p = 0.522$ or TLFB normal scores; $r = .054$, $p = .479$. ACEs were negatively correlated with self-compassion $r = -.252$, $p < .001$, demonstrating that the more ACEs people had experienced, the less self-compassion they reported. However, a negative correlation was

found between ACEs and participant's age when they first drank alcohol, as measured by the LDH-SF (r= -0.248, p < .001), showing that the more ACEs people had experienced, the more likely they were to start drinking alcohol at a younger age, with only 8 of the 173 participants being aged 18 years or over when they first consumed alcohol (4.71 % of sample). Similarly, a significant negative correlation was found between AUDIT scores and age; r = -0.307, p <.001 suggesting that reported hazardous drinking reduced as the age of participants increased. As predicted, AUDIT scores were significantly negatively correlated with self-compassion; r = -0.246, p < .001, showing that as hazardous drinking increased, self-compassion decreased.

Table 3. Descriptive statistics and bivariate correlations between all variables

MEASURE	1	2	3	4	5	6	7	8	9	10	11	12	13
1. GENDER	-												
2. AGE	-.001	-											
3. RACE/ETHNICITY	0.139	-.071	-										
4. EDUCATION	-.104	.281***	-.093	-									
5. ACE-IQ	.092	.054	.166*	.112	-								
6. AUDIT	.101	-.307***	.011	-.242**	.094	-							
7. SCS-SF	.141	.188*	-.028	.007	-.252***	-.246***	-						
8. TLFB T	.199**	-.086	-.070	-.156*	.049	.508***	.140	-					
9. TLFB N	.166*	-.029	-.069	-.180*	.054	.526***	.119	.896***	-				
10. FOC	.005	-.171*	.089	-.210**	.328***	.438***	.511***	.286***	.255***	-			
11. HADS D	.049	.050	.160*	-.184*	.276***	.162*	.400***	.109	.156*	.418***	-		
12. HADS A	-.096	-.206**	.088	-.046	.292***	.189*	.568***	.102	.124	.455***	.451***	-	
13. AGE FD	-.191*	.069	-.049	-.047	-.248***	-.089	.027	.032	-.051	.025	.001	.041	-
M	1.14	29.54	1.40	1.94	2.44	9.23	33.41	12.45	9.83	44.25	4.79	8.99	14.50
SD	0.35	12.29	1.26	0.73	2.28	6.62	7.61	14.87	12.57	26.29	3.42	4.01	2.41
MINIMUM	1.00	18.00	1.00	0.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	4.00
MAXIMUM	2.00	64.00	9.00	3.00	10.00	32.00	54.00	84.00	63.50	113.00	17.00	18.00	30.00

Note. SCS-SF = Self-Compassion Scale Short-Form; TLFB T = Timeline follow back total units (last week); TLFB N = Timeline follow back normal weekly units; FOC = Fear of Compassion; HADS D = Hospital Anxiety and Depression Scale Depression; HADS A = Hospital Anxiety and Depression Scale Anxiety; Age FD = Age at first drink of alcohol; * p < .05, ** p < .01, *** p < .001

Mediation analyses

The direct effect of ACEs on AUDIT was not significant ($\beta = 0.02$, SE = 0.03, p = .62, 95% CI – 0.05 to 0.09). However, the indirect effect of self-compassion was statistically significant ($\beta = 0.16$, SE = 0.07: (95% CI 0.05 to 0.34) p = .026) suggesting that self-compassion did partially mediate the relationship between ACEs and alcohol use. Approximately 5% of variance in AUDIT scores ($R^2 = .055$) was accounted for in the model, indicating that the association between ACEs and AUDIT was partially mediated by self-compassion, however the strength of this association was small. Mediation analysis of the association between ACEs and AUDIT via self-compassion is displayed in Figure 5.

Figure. 5. Mediation model showing the indirect effect of ACE's on AUDIT, mediated by self-compassion.
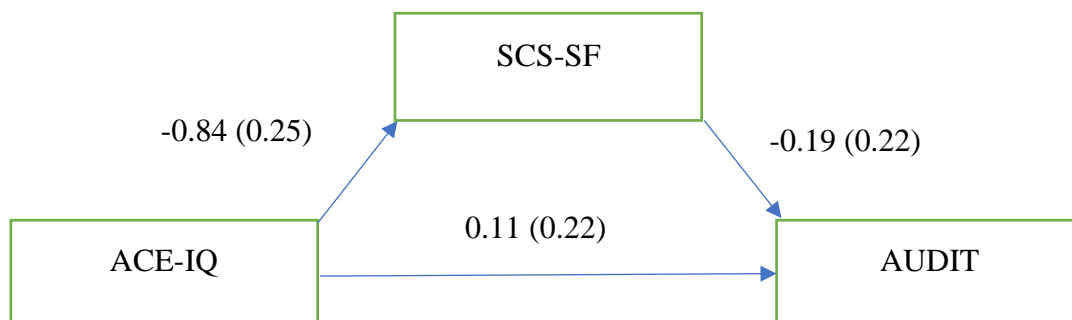
Note. Values are unstandardised coefficient and standard errors.

Exploratory Analyses

Mediation by Fear of Compassion

Exploratory analyses were conducted between the individual ACE-IQ items and participant scores on the SCS-SF and AUDIT to determine the individual influence of each ACE-IQ item on individual levels of self-compassion and hazardous drinking. A negative correlation was found between emotional neglect and self-compassion in particular, r = -.260, p < .001. In terms of the association between hazardous drinking and individual types of

ACEs, sexual abuse (r = .258, p < .001) and collective violence (r = .259, p < .001) were found to be most closely correlated to AUDIT scores.

Fear of compassion was used in an exploratory mediation model to see if it mediated the relationship between ACE-IQ and AUDIT scores. The indirect effect of fear of compassion statistically significant (β = 0.42, SE = 0.11: (95% CI 0.23 to 0.66), p < .001) showing that fear of compassion had a stronger mediating effect on the relationship between ACEs and alcohol use than self-compassion. The model explained approximately 18% of variance in AUDIT scores (R^2 = 0.18). Mediation analysis of the association between ACEs and AUDIT via fear of compassion is displayed in Figure 6.

Figure. 6. Mediation model showing the indirect effect of ACE's on AUDIT, mediated by fear of compassion.

Note. Values are unstandardised coefficient and standard errors.

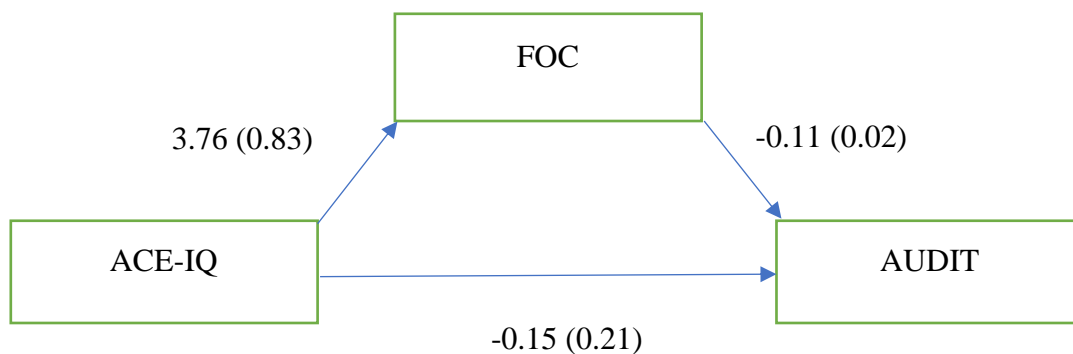## *Drinking patterns amongst the lifespan*

Whilst the purpose of the study was not to examine drinking patterns across the lifespan, correlations on the data collated from the LDH-SF were also included in exploratory analyses. Data collected from the LDH-SF and AUDIT supported a negative correlation between age and hazardous drinking, r = -.307, P < .001, with alcohol consumption peaking around ages 19-27 (M = 5.81, SD = 5.37), reducing between ages 28-44 years (M = 3.83, SD = 3.38) and almost halving between ages 45-60 years (M = 2.92, SD = 1.93) in comparison to intake as a young adult.

Discussion

The primary purpose of this study was to examine the relationship between ACEs and alcohol use, and whether this association was mediated by self-compassion. ACEs are linked to a multitude of poor psychological and health outcomes in adulthood including hazardous drinking, but much of this research focuses solely on sexual or physical abuse, which limits the generalisability of findings as problematic alcohol use may be related to ACE type. Similarly, little is known about positive personality factors such as self-compassion, which may protect against hazardous drinking and could potentially be promising areas to focus on in alcohol treatment.

We predicted a positive association between ACEs and AUDIT scores, and ACEs and self-compassion. Furthermore, we expected that self-compassion would mediate the relationship between ACES and AUDIT scores. We demonstrated limited evidence of an association between ACEs and alcohol use. However, ACES were negatively associated with self-compassion and self-compassion partially mediated a relationship between ACES and AUDIT.

The data did not support our first hypothesis of an association between ACEs and alcohol use. The prevalence of ACE's reported however was similar to that found in an official ACEs study, which used a nationally representative sample of English participants aged 18-69 (Bellis et al., 2014). While we found no evidence that ACEs were related to hazardous drinking, ACEs were associated with initiation of alcohol consumption, with the majority of the current sample first drinking alcohol before the legal drinking age of 18 years. This replicates findings by Dube et al. (2006), whose research also investigated reasons for drinking alcohol and proposed that the reason that people began drinking at a young age was to help them to cope with the adversities that they had experienced. The idea of using alcohol

as a coping mechanism following ACEs suggests a temporal relationship where it is the traumatic impact of some ACEs which can lead to early onset of alcohol use, rather than just the presence of ACEs alone. It is not possible to determine this from the current study design, however this is worthy of further exploration in future research. ACEs were also highly correlated with both anxiety and depression, supporting causal theories that experiencing adversity at an early age can lead to mental health difficulties in adulthood (Ashton et al., 2015; Bellis et al., 2015; Brown et al., 2009).

We observed evidence of a negative association between ACEs and self-compassion. This finding adds to a growing literature base suggesting that ACEs are related to lower levels of self-compassion, perhaps due to the negative appraisals that people make about themselves and their own worthiness of compassion in general following trauma in childhood (Ross, Kaminski & Herrington, 2019). It is also possible that people who have higher levels of self-compassion are more resilient and that this has an impact on ACE reporting, however it is difficult to determine the direction of the association when comparing retrospective and prospective measures.

The results of the study partially supported existing research showing that self-compassion may protect against adverse health outcomes in people who have had ACEs (Germer & Neff, 2014; Zessin et al., 2015). However, in contrast to existing literature, the effect in this sample was small. Interestingly, fear of compassion was found to have a stronger mediating effect on the relationship between ACEs and alcohol use than self-compassion did. Fear of compassion has emerged as a barrier to compassion in the research literature and is shown to be high amongst survivors of childhood maltreatment (Gilbert and Proctor, 2006). Increased sensitivity to threat, critical self-beliefs and significant shame are all factors which have been shown to be associated with fear of compassion in this population (Gilbert & Proctor, 2006; Ross, Kaminski & Herrington, 2019). In a qualitative study

exploring perspectives on self-compassion from adult female survivors of sexual abuse, McLean, Bambling & Steindl (2018) found that some women found the concept of self-compassion to be uncomfortable and to be synonymous with self-pity. McLean et al. (2018) discussed how positive emotions can be terrifying for survivors of sexual abuse and increase feelings of vulnerability. Based on the findings in the context of the wider literature, it is possible that people who experience trauma as a result of ACEs can develop a fear of compassion.

This study is the first known attempt to directly explore the role that self-compassion plays in mediating the relationship between ACEs and hazardous alcohol use. Furthermore, much of the previous research investigating the relationship between ACEs and alcohol use has focused primarily on the role of sexual or physical abuse and has either excluded other ACEs (Spak et al., 1997; Sartor et al.., 2007; Nayak et al., 2012; Lotzin et al., 2016) or has limited the sample to either clinical populations or adolescents and young adults (Leung et al., 2015). As well as exploring the mediating role of self-compassion, this study has investigated the correlations between individual ACEs, self-compassion, and hazardous drinking within a non-clinical sample. The results show that many people from a predominantly white, female, community sample have experienced ACEs, report lower than average self-compassion scores and also report hazardous drinking in adulthood. That is, their alcohol use can be deemed hazardous due to the frequency and volume of consumption, signs of dependence and problems experienced which are directly linked to being intoxicated, e.g., injury or memory loss (Babor et al., 2001). However, this relationship was only partially mediated in the current study and there was very large variability observed between participant's ACE-IQ scores.

Interpreting the results in the context of previous qualitative and quantitative research findings (e.g. Dube et al., 2006; McLean et al., 2018), one possible explanation for the

findings is that ACEs often occur in the family home and are linked to caregiving experiences. Maltreatment by caregivers can lead children to adopt negative self-perceptions, which often match the way that they believe they are perceived by their primary caregiver (Stark, Schmidt & Joiner, 1996). Such beliefs can be pervasive, intolerable and continue into adulthood (Ryle & Kerr, 2002). An adult who believes that they are unworthy of compassion is likely to turn to maladaptive coping strategies when faced with difficulties (Briere et al., 2010) and alcohol is arguably the most widely available and socially acceptable substance that people use for this purpose.

Pervasive mental and even physical health problems may be exacerbated by the lack of appropriate interventions targeting the adult population who experience ACEs and partake in risky alcohol consumption behaviours (Loudermilk, Loudermilk, Obenauer, Quinn, 2018). However, prevention is arguably more effective than cure. Therefore, if self-compassion can even partially mediate the problematic relationship between ACEs and alcohol use, this highlights an important treatment target area for early intervention. Increasing self-compassion during childhood or adolescence may lead to the development of stronger positive appraisals of self, which in turn could reduce maladaptive coping strategies.

There are clinical implications of this study, which highlights the importance for adult clinical services to assess for ACEs alongside a range of other presenting difficulties, but particularly when an individual has a history of alcohol misuse. Positively, over the last several years, mental health services have demonstrated more awareness of the comorbidity between ACEs and other difficulties and are becoming more trauma informed in response to research in this area, however this work is arguably in its infancy and more needs to be done.

Compassion focussed and mindfulness-based interventions have been shown to protect against adverse health outcomes generally following childhood trauma in the current

literature base. In line with existing research showing the benefits of increasing an individual's self-compassion (Briere, 2012; Vettese et al., 2011), the current study findings tentatively suggest that treatments and approaches which cultivate self-compassion in survivors of ACEs may also be helpful in reducing hazardous drinking in adulthood.

The findings of the current study did not lend support to previous research demonstrating a strong relationship between ACEs and hazardous drinking and in turn self-compassion was only shown to have a small mediating effect. It is important to interpret these findings in the context of the demographics of the study sample. There is some existing research to suggest that women are up to 55% less likely to binge drink following ACEs than men (Lee & Chen, 2017). The sample of the current study was predominantly female which may have underrepresented the relationship between ACEs and alcohol use. Similarly, gender differences are reported in self-compassion literature, with some evidence suggesting that men are slightly more likely to take a self-compassionate stance than women (Yarnell, Stafford, Neff, Reilly, Knox & Mullarkey, 2015). Therefore, these results could be different with a more evenly distributed sample with relation to gender.

Similarly, nearly one third of the study participants were students. There is a well-established culture of binge drinking within UK student populations (Bewick, Mulhern, Barkham, Trusler, Hill & Stiles, 2008; Davoren, Demant, Shiely & Perry, 2016; Supski, Lindsay & Tanner, 2017), which may partially explain why the mean AUDIT scores were over the threshold for hazardous drinking and why alcohol consumption as measured by the TLFB and LDH-SF reduced as people got older.

There are also methodological weaknesses of the study that should be considered. Firstly, the study constructs were measured using self-report scales, some of which relied upon retrospective reporting (e.g. ACE-IQ, LDH-SF, TLFB). Retrospective reporting can

lead to measurement and recall bias, which can impact upon the validity of the results (Maughan & Rutter, 1997). Prospective measures were also utilised, meaning that the mediation analysis was conducted using cross-sectional data. Many researchers advise against this (e.g. Maxwell & Cole, 2007) as measuring constructs from different time points at the same time means that temporal precedence or causation cannot be determined. Cross-sectional mediation is a useful way of analysing data retrospectively, but the results should be interpreted with caution. The same is true of conducting high numbers of correlations, which can increase the possibility of a type 1 or type 2 error (Field, 2009). Finally, the quantitative questionnaires employed in this study tell us about when people first started drinking, their quantity and frequency of alcohol use, but nothing about context or reasons for drinking. This is important to understand in context of pathways to hazardous drinking.

Many different traumatic experiences are encapsulated under the heading of ACEs and to investigate the long-term impact of such collectively, rather than individually may be considered a reductionist approach. In the current sample, participants who had experienced emotional neglect specifically were most likely to report low self-compassion scores, although there was no significant correlation found between emotional neglect and AUDIT scores. Childhood sexual abuse was the only variable which significantly correlated with both ACE-IQ and AUDIT results. It is possible that self-compassion may have a stronger mediation effect between some specific ACEs (e.g. childhood sexual abuse) and hazardous alcohol use than others and this would be a useful area of outstanding research for the future.

In conclusion, although a direct effect between ACEs and alcohol use was not found, this cross sectional, self-report study lends some support to the role of self-compassion as a mediator between ACEs and hazardous alcohol use. There are also promising findings in relation to the mediating role of fear of self-compassion and future research would benefit from exploring this longitudinally or in a larger, more diverse sample.

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Appendix 1 - Study Selection Screening Tool

Review Question:

What is the prospective association between childhood trauma and self-compassion in adulthood?
- How does trauma influence the development of self-compassion?
- Is there any difference depending on type of trauma reported?
- Are there any gender differences?

Inclusion

Studies will be included if they: a) are published in English; b) report data from participants aged 18 or over and c) report quantitative data relating to the relationship between childhood trauma and self-compassion and/or fear of self-compassion in adulthood. *In keeping with relevant literature in this area, the term childhood trauma* will be defined as a history of emotional, physical or sexual abuse in childhood; however this may also include physical neglect, emotional neglect and other experiences which occurred in childhood and could be considered traumatic.

Childhood trauma and Self-Compassion Screening and Selection Tool

Reviewer Name:		**Date:**
Author name /Study ID:		**Year:**
Title:		**Journal:**

	Include	**Exclude**
Patient Population	☐ Participants aged 16 or over ☐ Fluent English speaking	☐ Participants under the age of 16 ☐ Articles in any other language
Interventions	**Include** ☐ All which measure childhood maltreatment, self-compassion & the relationship between the two variables	**Exclude** ☐ All other interventions
Comparators	**Include** ☐ Childhood trauma **and** self-compassion	**Exclude** ☐ Childhood trauma only ☐ Self-compassion only
Outcomes	**Include if one of*:** ☐ ACE-IQ* ☐ CAT ☐ CTQ or CTQ-SF ☐ TLEQ ☐ ICES **Plus one of*:** ☐ SCS or SCS-SF	**Exclude** ☐ Does not report any outcome from measures specified in inclusion criteria
Study design	**Include** ☐ Quantitative Designs	**Exclude** ☐ Any study design other than Quantitative
Overall decision	☐ **INCLUDED**	☐ **EXCLUDED**

Notes

*ACE-IQ = Adverse Childhood Experiences (World Health Organisation, 2009)

CAT = Child Abuse and Trauma Scale

CTQ = Childhood Trauma Questionnaire (Bernstein & Fink, 1997)

CTQ-SF = Childhood Trauma Questionnaire – Short form (Bernstein et al., 2003)

ICES = Invalidating Childhood Experiences Scale (Mountford, Corstorphine, Tomlin)

SCS = Self-compassion Scale (Neff, 2003)

SCS-SF = Self-compassion Scale Short-Form (Raes, Pommier, Neff & Van Gucht, 2011)

TLEQ = Traumatic Life Events Questionnaire (Kubany et al., 2000)

Appendix 2: AXIS Quality Assessment Tool

Questions	Yes	No	Do not know/comment
Introduction			
1. Were the aims/objectives of the study clear?			
Methods			
2. Was the study design appropriate for the stated aim(s)?			
3. Was the sample size justified?			
4 Was the target/reference population clearly defined? (Is it clear who the research was about?)			
5. Was the sample frame taken from an appropriate population base so that it closely represented the target/reference population under investigation?			
6. Was the selection process likely to select subjects/participants that were representative of the target/reference population under investigation?			
7. Were measures undertaken to address and categorise non-responders?			
8. Were the risk factor and outcome variables measured appropriate to the aims of the study?			
9. Were the risk factor and outcome variables measured correctly using instruments/ measurements that had been trialled, piloted or published previously?			
10. Is it clear what was used to determined statistical significance and/or precision estimates? (eg, p values, CIs)			
11. Were the methods (including statistical methods) sufficiently described to enable them to be repeated?			
Results			
12. Were the basic data adequately described?			
13. Does the response rate raise concerns about non-response bias?			
14. If appropriate, was information about non-responders described?			
15. Were the results internally consistent?			
16. Were the results for the analyses described in the methods, presented?			
Discussion			
17. Were the authors' discussions and conclusions justified by the results?			
18. Were the limitations of the study discussed?			
Other			
19. Were there any funding sources or conflicts of interest that may affect the authors' interpretation of the results?			
20 Was ethical approval or consent of participants attained?			

Appendix 3: Confirmation of Ethical Approval

UNIVERSITY OF LIVERPOOL

Central University Research Ethics Committee A

28 March 2018

Dear Dr Lorenzetti

I am pleased to inform you that your application for research ethics approval has been approved. Application details and conditions of approval can be found below. Appendix A contains a list of documents approved by the Committee.

Application Details

Reference:	2713
Project Title:	Alcohol use and negative life events: can being kind to yourself be a protective factor?
Principal Investigator/Supervisor:	Dr Valentina Lorenzetti
Co-Investigator(s):	Miss Amy Downing, Dr Luna Centifanti
Lead Student Investigator:	-
Department:	Psychological Sciences
Approval Date:	28/03/2018
Approval Expiry Date:	Five years from the approval date listed above

The application was **APPROVED** subject to the following conditions:

Conditions of approval

- All serious adverse events must be reported via the Research Integrity and Ethics Team (ethics@liverpool.ac.uk) within 24 hours of their occurrence.
- If you wish to extend the duration of the study beyond the research ethics approval expiry date listed above, a new application should be submitted.
- If you wish to make an amendment to the research, please create and submit an amendment form using the research ethics system.
- If the named Principal Investigator or Supervisor leaves the employment of the University during the course of this approval, the approval will lapse. Therefore it will be necessary to create and submit an amendment form using the research ethics system.
- It is the responsibility of the Principal Investigator/Supervisor to inform all the investigators of the terms of the approval.

Kind regards,

Central University Research Ethics Committee A

Appendix 4: The Alcohol Use Disorder Identification Test (AUDIT)

The following assessment asks some questions about your use of alcohol. Your answers will remain confidential so please be honest. Place an X in one box that best describes your answer to each question

Questions	0	1	2	3	4
1. How often do you have a drink containing alcohol?	Never	Monthly	2-4 times a month	2-3 times a week	4 or more times a week
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more
3. How often do you have six or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
4. How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
5. How often during the last year have you failed to do what was normally expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
6. How often during the last year have you needed a drink in the morning to get yourself going after a heavy session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
8. How often during the last year have you been unable to remember what happened the night before because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
9. Have you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, during the last year
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the last year		Yes, during the last year
Total					

Appendix 5: Adverse Childhood Experiences Questionnaire (ACE-IQ)

Adverse Childhood Experiences International Questionnaire (ACE-IQ)

0	DEMOGRAPHIC INFORMATION	
0.1 [C1]	Sex (Record Male / Female as observed)	Male
		Female
0.2 [C2]	What is your date of birth?	Day [ ][ ] Month [ ][ ] Year [ ][ ][ ][ ]
		Unknown (Go to Q.C3)
0.3 [C3]	How old are you?	[ ][ ]
0.4 [C4]	What is your [insert relevant ethnic group / racial group / cultural group / others] background?	[Locally defined]
		[Locally defined]
		[Locally defined]
		Refused
0.5 [C5]	What is the highest level of education you have completed?	No formal schooling
		Less than primary school
		Primary school completed
		Secondary/High school completed
		College/University completed
		Post graduate degree
		Refused
0.6 [C6]	Which of the following best describes your main work status over the last 12 months?	Government employee
		Non-government employee
		Self-employed
		Non-paid
		Student
		Homemaker
		Retired
		Unemployed (able to work)
		Unemployed (unable to work)
		Refused
0.7 [C7]	What is your civic status?	Married (Go to Q.M2)
		Living as couple
		Divorced or separated
		Single
		Widowed (Go to Q.M2)
		Other
		Refused
1	MARRIAGE	
1.1 [M1]	Have you ever been married?	Yes
		No (Go to Q.M5)
		Refused
1.2 [M2]	At what age were you first married?	Age [ ][ ]
		Refused
1.3 [M3]	At the time of your first marriage did you yourself choose your husband/wife?	Yes (Go to Q.M5)
		No
		Don't know / Not sure
		Refused
1.4 [M4]	At the time of your first marriage if you did not choose your husband/wife yourself, did you give your consent to the choice?	Yes
		No
		Refused
1.5 [M5]	If you are a mother or father what was your age when your first child was born?	Age [ ][ ]
		Not applicable
		Refused

2	RELATIONSHIP WITH PARENTS/GUARDIANS	
	When you were growing up, during the first 18 years of your life . . .	
2.1 [P1]	Did your parents/guardians understand your problems and worries?	Always
		Most of the time
		Sometimes
		Rarely
		Never
		Refused
2.2 [P2]	Did your parents/guardians **really** know what you were doing with your free time when you were not at school or work?	Always
		Most of the time
		Sometimes
		Rarely
		Never
		Refused
3		
3.1 [P3]	How often did your parents/guardians **not** give you enough food even when they could easily have done so?	Many times
		A few times
		Once
		Never
		Refused
3.2 [P4]	Were your parents/guardians too drunk or intoxicated by drugs to take care of you?	Many times
		A few times
		Once
		Never
		Refused
3.3 [P5]	How often did your parents/guardians **not** send you to school even when it was available?	Many times
		A few times
		Once
		Never
		Refused
4	**FAMILY ENVIRONMENT**	
	When you were growing up, during the first 18 years of your life . . .	
4.1 [F1]	Did you live with a household member who was a problem drinker or alcoholic, or misused street or prescription drugs?	Yes
		No
		Refused
4.2 [F2]	Did you live with a household member who was depressed, mentally ill or suicidal?	Yes
		No
		Refused
4.3 [F3]	Did you live with a household member who was ever sent to jail or prison?	Yes
		No
		Refused
4.4 [F4]	Were your parents ever separated or divorced?	Yes
		No
		Not applicable
		Refused
4.5 [F5]	Did your mother, father or guardian die?	Yes
		No
		Don't know / Not sure
		Refused

These next questions are about certain things you may actually have heard or seen IN YOUR HOME. These are things that may have been done to another household member but not necessarily to you.

When you were growing up, during the first 18 years of your life . . .		
4.6 [F6]	Did you see or hear a parent or household member in your home being yelled at, screamed at, sworn at, insulted or humiliated?	Many times
		A few times
		Once
		Never
		Refused
4.7 [F7]	Did you see or hear a parent or household member in your home being slapped, kicked, punched or beaten up?	Many times
		A few times
		Once
		Never
		Refused
4.8 [F8]	Did you see or hear a parent or household member in your home being hit or cut with an object, such as a stick (or cane), bottle, club, knife, whip etc.?	Many times
		A few times
		Once
		Never
		Refused

These next questions are about certain things YOU may have experienced.		
When you were growing up, during the first 18 years of your life . . .		
5		
5.1 [A1]	Did a parent, guardian or other household member yell, scream or swear at you, insult or humiliate you?	Many times
		A few times
		Once
		Never
		Refused
5.2 [A2]	Did a parent, guardian or other household member threaten to, or actually, abandon you or throw you out of the house?	Many times
		A few times
		Once
		Never
		Refused
5.3 [A3]	Did a parent, guardian or other household member spank, slap, kick, punch or beat you up?	Many times
		A few times
		Once
		Never
		Refused
5.4 [A4]	Did a parent, guardian or other household member hit or cut you with an object, such as a stick (or cane), bottle, club, knife, whip etc?	Many times
		A few times
		Once
		Never
		Refused
5.5 [A5]	Did someone touch or fondle you in a sexual way when you did not want them to?	Many times
		A few times
		Once
		Never
		Refused
5.6 [A6]	Did someone make you touch their body in a sexual way when you did not want them to?	Many times
		A few times
		Once
		Never
		Refused
5.7 [A7]	Did someone attempt oral, anal, or vaginal intercourse with you when you did not want them to?	Many times
		A few times
		Once

		Never
		Refused
5.8 [A8]	Did someone actually have oral, anal, or vaginal intercourse with you when you did not want them to?	Many times
		A few times
		Once
		Never
		Refused
6	**PEER VIOLENCE**	

	These next questions are about **BEING BULLIED** when you were growing up. Bullying is when a young person or group of young people say or do bad and unpleasant things to another young person. It is also bullying when a young person is teased a lot in an unpleasant way or when a young person is left out of things on purpose. It is not bullying when two young people of about the same strength or power argue or fight or when teasing is done in a friendly and fun way.	
	When you were growing up, during the first 18 years of your life . . .	
6.1 [V1]	How often were you bullied?	Many times
		A few times
		Once
		Never (Go to Q.V3)
		Refused
6.2 [V2]	How were you bullied most often?	I was hit, kicked, pushed, shoved around, or locked indoors
		I was made fun of because of my race, nationality or colour
		I was made fun of because of my religion
		I was made fun of with sexual jokes, comments, or gestures
		I was left out of activities on purpose or completely ignored
		I was made fun of because of how my body or face looked
		I was bullied in some other way
		Refused

	This next question is about **PHYSICAL FIGHTS**. A physical fight occurs when two young people of about the same strength or power choose to fight each other.	
	When you were growing up, during the first 18 years of your life . . .	
6.3 [V3]	How often were you in a physical fight?	Many times
		A few times
		Once
		Never
		Refused
7	**WITNESSING COMMUNITY VIOLENCE**	

	These next questions are about how often, when you were a child, YOU may have seen or heard certain things in your NEIGHBOURHOOD OR COMMUNITY (not in your home or on TV, movies, or the radio).	
	When you were growing up, during the first 18 years of your life . . .	
7.1 [V4]	Did you see or hear someone being beaten up in real life?	Many times
		A few times
		Once
		Never
		Refused
7.2	Did you see or hear someone being stabbed	Many times

[V5]	or shot in real life?	A few times
		Once
		Never
		Refused
7.3 [V6]	Did you see or hear someone being threatened with a knife or gun in real life?	Many times
		A few times
		Once
		Never
		Refused
8	**EXPOSURE TO WAR/COLLECTIVE VIOLENCE**	
	These questions are about whether YOU did or did not experience any of the following events when you were a child. The events are all to do with collective violence, including wars, terrorism, political or ethnic conflicts, genocide, repression, disappearances, torture and organized violent crime such as banditry and gang warfare. When you were growing up, during the first 18 years of your life . . .	
8.1 [V7]	Were you forced to go and live in another place due to any of these events?	Many times
		A few times
		Once
		Never
		Refused
8.2 [V8]	Did you experience the deliberate destruction of your home due to any of these events?	Many times
		A few times
		Once
		Never
		Refused
8.3 [V9]	Were you beaten up by soldiers, police, militia, or gangs?	Many times
		A few times
		Once
		Never
		Refused
8.4 [V10]	Was a family member or friend killed or beaten up by soldiers, police, militia, or gangs?	Many times
		A few times
		Once
		Never
		Refused

Appendix 6: Self-Compassion Scale-Short Form

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

Almost   **Almost**

never   **1**   **2**   **3**   **4**   **5**   **always**

_____**1. When I fail at something important to me I become consumed by feelings of**

     inadequacy.

_____**2. I try to be understanding and patient towards those aspects of my personality I**

     don't like.

_____**3. When something painful happens I try to take a balanced view of the situation.**

_____**4. When I'm feeling down, I tend to feel like most other people are probably happier**

     than I am.

_____**5. I try to see my failings as part of the human condition.**

_____**6. When I'm going through a very hard time, I give myself the caring and**

     tenderness I need.

_____**7. When something upsets me I try to keep my emotions in balance.**

_____**8. When I fail at something that's important to me, I tend to feel alone in my failure**

_____**9. When I'm feeling down I tend to obsess and fixate on everything that's wrong.**

_____**10. When I feel inadequate in some way, I try to remind myself that feelings of**

     Inadequacy are shared by most people.

_____**11. I'm disapproving and judgmental about my own flaws and inadequacies.**

_____**12. I'm intolerant and impatient towards those aspects of my personality I don't**

     like.

Appendix 7: Fear of Compassion Scale

FEARS OF COMPASSION SCALE

Different people have different views of compassion and kindness. While some people believe that it is important to show compassion and kindness in all situations and contexts, others believe we should be more cautious and can worry about showing it too much to ourselves and to others. We are interested in your thoughts and beliefs in regard to kindness and compassion in three areas of your life:

1. Expressing compassion for others
2. Responding to compassion from others
3. Expressing kindness and compassion towards yourself

Below are a series of statements that we would like you to think carefully about and then circle the number that best describes how each statement fits you.

SCALE

Please use this scale to rate the extent that you agree with each statement

Don't agree at   0   1   2   3   4   Completely
all   agree

Somewhat
agree

Scale 1: Expressing compassion for others

1. People will take advantage of me if they see me as too compassionate   0   1   2   3   4

2. Being compassionate towards people who have done bad things is letting them off the hook   0   1   2   3   4

3. There are some people in life who don't deserve compassion   0   1   2   3   4

4. I fear that being too compassionate makes people an easy target   0   1   2   3   4

5. People will take advantage of you if you are too forgiving and compassionate   0   1   2   3   4

6. I worry that if I am compassionate, vulnerable people can be drawn to me and drain my emotional resources   0   1   2   3   4

7. People need to help themselves rather than waiting for others to help them   0   1   2   3   4

8. I fear that if I am compassionate, some people will become too dependent upon me   0   1   2   3   4

9. Being too compassionate makes people soft and easy to take advantage of   0   1   2   3   4

10. For some people, I think discipline and proper punishments are more helpful than being compassionate to them   0   1   2   3   4

1

Scale 2: Responding to the expression of compassion from others

1.	Wanting others to be kind to oneself is a weakness	0	1	2	3	4
2.	I fear that when I need people to be kind and understanding they won't be	0	1	2	3	4
3.	I'm fearful of becoming dependent on the care from others because they might not always be available or willing to give it	0	1	2	3	4
4.	I often wonder whether displays of warmth and kindness from others are genuine	0	1	2	3	4
5.	Feelings of kindness from others are somehow frightening	0	1	2	3	4
6.	When people are kind and compassionate towards me I feel anxious or embarrassed	0	1	2	3	4
7.	If people are friendly and kind I worry they will find out something bad about me that will change their mind	0	1	2	3	4
8.	I worry that people are only kind and compassionate if they want something from me	0	1	2	3	4
9.	When people are kind and compassionate towards me I feel empty and sad	0	1	2	3	4
10.	If people are kind I feel they are getting too close	0	1	2	3	4
11.	Even though other people are kind to me, I have rarely felt warmth from my relationships with others	0	1	2	3	4
12.	I try to keep my distance from others even if I know they are kind	0	1	2	3	4
13.	If I think someone is being kind and caring towards me, I 'put up a barrier'	0	1	2	3	4

2

Scale 3: Expressing kindness and compassion towards yourself

1. I feel that I don't deserve to be kind and forgiving to myself   0   1   2   3   4

2. If I really think about being kind and gentle with myself it makes me sad   0   1   2   3   4

3. Getting on in life is about being tough rather than compassionate   0   1   2   3   4

4. I would rather not know what being 'kind and compassionate to myself' feels like   0   1   2   3   4

5. When I try and feel kind and warm to myself I just feel kind of empty   0   1   2   3   4

6. I fear that if I start to feel compassion and warmth for myself, I will feel overcome with a sense of loss/grief   0   1   2   3   4

7. I fear that if I become kinder and less self-critical to myself then my standards will drop   0   1   2   3   4

8. I fear that if I am more self compassionate I will become a weak person   0   1   2   3   4

9. I have never felt compassion for myself, so I would not know where to begin to develop these feelings   0   1   2   3   4

10. I worry that if I start to develop compassion for myself I will become dependent on it   0   1   2   3   4

11. I fear that if I become too compassionate to myself I will lose my self-criticism and my flaws will show   0   1   2   3   4

12. I fear that if I develop compassion for myself, I will become someone I do not want to be   0   1   2   3   4

13. I fear that if I become too compassionate to myself others will reject me   0   1   2   3   4

14. I find it easier to be critical towards myself rather than compassionate   0   1   2   3   4

15. I fear that if I am too compassionate towards myself, bad things will happen   0   1   2   3   4

SCORING

Simply sum the items for each of the 3 scales

DESCRIPTION

Compassion Evaluation Scales

We developed three scales for this study, measuring *Fear of compassion for self* (compassion we have for ourselves when we make mistakes or things go wrong in our lives), *Fear of compassion from others* (the compassion that we experience from others and flowing into the self) and *Fear of compassion for others* (the compassion we feel for others, related to our sensitivity to other people's thoughts and feelings). We generated a series of items based on various fears of compassion for each of these scales. Many of these items were inspired by PGs discussions with patients, ideas generated in the psychotherapy literature (e.g. Arieti & Bemporad, 1980) and in the attachment literature (Bowlby, 1969, 1973, 1980).

We generated twenty items for each domain and then asked the research team to rank the items according to face validity and selected the items which were rated to be the most valid. Those items for which there was general agreement that they had low face validity or were difficult to understand were rejected. The final subscales consisted of: Compassion *for Self* comprised 13 items (e.g. "I worry that if I start to develop compassion for myself I will become dependent on it"); compassion *from others* comprised 15 items (e.g. "I try to keep my distance from others even if I know they are kind"); compassion *for Others* comprised 13 items (e.g. "Being too compassionate makes people soft and easy to take advantage of"). The items were rated on a five-point Likert scale (0 = Don't agree at all, 4 = Completely agree). The Cronbach's alphas for this scale are 0.85 for fear of compassion for self; 0.87 for fear of compassion from others and 0.78 for fear of compassion for others.

REFERENCE

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.

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Appendix 8: Hospital Anxiety and Depression Scale

Hospital Anxiety and Depression Scale (HADS)

Tick the box beside the reply that is closest to how you have been feeling in the past week.
Don't take too long over you replies: your immediate is best.

D	A		D	A	
		I feel tense or 'wound up':			**I feel as if I am slowed down:**
	3	Most of the time	3		Nearly all the time
	2	A lot of the time	2		Very often
	1	From time to time, occasionally	1		Sometimes
	0	Not at all	0		Not at all
		I still enjoy the things I used to enjoy:			**I get a sort of frightened feeling like 'butterflies' in the stomach:**
0		Definitely as much		0	Not at all
1		Not quite so much		1	Occasionally
2		Only a little		2	Quite Often
3		Hardly at all		3	Very Often
		I get a sort of frightened feeling as if something awful is about to happen:			**I have lost interest in my appearance:**
	3	Very definitely and quite badly	3		Definitely
	2	Yes, but not too badly	2		I don't take as much care as I should
	1	A little, but it doesn't worry me	1		I may not take quite as much care
	0	Not at all	0		I take just as much care as ever
		I can laugh and see the funny side of things:			**I feel restless as I have to be on the move:**
0		As much as I always could		3	Very much indeed
1		Not quite so much now		2	Quite a lot
2		Definitely not so much now		1	Not very much
3		Not at all		0	Not at all
		Worrying thoughts go through my mind:			**I look forward with enjoyment to things:**
	3	A great deal of the time	0		As much as I ever did
	2	A lot of the time	1		Rather less than I used to
	1	From time to time, but not too often	2		Definitely less than I used to
	0	Only occasionally	3		Hardly at all
		I feel cheerful:			**I get sudden feelings of panic:**
3		Not at all		3	Very often indeed
2		Not often		2	Quite often
1		Sometimes		1	Not very often
0		Most of the time		0	Not at all
		I can sit at ease and feel relaxed:			**I can enjoy a good book or radio or TV program:**
	0	Definitely		0	Often
	1	Usually		1	Sometimes
	2	Not Often		2	Not often
	3	Not at all		3	Very seldom

Please check you have answered all the questions

Scoring:
Total score: Depression (D) _____   Anxiety (A) _____
0-7   = Normal
8-10   = Borderline abnormal (borderline case)
11-21 = Abnormal (case)

Appendix 9: The Alcohol Timeline Follow Back (TLFB)

To help me evaluate your drinking I need to get an idea of your alcohol consumption in the past seven days. Please fill out the table with the number of units of alcohol consumed on each day, being as accurate as possible. Please use the information given below to work out how many units you consumed on each day in the past week and fill in the number of units in the table. On days when you did not drink please write 0 (zero). I realise it isn't easy to recall things with 100% accuracy, but if you are not sure how many units you drank on a certain day please try to give it your best guess.

What is a unit of alcohol?

1 unit	1.5 units	2 units	3 units	9 units	30 units
Normal beer half pint (284ml) 4%	Small glass of wine (125ml) 12.5%	Strong beer half pint (284ml) 6.5%	Strong beer large bottle/can (440ml) 6.5%	Bottle of wine (750ml) 12.5%	Bottle of spirits (750ml) 40%
Single spirit shot (25ml) 40%	Alcopops bottle (275ml) 5%	Normal beer large bottle/can (440ml) 4.5%	Large glass of wine (250ml) 12.5%		
		Medium glass of wine (175ml) 12.5%			

SOURCE: Office for National Statistics

Please now fill in the following table stating the total number of alcohol units you consumed for each day. Please start from whichever day it was yesterday and work backwards. For example if today is Monday start from Sunday and work backwards, with Monday being Monday a week ago. Once you have completed this please answer the statements below the table. Please double check that you have filled in the number of units for all seven days.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

Weekly total: _____ units

Was this 'typical' of your normal weekly alcohol consumption? YES / NO

If no, how many units do you normally drink per week? _____ units

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Appendix 10: The Lifetime Drinking History Questionnaire Short Form

Date:____/____/____

<div align="center">ALCOHOL QUESTIONNAIRE</div>

The aim of this questionnaire is to get an impression of your use of alcohol from your youth to the present. We are interested in three major types of beverages: beer, wine, and distilled liquor.

- **Beer:** All, including malt beverages, but not non-alcoholic beer
- **Wine:** All wines, sherry, port, fruit wines, and wine coolers
- **Liquor:** All distilled beverages (gin, whiskey, cognac), mixed drinks, cocktails, and liquor with more than 20% alcohol

1. How old were you when you first drank beer, wine, or liquor?
   We mean an entire serving and not a taste of someone else's drink.   Age _____

2. a) Did you drink beer, wine, or liquor between ages 12 and 18?

   Yes _____   No _____ **(skip to question 3)**

   b) If yes, how often did you drink during this time?

❑ Every day	❑ 1 to 3 times per month
❑ 5 to 6 per week	❑ 2 to 4 times per year
❑ 3 to 4 per week	❑ 6 to10 times per year
❑ 1 to 2 per week	❑ Never **(Go to question 3)**
❑ Less than once a week	

   c) How many drinks did you generally have on those days?   _____ drinks
   One drink = 1.5 oz. shot of liquor, 4 oz. glass of wine, or 12 oz. can/bottle of beer

   d) Did you generally drink beer, wine, or liquor? *Check the appropriate boxes*.

	Always	**Usually**	**Occasionally**	**Seldom**	**Never**
Beer					
Wine					
Liquor/Spirits					

   After age 18, did you drink beer, wine, or liquor?
        YES → **go to question 3**
        NO → **go to question 7**

3. a) Did you drink beer, wine, or liquor between ages 19 and 27?

   Yes _____   No _____ **(skip to question 4)**

   b) If yes, how often did you drink during this time?

❑ Every day	❑ 1 to 3 times per month
❑ 5 to 6 per week	❑ 2 to 4 times per year
❑ 3 to 4 per week	❑ 6 to10 times per year
❑ 1 to 2 per week	❑ Never **(Go to question 4)**
❑ Less than once a week	

   c) How many drinks did you generally have on those days?   _____
drinks
   One drink = 1.5 oz. shot of liquor, 4 oz. glass of wine, or 12 oz. can/bottle of beer

   d) Did you generally drink beer, wine, or liquor? *Check the appropriate boxes.*

	Always	**Usually**	**Occasionally**	**Seldom**	**Never**
Beer					
Wine					
Liquor/Spirits					

   After age 27, did you drink beer, wine, or liquor?
   YES → **go to question 4**
   NO → **go to question 7**

4. a) Did you drink beer, wine, or liquor between ages 28 and 44?

   Yes _____   No _____ **(skip to question 5)**

   b) If yes, how often did you drink during this time?

❑ Every day	❑ 1 to 3 times per month
❑ 5 to 6 per week	❑ 2 to 4 times per year
❑ 3 to 4 per week	❑ 6 to10 times per year
❑ 1 to 2 per week	❑ Never **(Go to question 5)**
❑ Less than once a week	

   c) How many drinks did you generally have on those days?   _____
drinks
   One drink = 1.5 oz. shot of liquor, 4 oz. glass of wine, or 12 oz. can/bottle of beer

   d) Did you generally drink beer, wine, or liquor? *Check the appropriate boxes.*

	Always	Usually	Occasionally	Seldom	Never
Beer					
Wine					
Liquor/Spirits					

After age 44, did you drink beer, wine, or liquor?

YES → **go to question 5**

NO → **go to question 7**

5. a) Did you drink beer, wine, or liquor between ages 45 and 60?

Yes _____   No _____ **(skip to question 6)**

b) If yes, how often did you drink during this time?

❑ Every day
❑ 5 to 6 per week
❑ 3 to 4 per week
❑ 1 to 2 per week
❑ Less than once a week

❑ 1 to 3 times per month
❑ 2 to 4 times per year
❑ 6 to10 times per year
❑ Never **(Go to question 6)**

c) How many drinks did you generally have on those days?   _____ drinks

One drink = 1.5 oz. shot of liquor, 4 oz. glass of wine, or 12 oz. can/bottle of beer

d) Did you generally drink beer, wine, or liquor? *Check the appropriate boxes*.

	Always	Usually	Occasionally	Seldom	Never
Beer					
Wine					
Liquor/Spirits					

Are you older than 60 years?

Yes → **continue**

No → **go to question 7**

Did you drink beer, wine, or liquor after your 60th birthday?

Yes → **continue with question 6**

No → **go to question 7**

6. a) Did you drink beer, wine, or liquor from age 61 to the present?

Yes _____   No _____ (**go to question 7**)

b) If yes, how often did you drink during this time?

- Every day
- 5 to 6 per week
- 3 to 4 per week
- 1 to 2 per week
- Less than once a week

- 1 to 3 times per month
- 2 to 4 times per year
- 6 to 10 times per year
- Never **(Go to question 7)**

c) How many drinks did you generally have on those days? _____
drinks

One drink = 1.5 oz. shot of liquor, 4 oz. glass of wine, or 12 oz. can/bottle of beer

d) Did you generally drink beer, wine, or liquor? *Check the appropriate boxes*.

	Always	**Usually**	**Occasionally**	**Seldom**	**Never**
Beer					
Wine					
Liquor/Spirits					

7. Did you drink beer, wine, or liquor in the past 12 months?

YES → **continue**
NO → **You may stop here; no further questions.**

Use of alcoholic beverages in the past 12 months

8. How often in the past 12 months have you had wine, including fortified wines and wine coolers?

(Check one)
- Every day
- 5 to 6 per week
- 3 to 4 per week
- 1 to 2 per week
- Less than once a week

- 1 to 3 times per month
- 2 to 4 times per year
- 6 to 10 times per year
- Never **(Go to question 11)**

9. On the days when you drink wine, how much do you usually have?

_____ glasses (4 oz.)

10. Do you drink mostly red or white wine?

- Red
- White
- Both

11. How often in the past 12 months have you had beer? *(Check one)*

❑ Every day	❑ 1 to 3 times per month
❑ 5 to 6 per week	❑ 2 to 4 times per year
❑ 3 to 4 per week	❑ 6 to10 times per year
❑ 1 to 2 per week	❑ Never **(Go to question 13**)
❑ Less than once a week	

12. On the days when you drink beer, how much do you usually have?

_____ drinks (12 oz. can or bottle)

13. How often in the past 12 months have you had liquor? *(Check one)*

❑ Every day	❑ 1 to 3 times per month
❑ 5 to 6 per week	❑ 2 to 4 times per year
❑ 3 to 4 per week	❑ 6 to10 times per year
❑ 1 to 2 per week	❑ Never
❑ Less than once a week	

14. On the days when you drink liquor, how much do you usually have?

_____ drinks (1.5 oz.)

Appendix 11: Participant Information Sheet

Alcohol use and negative life events: can being kind to yourself be a protective factor?

1. **Invitation Paragraph**

Thank you for expressing interest in this research study. Before you consent to participate, it is important to that you are aware of the aims of the research and what it will involve. Please take the time to read through the following information carefully. If you would like any further information or if there is anything that you do not understand, please feel free to contact the researchers using the contact details on the bottom of this sheet. You do not have to participate if you decide not to and should only agree to take part if you want to.

2. **What is the purpose of the study?**

The purpose of the study is to see whether there is a link between people's experiences of early negative life events and alcohol use. The role of self-compassion will also be explored. *Self-compassion relates to being kind to yourself, accepting that we are all human and make mistakes, being mindful of our own feelings and not judging ourselves too harshly.*

3. **Do I have to take part?**

It is up to you whether you decide to take part or not. If you decide that you wish to participate after reading this sheet, please indicate your agreement by signing the consent form on the next page. You can still withdraw your consent up until the moment that you fully complete and submit your final questionnaire. After this point, your data will be fully anonymised, and it will not be possible to identify individual data.

4. **What will happen if I take part?**

If you follow the link provided, you will initially be shown an information sheet relating to the study and a consent form to sign if you decide that you would like to take part. You will be asked to fill in a short series of online questionnaires relating to lifetime alcohol use, self-compassion and your general mental health. This is likely to take no longer than 45 minutes, but individual response times may vary.

Once you have completed the questionnaires, you will be shown a debrief sheet thanking you for your time and providing additional information about the research aims. If anybody has been affected by any of the items in the study, there will be details of a number of local organisations who can provide support on the debrief sheet. This includes the Samaritans, Alcoholics Anonymous, Person Shaped Support, MIND and Talk Liverpool.

You will also be given the opportunity to provide your email address to enter a prize draw to win one of three £100 Amazon vouchers. Winners will be randomly selected once all the data has been collected.

5.   Are there any risks in taking part?

This study does involve **asking participants about negative childhood experiences including relationships with parents, parental loss, peer and community violence and trauma within the family home.** Due to the sensitive nature of some of the questions, there is a **potential for you to feel distressed** whilst you complete this survey and it is important that you consider this carefully before you agree to participate. If you feel that this may upset you, **please be aware that you do not have to take part**. If you do complete the study and feel distressed following this, there will be **details of additional support** in the debrief sheet, along with the researcher's details should you have any questions.

6.   Are there any benefits in taking part?

There is an opportunity to win one of three £100 Amazon vouchers as a thank you for your participation. Your contribution to the research will help to add to the existing literature base looking at the risks associated with adverse childhood experiences, as well as into factors which can protect individuals against poorer health outcomes.

7.   What if I am unhappy or if there is a problem?

If you are unhappy about any aspects of this study and survey, or if there is a problem, please feel free to let us know by contacting either the lead researcher (Amy Downing, email: Amy.Downing@liverpool.ac.uk) or research supervisor (Dr Andy Jones, email: ajj@liverpool.ac.uk) and we will try to help. If you remain unhappy or have a complaint which you feel you cannot come to us with then you should contact the Research Governance Officer at ethics@liv.ac.uk. When contacting the Research Governance Officer, please provide details of the name or description of the study (Alcohol use and adverse childhood experiences: the mediating role of self-compassion)**,** the researchers involved (Amy Downing and Andy Jones), and the details of the complaint you wish to make.

8.   Will my participation be kept confidential?

The questionnaires you complete will be anonymous and will be stored securely in the department of psychology and only members of the research team will have access to the data. Your responses will not be linked to any email address that you provide for entering the Amazon prize draw or to request a summary of the research results.

Data will be stored for 5 years after the completion of the project in line with University of Liverpool guidelines and will be disposed of confidentially after this time.

9.   What will happen to the results of the study?

Data collected during this study will be used to produce a research dissertation, which will contribute towards the research requirement of the doctorate in clinical psychology. It is also anticipated the research will be published in a peer reviewed psychology journal. All data collected will remain anonymous and you will not be identifiable from the published results of the study. If you would like to be updated with a summary of the results once these have been analysed, please indicate this by ticking the relevant box on the debrief page and by providing an email contact.

10. What will happen if I want to stop taking part?

You have the right to withdraw at any time up until you have completed the study by closing your internet browser. After this point, your data will be allocated a random number and will be added to the data set where your results will not be individually identifiable. Therefore it is not possible to withdraw your participation after the point at which you have completed the study.

11. Who do I contact for further information?

If you have any questions about the study, please contact either the researcher or research supervisor on the details below:

Lead Researcher: Amy Downing (Trainee Clinical Psychologist)
Email: Amy.Downing@liverpool.ac.uk

Research Supervisor: Andy Jones (Research Supervisor)
Email: ajj@liverpool.ac.uk; Tel: 0151 794 5657

Thank you for taking part in this research.

Alcohol use and negative life events: can being kind to yourself be a protective factor?

Participant consent form

Researcher: Amy Downing, Lead Researcher and Andy Jones, Primary Supervisor

Please tick box

1. I confirm that I have read and have understood the information sheet for the above study. I have had the opportunity to consider the information, to email the researcher to ask questions and have had these answered satisfactorily if applicable. ☐

2. I understand that my participation is completely voluntary and that I am free to withdraw at any time without giving any reason, without my rights being affected. In addition, should I not wish to answer any particular question or questions, I understand that I am free to decline. ☐

3. I understand that my responses will be anonymised, which means that I will not be able to request access to or withdraw the information that I provide, as it will not be possible to identify individual responses after my responses have been submitted. ☐

4. I agree for the data I provide to be archived online via the Qualtrics website. I understand that other authorised researchers will have access to this data only if they agree to preserve the confidentiality of the information as requested in this form. ☐

5. I understand that some of the questions that I will be asked may have the potential to cause distress and I am aware that I have the right to decline to participate in this study and to withdraw at any time up until my data has been collected. ☐ ☐

6. I understand that confidentiality and anonymity will be maintained and it will not be possible to identify me in any publications

7. I agree to take part in the above study. ☐

Appendix 12: Participant Debrief Sheet

Thank you for taking the time to complete this study!

Your participation is very much appreciated as it will help us to better understand the complicated relationship between adverse childhood events and heavy alcohol use and importantly whether positive resources such as self-compassion help to protect people against the impact of such events.

We understand that this study involved answering some very sensitive questions and thank you for doing this. If you are affected by any of the topics explored in this study and would like further support, there are a number of organisations listed below that you can contact:

Mental Health Advisory Services (for students of Liverpool University) - 0151 794 2320

Mind – www.mind.org.uk or 0300 123 3393

Samaritans Liverpool – www.samaritans.org or 116 123

Person Shaped Support (PSS) - www.psspeople.com or 0151 7 02 5555

Alcoholics Anonymous - www.alcoholics-anonymous.org.uk or 0800 9177 650

Talk Liverpool - www.talkliverpool.nhs.uk or 0151 228 2300

Alternatively, we would encourage you to contact your GP or local counselling service.

If you have any further questions about this study, you can email the researcher on: amy.downing@liverpool.ac.uk or the research supervisor on: A.J.Jones@liverpool.ac.uk

 Please click on the link below if you would like to enter the amazon voucher prize draw