Doctoral Thesis

Self-Concept Clarity and Trauma

Submitted in part fulfilment of the Lancaster University Doctorate in Clinical Psychology

Laura Walker

Doctorate in Clinical Psychology

Faculty of Health and Medicine

Lancaster University

LA1 4YT

Word Count Statement

Thesis Section	**Main Text**	**Appendixes** (including title pages, tables, figures and references)	**Total**
Thesis Abstract	281	-	281
Literature Review	7,300	9,669	16,969
Empirical Paper	7,854	5,280	13,134
Critical Appraisal	3,970	1,913	5,883
Ethics Section & Appendixes	4,547	2,483	7,030
Total	23,952	19,345	43,297

Thesis Abstract

Self-Concept Clarity and Trauma

Self-concept clarity (SCC) is defined as "*the extent to which the contents of an individual's self-concept (e.g., perceived personal attributes) are clearly and confidently defined, internally consistent, and temporally stable*," (Campbell et al., 1996, p.141). This thesis aimed to identify and examine the relationships between SCC and traumatic events and how SCC might play a role in influencing outcomes for trauma survivors.

Chapter one encompasses a systematic literature review examining associations between SCC and traumas. Systematic searches were conducted in five databases (PsycInfo, PsycArticles, PUBMED, CINAHL and Web of Science). Sixteen eligible studies were included, exploring SCC alongside childhood trauma, bereavement, sexual assault, birth trauma and terrorism. There was consistent evidence linking SCC with childhood adversity and specific traumatic events during adulthood.

Chapter two describes an empirical study that aimed to explore whether SCC mediated the relationship between trauma during childhood or adulthood and post-traumatic stress disorder (PTSD) symptoms. A clinical sample of primary care mental health service users was recruited via email to participate in an online survey capturing information about demographic, SCC, PTSD symptoms and traumatic experiences (the nature of the trauma, the age at which it happened and whether it was repeated). Analyses revealed that SCC played a mediating role between trauma age and PTSD outcomes. There was a stronger association between lower SCC and higher PTSD outcomes in those who had been traumatised during childhood

compared those who had experienced trauma exclusively in adulthood. Clinical implications, limitations and future directions for research are discussed.

Chapter three provides a critical appraisal of the two previous chapters, including an overview of the findings, critical reflections and the strengths and limitations of the project.

Declaration

This thesis details research undertaken for the Doctorate in Clinical Psychology programme at the Division of Health Research at Lancaster University. The work presented here is the author's own except where due reference is made. The work has not been submitted for the award of any higher degree elsewhere.

Laura Walker

Thursday 11th May 2023

Acknowledgements

Thank you to Antoni for always believing in me. I am so grateful for your unwavering support and care with all of my ambitions, including this doctorate. Thank you to my parents for looking out for me, encouraging me and showing me what it means to work hard. Thank you to my brother for keeping me smiling. And I would like to thank my friends and fellow trainees who have provided the support, encouragement and laughter that I needed to help me through the last three years. Thank you, Cloth Monkeys - I don't know what I would have done without you all.

Thank you to my research supervisor, Bill Sellwood, for your words of wisdom and encouragement. I appreciate all the enthusiasm you shared for this project, and I am grateful for all the times you tolerated my tangents.

Thank you to my field supervisor, Gail Farrell, for your continued support and kindness throughout my DClinPsy journey. You have helped me learn and grow so much.

Thank you to the Faculty Librarians at Lancaster University, especially to John Barbrook for helping me to navigate the literature.

Thank you to Kieran Fleck for all your support with recruitment.

And finally I would like to thank everyone who so generously gave their time to participate in the empirical study. Without your contributions, this project would not have been possible.

Contents

Chapter One: Systematic Literature Review

The Relationships Between Self-Concept Clarity and Traumatic Events: A Systematic Review

Prepared in accordance with the instructions for authors for:

Psychological Trauma: Theory, Research, Practice, and Policy

Laura Walker

Doctorate in Clinical Psychology

Faculty of Health and Medicine

Lancaster University

Lancaster

LA1 4YT

l.walker10@lancaster.ac.uk

Word Count: 7,300

Excluding references, tables, figures and appendices

Abstract

Objective: Low self-concept clarity (SCC) and traumatic experiences are both linked to mental health problems. Reduced SCC might partly explain why traumatic events have a greater impact on some individuals compared with others. This systematic review aims to synthesise the literature linking SCC with the occurrence of trauma.

Method: A systematic literature review was conducted using five databases (PsycInfo, PsycArticles, PUBMED, CINAHL and Web of Science). Sixteen studies that included a measure of SCC (the Self-Concept Clarity Scale) alongside childhood trauma, bereavement, sexual assault, birth trauma and terrorism were included.

Findings: Evidence consistently linked SCC to traumatic experiences, with many traumatic experiences being associated with lower SCC.

Conclusions: Whilst some of the studies yielded non-significant results, overall it is clear that some constructs, such as childhood adversity, are consistency associated with diminished SCC in adulthood and this is linked, in turn, to various forms of psychological distress.

What is Self-Concept Clarity?

The term ‘self-concept’ is an overarching description of the way in which an individual understands their thoughts, feelings and beliefs about themselves and their characteristics (Clarke-Stewart et al., 2011). Various constructs fall beneath the umbrella of the “self,” such as self-esteem and identity, suggesting that it is not a single topic, but instead a collection of multi-dimensional subtopics (Baumeister, 1998). One key aspect is *self-concept clarity* (SCC). SCC is defined as “*the extent to which the contents of an individual's self-concept are clearly and confidently defined, internally consistent, and temporally stable*,” (Campbell et al., 1996, p.141). People with higher SCC feel sure of what kind of person they are and have consistent thoughts about themselves across contexts (Campbell et al., 1996).

Self-related theory highlights three main constructs of self: content, structure and process (Stopa et al., 2010). SCC falls within the structural aspect, which explains how the contents of the self-concept are organised (Campbell et al., 2003). In contrast, content refers to knowledge about individual characteristics such as self-beliefs and self-evaluations (Crocetti & Van Dijk, 2018). Whilst SCC is correlated with other self-related constructs (Chen et al., 2022; Bigler et al., 2001) it is an important and distinct component of the self.

The Trajectory of Self-Concept Clarity

SCC is thought to develop in adolescence, when an individual’s sense of self is challenged by biological, social, educational and cognitive changes (Crocetti et al., 2016). Adolescence is a time of consolidating identity through adoption of personal standards and roles (Schwartz et al., 2011), and increasing SCC is thought to be an essential part of development (van Dijk et al., 2014).

There is a positive relationship between SCC and age from young adulthood to middle age, where it peaks, and a decline in the progression to older adulthood (Lodi-Smith & Roberts, 2010). Such fluctuations could be linked to significant life changes, for example role transitions are thought to decrease SCC due to loss of behavioural routines and role-based relationships that previously provided self-knowledge (Light & Visser, 2013).

SCC remains relatively stable across times and settings (Campbell et al., 1996; Wu et al., 2010). However, SCC can undergo brief and longer-term changes (Adam et al., 2018), and as such it is understood to be simultaneously stable and dynamic, with some variation in response to life changes and transitions (Basílio et al., 2017). This trajectory can be disrupted in light of traumatic experiences, because stressful events can disrupt an individual's sense of stability, challenge assumptions and self-systems or require them to adapt, thus reducing SCC (Ritchie et al., 2011). These effects may be cumulative (Sharma et al., 2021). This highlights the importance of exploring the relationship between occurrences of trauma and SCC.

Self-Concept Clarity and Trauma

Traumatic events such as "*exposure to actual or threatened death, serious injury or sexual violence,*" (DSM-IV; American Psychiatric Association, 2013) seem to be linked to SCC. Traumatic events are closely associated with self-perceptions, since thoughts and feelings that occur in the aftermath can be difficult to organise and integrate into previously held beliefs and expectations, and can disrupt self-understanding and assumptions about oneself (Holt et al., 2018; Wong et al., 2019). Interpersonal trauma is particularly disruptive to multiple constructs of self, including SCC (Kouvelis & Kangas, 2021). Collective trauma, such as slavery or terrorism, also affects the psychological wellbeing, self-identity and cultural identity of not only

the individual, but also descendants and community members (Taylor & Usborne, 2010).

Much of the research addressing the relationship between trauma and SCC focuses on childhood trauma. In particular, early adversity is thought to be connected with identity disruption because abusive experiences in early life may invalidate an individual's sense of self, and because they are deprived of interactions with caregivers that may contribute to self-concept development (Hayward et al., 2020). However, given that the trajectory of SCC is thought to change with age and exposure to events, it is important to consider SCC stability throughout the lifespan and consider the consequences for survivors of trauma at any age.

Self-Concept Clarity, Trauma and Mental Health

It is important to consider the association between traumatic events and SCC because both are independently related to mental health outcomes (Binsale, 2017; Evans et al., 2018; Hassanzadeh et al., 2017). Lower SCC is associated with poor mental health outcomes generally (Binsale, 2017), including suicidality, depression and loneliness (Wong et al., 2019), positive psychotic symptoms (de Sousa et al., 2016; Evans et al., 2015; Weinberg et al., 2012), personality disorder traits (Cohen et al., 2016) and anxiety disorders (Butzer & Kuiper, 2006). Links between SCC and psychological difficulties may be influenced by negative mental self-representations and discomfort at the lack of a clear sense of self (Hayward et al., 2020).

SCC also has links with dissociation (Evans et al., 2015; Paetzold & Rholes, 2021), a common response to traumatic events. The *Theory of Structural Dissociation of the Personality* suggests some individuals are unable to integrate traumatic experiences into their self-biographies, which can manifest in Post-

Traumatic Stress Disorder (PTSD)-related symptoms such as feeling that the trauma was not real or feeling immersed in it during a flashback (van der Hart et al., 2010). The models of understanding that an individual constructs to make sense of the world may differ if trauma memories remain un-integrated, thus affecting the person's sense of self. This may help explain some of the difficulties individuals face with integrating traumatic experiences into their narrative, manifesting in dissociative symptoms (van der Hart et al., 2010).

Since both trauma and SCC are associated with poor mental health, it would be interesting to explore their relationship with each other. Reduced SCC may be a condition for poor mental health outcomes to occur in the context of trauma (Evans et al, 2015). Furthermore, different trauma types have been found to influence outcomes in terms of both SCC and mental health. For example, women with experiences of sexual trauma report lower SCC and higher severity of depression and PTSD symptoms compared with women with a history of non-sexual trauma (Keshet & Gilboa-Schechtman, 2019). It would be beneficial to explore the relationships between SCC and different traumatic events throughout the lifespan to consider similarities and differences.

Increased SCC is associated with improved psychological wellbeing (Binsale, 2017; Chiu et al., 2017). SCC is also linked with processes of adapting to day-to-day stress, with higher SCC playing a protective role against negative outcomes because people with a clearer sense of self may be more able to cope with negative appraisals (Lee-Flynn et al., 2011). Smith et al. (1996) suggest that those with higher SCC are equipped with more behavioural options to utilise when under stress, whereas lower SCC is linked with passive coping and difficulty processing self-relevant information used to guide behaviour in stressful situations. SCC has been

found to predict psychological adjustment (Bigler et al., 2001) and buffer the impact of low self-esteem on symptoms of depression longitudinally (Lee-Flynn et al., 2011). SCC also has a role in promoting recovery for people with severe mental health difficulties (Hasson-Ohayon et al., 2014; Hasson-Ohayon et al., 2016).

Rationale and Aims

Despite growing interest in SCC, no systematic reviews have yet addressed associations between SCC and traumatic experiences. Kouvelis and Kangas (2021) explored self-constructs specifically in relation to interpersonal trauma and included three studies on SCC. Further research to explore the impact of interpersonal trauma on self-identity throughout the lifespan was recommended.

Findings from the current review could inform preventative work and interventions for individuals with low SCC who are vulnerable to poor mental health outcomes. Interventions could focus on developing a clear, consistent sense of self (e.g. Roepke et al., 2011; Csank, 1995; Csank & Conway, 2004) and provide justification for further research in these areas. There may be implications for the treatment of PTSD. In particular, complex trauma can disrupt an individual's sense of self (Resick et al., 2012), which is recognized in the ICD-11 diagnosis "complex PTSD," which specifically incorporates disruption to the self as a criterion, although it does not directly reference SCC (Brewin et al., 2017). The aim of this review was to enhance our understanding of the relationships between SCC and trauma in order to inform future research and possible clinical interventions.

This review aims to systematically appraise and summarise peer-reviewed literature that examines the direct relationship between SCC and the occurrence of traumatic events. Whilst evidence suggests that SCC is relatively stable, it may be

disrupted in the aftermath of trauma, but the direction of the link remains unclear – trauma survivors may experience a disruption to their SCC, or it may be the case that lower SCC increases vulnerability to traumatic experiences and/or symptoms. This study aims to synthesise literature that connects occurrences of trauma with SCC in order to see how the two interact. The question is "*how do experiences of trauma relate to self-concept clarity?"*

Method

Search Strategy

Searches were conducted in electronic databases covering medical, psychology-based and general science libraries; PsycInfo, PsycArticles, PUBMED, CINAHL and Web of Science. Searches included publications between January 1996 and 25th October 2022. This range was chosen to encompass time since the Self-Concept Clarity Scale (SCCS) was developed (Campbell et al., 1996). The search was conducted using only free text (Web of Science), or a combination of free text and thesaurus terms (PsycInfo, PsycArticles, PUBMED and CINAHL).

The terms 'self-concept clarity,' 'clarity of self-concept' and 'self-concept clarity scale' were combined with terms relating to trauma based upon the events listed in the Trauma History Questionnaire (THQ; Hooper 2011, Appendix A), which is highly cited and considers a wide range of traumatic events. Terms relating to 'life events' were initially included to ensure that all potentially traumatising experiences would be accounted for. However, the articles yielded by these search terms either overlapped with traumatic experiences already found (such as death/bereavement) or did not fall within the operationalized definition of a traumatic experience being used for consistency. Therefore, articles relating to life events alone were not

included. Traumatic events were operationalised through use of the THQ (Hooper et al., 2011) so that only traumatic events as identified by this scale were included. Prolonged bereavement has been included as a traumatic event due to ‘exposure to actual or threatened death’ fitting within the boundary of the trauma definition used. Furthermore, questions on the THQ relate to death, such as “have you ever had a spouse, romantic partner or child die; Have you ever received news of… unexpected death of someone close to you?”, both of which are risk factors for Prolonged Grief Disorder.

“OR” Boolean operators were used to combine event-related search strings and “AND” Boolean operators were used to narrow the search to only articles that focused on self-concept clarity and traumatic events (Appendixes B-E). Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA; Moher et al., 2009) guidelines were adhered to (Figure 1).

Duplicate publications were excluded by using Rayyan (Ouzzani et al., 2016). The title and abstract of the remaining non-duplicate articles were read and screened against the eligibility criteria.

Forwards and backwards citation searches were used to identify additional publications. This involved the ‘pearl diving’ process to identify historical studies via the reference lists of relevant papers and by searching for papers that had cited relevant studies in OneSearch.

Study Selection

Details of inclusion and exclusion criteria are appended in Table 1. Use of the SCCS was chosen as a standardised, validated measure of SCC due to its internal consistency, validity, reliability and universality across multiple cultures (Wu, 2012).

Whilst other measures of SCC are available, each may tap into different aspects of SCC and yield different findings (Lodi-Smith & DeMarree, 2018) which is why a singular measure was used.

Depending on the nature of the trauma being explored, some studies consider a range of psychological constructs alongside SCC and trauma, such as depression or disordered eating. However, this review focussed exclusively on the direct relationships between traumatic occurrences and SCC, with some thought given to mechanisms through which this might occur where appropriate. The relationship between SCC and trauma was evaluated through correlational and regression-based studies that relate SCC and trauma-related variables directly to each other, as well as through studies comparing traumatized and non-traumatized groups on trauma-related variables. Studies were also included where interactions between SCC and trauma were included (e.g. mediation/moderation).

TABLE 1 ABOUT HERE.

Data Extraction

A data extraction tool was developed to summarize study and participant characteristics (Boland et al., 2014). It was piloted on two studies and two additional constructs (traumatic event being explored; measure of traumatic event) were added. Data extraction was conducted prior to quality appraisal to minimise reporting bias as the reviewer was blind to study quality (Boland et al., 2014).

Quality Appraisal

The Standard Quality Assessment Criteria for Evaluating Primary Research Papers from a Variety of Fields tool (Kmet et al., 2004) was used to assess quality. Kmet et al. (2004) define “quality” in terms of the validity of studies and “*the extent to*

which the design, conduct and analyses minimised errors and biases." The Kmet tool was chosen due to the range of study designs covered. It has high percentages of inter-rater agreement, and has been widely used.

The Kmet tool (Appendix F) uses 14 criteria to assess design, methodology, sampling, analysis and findings through queries such as: "*question or objective sufficiently described*?" and "*design evident and appropriate to answer study question?".* Items are scored within a range of 0-2, with a higher score suggesting higher quality and scores reported as: yes (2); partial (1); no (0) or N/A (X). Summary scores are calculated, with a maximum possible score of 28, which reduces as some questions are not relevant to all studies. This converts to a percentage score, allowing comparison between studies. Total scores were not used with regards to inclusion of papers. However, the individual scores on items were used to help weigh evidence presented in papers.

A sample of the included studies (n=4, 24%) were subject to an independent blind quality appraisal by a second reviewer to cross-check the quality assessment responses (Boland et al., 2014). Of the 56 co-rated items, 42 (75%) were in accord and discrepancies were resolved through discussion of reviewer responses and re-evaluating the literature.

Comparisons between study findings can be found in Table 2, which summarises the aims and findings of each study alongside the correlation coefficients between SCC and trauma-related variables and their effect sizes. In line with Cohen's (1988; 1992) parameters of Pearson's *r*, the majority of correlation coefficients in this study suggest a medium effect size (0.3-0.5).

TABLE 2 ABOUT HERE

Results

Summary

Of the 947 records identified, 56 full-text articles were read to assess eligibility. Fifteen articles, consisting of 16 studies, were included. The PRISMA diagram (Figure 1) outlines the reasons for studies being excluded. Studies addressed SCC alongside childhood adversity (n=9), bereavement (n=3), sexual trauma (n=2), birth trauma (n=1) and terrorism (n=1). Given the broad range of traumatic events addressed, it would be inappropriate to consider a meta-analysis to bring together data from such diverse variables.

The data extraction tool (Table 3) summarizes study and participant characteristics. Most studies focused on a primarily female sample; six studies recruited female participants exclusively, and seven studies recruited a majority female sample. The remaining three consisted of a majority male or evenly balanced group. Whilst some of the studies address trauma that occurred in childhood, the review only included studies examining adult samples. Sample means for age ranged from 20.7 to 58.5 years.

TABLE 3 ABOUT HERE

Sample sizes varied (n=60-1393), but in most studies (87.5%) the sample size was considered appropriate according to the Kmet appraisal tool. Five studies were conducted in the USA, three in Israel, three in the Netherlands, two in the UK and one in China. One study recruited from multiple sites in the USA and Australia and one study did not cite the location of participants. Most studies were cross-sectional (n=12; 75%), three were cohort studies (19%) and one study (6%) used a case control design.

The quality rating for each study was represented by a percentage, with a higher value representing a higher quality study. The quality of the studies varied, with the lowest-scoring study achieving 73% and the highest-quality studies scoring 95% (Table 4).

TABLE 4 ABOUT HERE

Self-Concept Clarity and Childhood Trauma

Of the 16 studies, nine focussed on the relationship between SCC and childhood adversity. Childhood adversity was assessed using different measures, and some using multiple measures. This means that findings could be conceptualised differently, as each scale measures constructs differently. For example, Wong et al. (2019)'s use of the Adverse Childhood Experiences (ACE) Scale allows categorization of adverse experiences which may not be possible with other psychometric measures.

Within the studies investigating childhood trauma, the following scales were used: The Childhood Trauma Questionnaire (Bernstein, 1998), Risky Families Questionnaire (Taylor, Lerner, Sage, Lehman & Seeman, 2004), Sexual Experiences Survey (Koss & Gidycz, 1985), Post-Traumatic Stress Diagnostic Scale (Foa, 1995), Child Trauma Screening Questionnaire (Bernstein et al., 1994) and ACE Scale (Felitti et al., 1998).

Chiu et al. (2017) found that SCC was negatively related to childhood interpersonal trauma ($r = -.23$). Decreased SCC was also associated with dissociation proneness, a common experience for trauma survivors where individuals experience a 'strangeness,' unfamiliarity or detachment from one's body, emotions or environment (Černis et al., 2021). As previously mentioned, theories of

dissociation go some way in explaining how an individual's sense of self may be disrupted if traumatic memories remain unintegrated into their self biography.

Evans et al. (2015) also examined dissociation alongside SCC and childhood adversity. In this study, there were significant negative correlations between SCC and all types of childhood maltreatment determined by the Childhood Trauma Questionnaire, including emotional, physical and sexual abuse and emotional and physical neglect. However, the correlation coefficients are not presented.

Through regression coefficients and mediator models, Evans et al. (2015) suggest SCC as a mediating variable between childhood trauma and psychosis, with particularly strong effects for the model whereby SCC mediates the relationship between emotional neglect and psychosis (indirect effect 0.13, CI = [0.029 – 0.379]) despite a small sample. In the whole sample, there was a strong negative association between SCC and dissociation, and both mediated links between childhood trauma and psychosis. However, due to the strong association observed between dissociation and SCC, it is possible that dissociation is the mediator and SCC has a more direct link to dissociation rather than trauma and psychosis. Furthermore, other factors that are associated with SCC, such as attachment style (Wu, 2009) may play a mediating role but were not examined. Evans et al. (2015) was the only study to recruit a clinical sample.

Paetzold and Rholes (2021) reported significant positive correlations between low SCC and childhood abuse (r = .46, p = <0.01). In addition to examining the direct relationship between childhood abuse and SCC, Paetzold and Rholes (2021) considered models in which additional constructs (attachment style and dissociation) interacted with SCC and childhood abuse. Disorganized attachment mediated the relationship between childhood abuse and dissociation. In this model, SCC acted as

a moderator, influencing the strength of this relationship, with lower SCC exacerbating the impact of childhood abuse on dissociation. The researchers suggest that participants with increased experiences of child abuse would be expected to experience more dissociation because they have a disorganized attachment style that is moderated by low SCC. However, dissociation could be a bi-product of a necessary adaptation to attachment style in the wake of maintaining attachments to an abusive or neglectful caregiver in the interests of survival, and a detachment from the individual's authentic self.

Lassri et al. (2022) found a significant correlation between SCC and child sexual abuse (r = -.32, p = <.01). Researchers found a significant two-way interaction between child sexual abuse and SCC, which predicted changes in specific subscales of dissociation (depersonalization-derealization). Among individuals with high SCC, childhood sexual abuse was not significantly related to depersonalization-derealization, whereas in low SCC individuals, child sexual abuse was significantly related to depersonalization-derealization. Regression models examining the relationship between child sexual abuse, SCC and other dissociative variables were not significant. Overall, it appears as though SCC could be a protective factor regarding childhood abuse or neglect if it is moderating or mediating the impact on psychopathology.

Hayward et al. (2020) found significant bivariate correlations between SCC and childhood trauma as measured by the Childhood Trauma Questionnaire (r = -.41, p < .001) and the Risky Families Questionnaire (r = -.42, p < .001). They suggest that early adversity predicted more severe psychological difficulty via lower SCC.

Building on previous research, Vartanian et al. (2016) examined the relationship between SCC and early adversity, in addition to other mental health outcomes relating to eating difficulties. Vartanian et al. (2016) recruited participants from the undergraduate population and a community sample to increase generalizability of findings, although this may limit implications for clinical samples. SCC was significantly negatively correlated with early adversity in both the student sample (r = -.32, p <.001) and the community sample (r = -.34, p <.001).

Further evidence for this relationship was found in Vartanian et al.'s (2018) cross-sectional survey, which revealed that people with lower SCC are more likely to seek external sources to help define themselves and are more vulnerable to social comparisons. Early adversity was significantly negatively correlated with SCC (Risky Families Questionnaire r = -.30; Childhood Trauma Questionnaire r = -.31, both p <.001). Early adversity was primarily associated with disordered eating outcomes through lower SCC. Vartanian et al. (2018) go on to suggest that individuals who lack a clear sense of self (i.e. lower SCC) may be more motivated to compare themselves with others, which can help explain the mechanisms through which SCC contributes to difficulties later on.

Vartanian and Hayward (2020) found that SCC was significantly negatively correlated with early adversity (r = -.41, p <.001) and the extent to which participants internalized societal standards of attractiveness, which again contributes to the understanding of the mechanisms through which early adversity and SCC interact and can lead to mental health outcomes such as body dissatisfaction.

Wong et al. (2019) found that the more Adverse Childhood Experiences (ACEs) a person had, the lower their adult SCC. The most significant correlations were between SCC and emotional abuse (r = -.18, p = <.01), household challenges

– mother treated violently (r = -.17, p = <.01), and household challenges – mental illness (r = -.18, p = <.01). Whilst significant, it is noted that these correlations are small. Weaker correlations were revealed between SCC and sexual abuse (r = -.14, p = <.05) and emotional neglect (r = -.12, p = <.05), whilst the correlations between SCC and physical abuse, physical neglect, household challenges – separation/divorce, household challenges – substance use and household challenges - incarcerated household member were non-significant.

Self-Concept Clarity and Trauma During Adulthood

Seven studies investigated the relationship between SCC and traumatic events not exclusive to childhood. Despite the broad spectrum of trauma types, this review includes only four topics: bereavement (Boelen, 2017, Studies 1 and 3; Boelen et al., 2012), sexual trauma (Keshet & Gilboa-Schechtman, 2017; 2019), birth trauma (Holt et al., 2018) and terrorism (Schiller et al., 2019).

Boelen et al. (2012) investigated the relationship between SCC and the trauma of losing a loved one by measuring symptoms of Prolonged Grief Disorder (PGD) in two papers; Study 2 was excluded, as it did not include the full SCCS. Study 1 found that PGD severity was associated with lower SCC (r = -.50, p <0.001) in people who had experienced a bereavement less than ten years prior to study participation. When PGD severity was regressed on SCC, and demographic and loss-related variables were accounted for (such as time since loss or cause of death), lower SCC accounted for higher PGD severity.

Study 3 (Boelen et al., 2012) expanded on these findings by inviting participants who were less than 20 years removed from their loss to complete questionnaires at Time 1 (n=121) and again six months later (n=73). They report

negative correlations between PGD and SCC at Time 1 and Time 2, reported as standardized and unstandardized B values, but with insufficient data for the reviewer to convert to a standardised correlation coefficient. They suggest that reduced SCC predicted more severe PGD after six months but not vice versa, even when controlling for demographic and loss-related variables. Findings suggested that reduced SCC maintains emotional distress after loss. However, it is noted that the dropout rate was high, and data from these participants could have influenced results. The reasons for disengagement may also be significant.

Boelen (2017) examined data from individuals in the first six months of bereavement to find that lower SCC was significantly correlated with PGD symptoms at Time 1 (r = .47, p <0.001) and six months later (r = .44, p <0.001), suggesting that lower SCC was associated with more severe PDG symptoms. Lower SCC was also correlated with higher post-traumatic stress at both Time 1 and Time 2.

Holt et al (2018) examined the relationship between SCC and birth trauma. In a sample of new mothers, Holt et al. (2018) showed that SCC was significantly (p = <.01) negatively correlated with variables linked with birth trauma, including birth experience, whereby a higher score on the Wijma Delivery Experience indicated higher fear (r = -.37), trauma appraisals (r = -.27) and post-traumatic stress symptoms (r = -.41). They suggest that trauma appraisals and poorer adjustment to motherhood indirectly predicted psychotic-like experiences, via disturbed SCC.

In a study comparing women with a history of sexual assault, women with a history of a motor-vehicle accident and non-traumatized women, Keshet and Gilboa-Schechtman (2017) found that SCC was significantly correlated with the age at which the trauma happened (r = .21, p = <.01), meaning that women who were traumatized at a younger age reported lower SCC. SCC was negatively correlated

with the number of traumas that occurred (r = -.29, p <.001) and scores on the posttraumatic diagnostic scale (r = -.51, p <.001), regardless of trauma-type. Women with PTSD consistently reported lower SCC compared to women without PTSD. In addition, sexually assaulted women reported greater SCC reduction than women who had been in road traffic accidents. The authors suggest that sexual assault was associated with more severe SCC reductions, suggesting that the nature of the trauma was a meaningful factor in determining psychological outcomes, and as such SCC is affected by traumatization. However, these theories are based on correlations.

The relationship between SCC and sexual trauma was further explored by Keshet and Gilboa-Schechtman (2019). In victims of sexual trauma, SCC was associated with age at main trauma (r = .27, p <.001), PTSD symptoms (r = -.58, p <.001) and negative post-traumatic self-cognitions (r = -.70, p <.001). A MANCOVA analysis with group membership as an independent variable (single non-sexual trauma, single sexual trauma, multiple non-sexual trauma, multiple trauma including sexual) found that group effect was significant with a medium effect size for SCC in univariate analysis. This suggested that women who were exposed to sexual trauma reported lower SCC compared to those who experienced other trauma types. However, the specificity of trauma type did not reach significance when other factors, such as post-traumatic symptoms, were accounted for.

Schiller et al. (2019) examined the relationships between SCC, psychological distress and exposure to past and recent terrorism through a cohort study in a high-risk area where rocket attacks and air strikes were common. Baseline data were collected as part of a previous investigation 15 months prior, giving scope for a longitudinal investigation of SCC in the aftermath of traumatic events. SCC was not

significantly associated with prior exposure to terror (r = -.15), physical exposure to terror (r = -.06) or relational terror, where friends or family had been exposed to terror (r = -.03). However, SCC was significantly negatively correlated with psychological distress at baseline (r = -.46, p = <.05) and following exposure to terror (r = -.37, p = <.05). Baseline distress, 15 months prior to the study, predicted lower levels of SCC at the time of participation (and following exposure to terror).

Discussion

This review aimed to systematically identify, appraise and summarise studies examining direct relationships between SCC and traumatic events. The aim was to determine first, whether there is a consistent association between trauma and SCC. Second was to identify, where possible, why such links are observed. Two types of study were included: those that focused on adults who had experienced childhood trauma, and those where adults had experienced traumatic events during adulthood.

Sixteen studies were reviewed, with the majority (n=15) reporting significant relationships between occurrences of traumatic events and SCC. Non-significant relationships were found between SCC and experiences of terrorism (Schiller et al., 2019) and some specific elements of childhood abuse, including physical abuse, physical neglect, household challenges (separation/divorce, substance use and incarcerated household member; Wong et al., 2019), although other trauma-related variables in this study had significant relationships with SCC. For a full summary of effect sizes/correlations from each study, see Table 2. Although there was a substantial variation in the extent of relationships between trauma variables and SCC, it can be seen from Tables 3 and 4 that this did not seem to depend upon study quality or sample sizes. Variation in measures, target samples and methodology likely accounts for the effect size heterogeneity.

Strong evidence was found to support the relationship between SCC and childhood adversity, with all studies citing significant findings (Chiu et al., 2017; Evans et al., 2015; Hayward et al., 2020; Lassri et al., 2022; Paetzold & Rholes, 2021; Vartanian et al., 2016; Vartanian & Hayward, 2020; Vartanian et al., 2018; Wong et al., 2019). However, these studies depend upon retrospective completion of outcome measures. All studies recruited adult participants, meaning that the impact of confounding variables across the person's lifespan may be overlooked. Participants might think back to incidents of childhood trauma from a different perspective to how they were actually experienced depending on a breadth of factors that could have influenced perspective change. However, there are strong indications regarding the validity and reliability of the scales used. Whilst no single instrument of childhood adversity and abuse may be superior to others in every context, the Childhood Trauma Questionnaire (Bernstein, 1998), used in four childhood trauma studies, is noted to have strong evidence with adequate internal consistency, reliability and content validity, structural validity and convergent validity (Saini et al., 2019).

Wong et al. (2019) report non-significant findings between SCC and both physical abuse and physical neglect. Evans et al. (2015) did not report correlation coefficients, but did report regression coefficients that explain the effect of physical neglect on SCC. They report significant effects of physical abuse and physical neglect on SCC. The difference in significance could be due to Evans et al.'s use of a clinical sample compared with a non-clinical group. Despite a much smaller sample size, Evans et al. (2015) was found to be a higher quality study overall (95%) than Wong et al. (2019), who was still well appraised (91%).

Significant relationships were found between SCC and specific traumatic

experiences in adulthood, including Prolonged Grief Disorder following the death of a loved one (Boelen, 2017; Boelen et al., 2012), birth trauma (Holt et al., 2018) and sexual trauma (Keshet & Gilboa-Schechtman, 2017; 2019). As with the studies addressing childhood trauma, some studies were conducted retrospectively and may therefore lack accuracy. For example, participants in Boelen et al.'s (2012) Studies 1 and 3 were up to 10 or 20 years respectively removed from their loss, during which time significant confounding factors may have influenced outcomes. However, Boelen (2017) found a significant relationship between lower SCC and symptoms of PGD, PTSD and depression, even when participants were maximally six months bereaved and through a longitudinal design. It is noted that studies led by Boelen were amongst the lowest performing in the quality appraisal at 73% (Boelen, 2017) and 77% (Boelen et al, 2014; Study 3). In both of these studies, researchers failed to adequately comment on potential confounding variables.

It is suggested that the nature of the trauma has an impact on SCC disruption. For example, Keshet and Gilboa-Schechtman (2017, 2019) identified lower levels of SCC in women who experienced sexual trauma compared to those who had experienced a road traffic accident, other trauma types or those without trauma experiences. Some elements of personality and socio-cognitive variables may be risk factors for victimization of abuse (Schumacher et al., 2001). Similarly low SCC could be a risk factor or covariate of being subject to abuse.

Furthermore, non-interpersonal traumas, such as terrorism (identified under the heading of 'general disaster and trauma' on the THQ) seem to have less impact on SCC. As such, Schiller et al. (2019) reported minimal and non-significant findings relating to SCC and experiences of terrorism. However, these findings could depend on how direct these experiences of terrorism were, since relational terror may affect

someone differently compared with direct terror experiences.

Schiller et al.'s (2019) study on SCC and terrorism, whilst benefitting from a longitudinal design, is limited in its generalizability due to use of a sample of college students aged between 22-28 years. In contrast, Vartanian et al. (2016) recruited participants from both an undergraduate and a community sample to improve generalizability, and was a higher quality study (95% according to the appraisal) compared to Schiller et al. (2019; 86%).

Review Strengths and Limitations

This review benefitted from its systematic design, which has helped provide a clear overview of the existing research on the relationship between trauma and SCC. It also highlights areas for improvement and opportunities to inform future research. The search and selection criteria were thorough, meaning that all relevant topics were included, and the explicit and reproducible nature of the literature searching methods have led to robust conclusions (Gopalakrishnan & Ganeshkumar, 2013). This review also benefitted from adherence to PRISMA, which improves the transparency of how the review was conducted (Liberati et al., 2009).

One limitation is that studies that were found to be of poorer quality according to the Kmet appraisal tool were not excluded. Whilst this limits opportunities for reporting bias, it does mean that poorer quality studies are presented alongside those that were more robust. This was to ensure that all available and relevant research was included and used to critically consider conclusions of one researcher alongside another. It also provided avenues for future research, whereby limitations of previous studies can be considered and hopefully adapted. The most common area of weakness on the Kmet tool was item 12 ("*controlled for confounding?"*),

where seven studies had either incomplete control of confounding variables or confounding variables were not considered and may have distorted results. In addition, 12 of the 16 studies only partially provided sufficient information for item 3 ("*method of subject/comparison group selection or source of information/input variables described and appropriate?*").

One potential pitfall is that studies utilising a shortened version of the SCCS, such as a single-item measure, were excluded since the items used were not standardised and may have represented different findings across samples. However, this does mean that some rich data may be missing from the review. For example, Boelen et al. (2012) conducted three studies to examine the relationship between PGD and SCC. Whilst Studies 1 and 3 are included in this review, Study 2, which aimed to longitudinally assess changes in SCC but used five unknown items from the SCCS, was excluded. Some papers claimed use of SCCS but adapted the questions to fit a specific parameter like cultural SCC. These measures were not standardised and therefore the studies were also excluded.

Use of the full-scale SCCS was justified by its good internal consistency and test-retest reliability (Campbell et al., 1996), and concerns that it's integrity would be lost through shortened, non-standardised versions. However, some studies reported use of a translated version of the SCCS (Keshet & Gilboa-Schechtman, 2017; 2019), meaning that the validity and consistency of the original measure may not have been maintained.

Study Strengths and Limitations

In terms of study limitations, results from this review may not be generalizable to a clinical population, since only one study in this review recruited a clinical sample

(Evans et al., 2015). A number of studies depend on recruitment from online pools, such as Amazon's Mechanical Turk, where participants select themselves to take part in exchange for small monetary gains. Not all studies made clear the amount that participants would be paid for their time. Furthermore, such recruitment methods may be more likely to exclude population groups who are not able to regularly access the internet. For example, the proportion of older people using digital technology, whilst increasing, is still smaller than that of younger populations (Oh et al., 2021) and there are trends of low internet utilization among racial and ethnic minority groups and people from socioeconomically disadvantaged backgrounds (Hill et al., 2012; Yoon et al., 2020). Since SCC is known to be associated with demographic factors such as socioeconomic status (Na et al., 2018) and age (Lodi-Smith & Roberts, 2010) it would be beneficial to recruit a more diverse sample perhaps through alternative methods.

Only a small proportion of the studies who recruited through online platforms specified whether passing tests of attention were part of their inclusion criteria (Vartanian & Hayward, 2020; Hayward et al., 2020). Given that researchers were unable to monitor participation, it is possible that participants may have given incorrect information in the hopes of receiving monetary gain.

The cross-sectional design of most studies limits opportunities to establish causal links between SCC and traumatic events, especially when multiple traumas have been experienced. Trauma survivors may be more likely to experience more traumatic events in the future. For example, childhood adversity and historical sexual abuse is a risk factor for sexual assault (World Health Organization, 2010), making it difficult to examine the impact of specific traumatic events in isolation. Keshet and Gilboa-Schechtman (2019) go some way in examining this construct by comparing

single-trauma participants with those who had experienced multiple traumatic events, but were only able to consider experiences of multiple trauma types as opposed to the number of traumas. It is unknown whether those with low SCC are more vulnerable to specific types of trauma, thus impacting our understanding of the literature.

It is difficult to distinguish whether the experience of trauma itself relates to SCC or whether there are underlying mechanisms, such as attachment style or coping mechanisms, that interact with SCC. Furthermore, constructs such as self-esteem, are closely linked with SCC but are not always explored alongside SCC and trauma in the literature. SCC could play a mediating or moderating role between many constructs and could be influenced by an assortment of unknown factors.

Future Directions

Research

In terms of research directions, one significant pitfall of the literature is that many of the included studies cite data from self-report cross-sectional surveys. As a result, longitudinal disruptions to SCC are largely unexplored. Future research would benefit from longitudinal designs as well as recruitment from clinical samples where possible.

Findings suggest that individuals with high SCC are more likely to understand their own problems, thoughts, emotions and behaviours, thus creating space for change, but if SCC is too high the individual may feel that change is unmanageable and could limit the impact of therapeutic interventions (Leite & Kuiper, 2008). Future research should examine both ways in which SCC can be improved in clinical

samples and ways in which an ‘optimum’ level of SCC for facilitating change can be achieved.

Clinical Relevance

SCC could be clinically relevant as a potential risk factor for being negatively affected by traumas. At-risk groups could be targeted with psychological work that focuses on improving SCC to support wellbeing. This could be particularly relevant for groups such as emergency workers, those at risk of birth trauma and those who have been victimised in youth. Since higher SCC is associated with improved psychological outcomes (Binsale, 2017), improving SCC may lower the risk of mental health difficulties in groups vulnerable to specific types of trauma.

It is also clinically relevant to consider SCC as a concomitant of being traumatised. This might indicate that psychological input might account for SCC in formulations and interventions, so that work could help build or reconstruct individuals’ sense of identity. In addition, outcomes might be considered in terms of improved SCC post treatments. Clinical Psychologists could consider Mentalization Based Therapy as a helpful avenue for working on SCC. It is the process by which individuals “*make sense of each other and ourselves, implicitly and explicitly, in terms of subjective states and mental processes*,” (Bateman & Fonagy, 2010, p.11), and can help people gain a more stable sense of who they are.

Clinicians could utilise knowledge about SCC and use it to supplement psychological intervention through methods such as mindfulness and self-verifying feedback in Dialectical Behavioural Therapy (Roepke et al., 2011). In this study, the Dialectical Behavioural Therapy programme supported an enhancement in SCC, an

‘improvement in identity disturbance’ and overall reduction of psychological symptoms such as depression.

Clinical Psychologists could be mindful of other interventions that focus on self and identity when supporting survivors of trauma. For example, Narrative Therapy provides opportunities to restructure and unpack aspects of an individual’s self story, whilst giving agency and creativity to ‘reauthor’ one’s identity (Brown & Augusta-Scott, 2007). This could be particularly meaningful for trauma survivors based on the present findings that traumatic events are closely linked with lower SCC. However, further research examining the links between Narrative influences and SCC would be warranted.

Based on the findings, our understanding of SCC could influence the non-direct work of psychologists within care teams. For example, self-reflective exercises where individuals discuss, think about and explain their thoughts, feelings and actions are thought to improve SCC (Csank, 1995; Csank & Conway, 2004). This is something that Clinical Psychologists can actively support in indirect work with care teams by facilitating reflection practice sessions for staff teams, and encouraging activities such as log books, diaries and observations of clinical work in the interests of learning about oneself and ones reactions to situations in order to become more effective clinicians (Lillienfelt & Basterfield, 2020).

Conclusion

Findings from this review draw together research from different fields to examine the relationship between SCC and traumatic events. It is clear that some constructs, such as childhood adversity and specific traumas during adulthood, are consistency associated with diminished SCC in adulthood and this is linked, in turn,

to various forms of psychological distress. Further research is warranted to examine the impacts of broader experiences, since this review is limited to only a small number of specific trauma types. In addition, examination of Table 2 indicates that there are a wide range of effect sizes reported and although SCC is clearly associated with trauma, this may be worthy of pursuit to a greater or lesser extent.

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Figure 1

The PRISMA Diagrammatic Outline of the Systematic Search (Moher, Liberati, Tetzlaff, Altman, & Group, 2009)

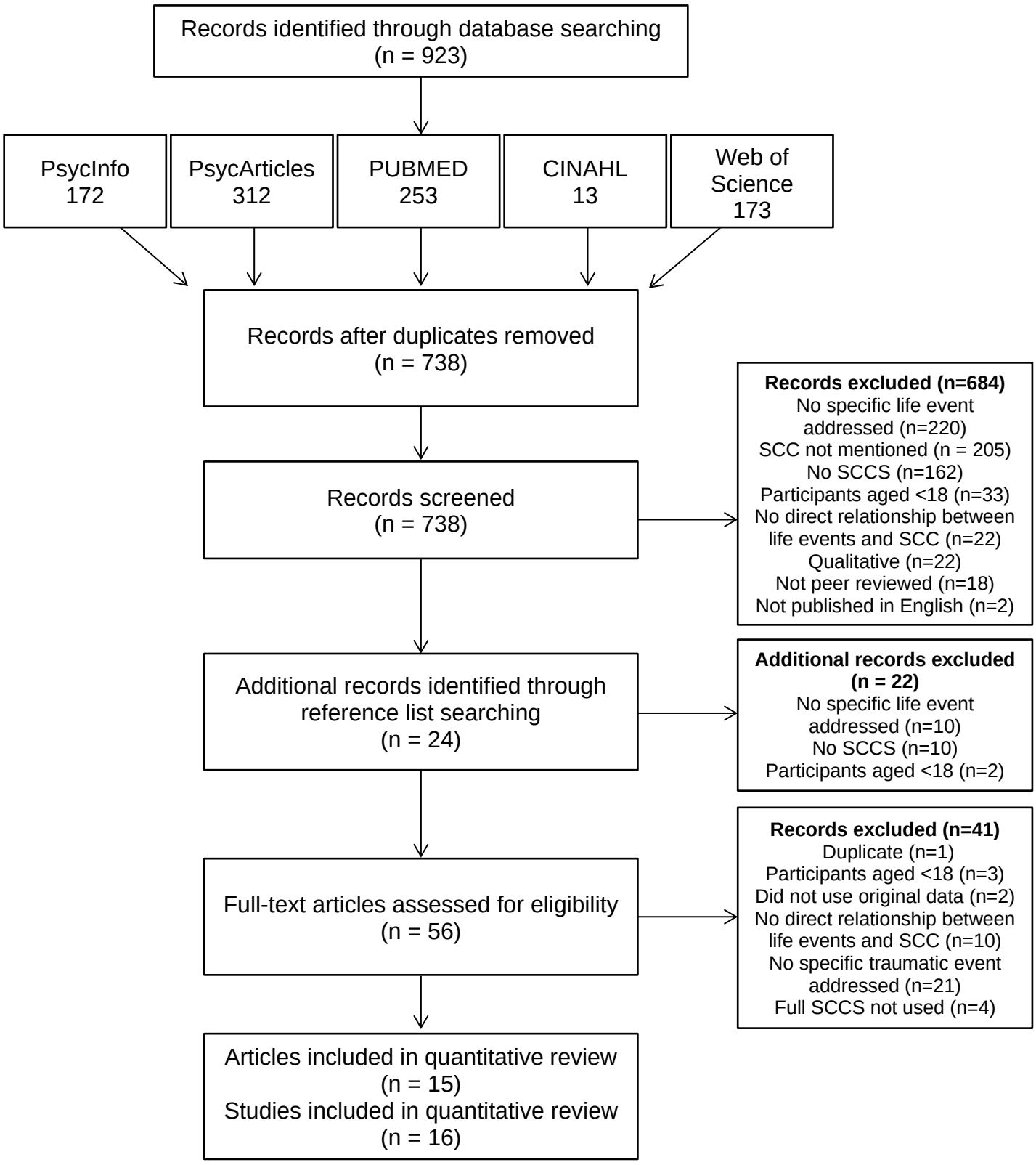

Table 1

Inclusion and Exclusion Criteria for the Current Review

Inclusion criteria	Exclusion criteria
Studies in which self-concept clarity is examined using a standardised measure (Self-Concept Clarity Scale; 1996)	Studies that measured concepts of self using alternative measures or edited (non-standardised) versions of the SCCS
Studies where there is a quantifiable relationship between SCC and a specific traumatic event (as defined by the THQ)	Studies that did not identify a specific traumatic event and its direct relation to SCC
Participants are adults (aged 18+)	Qualitative studies
Peer-reviewed journals	Book sections or chapters
Papers published in English (from any country)	Conference presentations or commentaries
Studies published between January 1996 and October 2022	Systematic reviews or meta-analyses
Studies that use original data	Although diagnoses and experiences of living with significant illness can be described as traumatic, mental health diagnoses are not included due to this being considered in detail in a prior review (Binsale, 2017)

Table 2

A Summary of Aims and Findings of Included Studies

Key: * p = <.05; ** p = <.01; *** p = <.001.

Study No.	Author	Study Aim/Research Question	Main Findings	Scale	Correlation Coefficient Between SCC and Trauma	Effect Size
1	**Boelen, Keijsers & van den Hout (2012) – Study 1** *Death of a loved one*	To examine the links between loss-related self-concept content change, self-concept clarity, and severity of prolonged grief disorder.	1) Severity of prolonged grief disorder was associated with lower self-concept clarity and greater self-concept content change. 2) Lower self-concept clarity predicted severity of prolonged grief disorder.	Inventory of Complicated Grief-revised	-0.50***	Large
2	**Boelen, Keijsers & van den Hout – Study 3** *Death of a loved one*	1) To examine potential mediators (self-esteem, depressive avoidance and rumination) of the anticipated links between self-concept clarity and prolonged grief disorder severity. 2) To examine the direction of anticipated links between self-concept clarity and severity of prolonged grief disorder.	1) Independently, self-esteem, depressive avoidance, and rumination all emerged as significant mediators of the relationship between low self-concept clarity and prolonged grief disorder at Time 1. 2) At time 2, the association of lower self-concept clarity with higher prolonged grief disorder severity was significantly mediated by lower self-esteem, stronger depressive avoidance, and more rumination. 3) Reduced self-concept clarity predicted more severe prolonged grief disorder after 6 months but not vice versa.	Inventory of Complicated Grief-revised (Time 1) Inventory of Complicated Grief-revised (Time 2)	Not reported Not reported	Unable to calculate based on data Unable to calculate based on data

Study No.	Author	Study Aim/Research Question	Main Findings	Scale	Correlation Coefficient Between SCC and Trauma	Effect Size
3	**Evans, Reid, Preston, Palmier-Claus & Sellwood (2015)** *Childhood Trauma*	1) To investigate the relationship between childhood trauma, dissociation and self-concept clarity across a clinical and non-clinical group. 2) To examine the extent to which dissociation and self-concept clarity mediate the relationship between childhood trauma and psychosis.	1) Self-concept clarity was significantly lower in the clinical group compared with the control group. 2) All types of childhood maltreatment were significantly negatively associated with self-concept clarity. 3) Self-concept clarity mediated the relationship between psychosis and childhood trauma, emotional abuse, physical abuse, emotional neglect and physical neglect.	All items are from subscales of the Childhood Trauma Questionnaire. Reported as unstandardised regression coefficients citing the effect of trauma on SCC		
				Childhood Trauma Questionnaire Total	-0.37***	
				Emotional Abuse	-0.94**	
				Physical Abuse	1.29*	
				Sexual Abuse	1.72*	
				Emotional Neglect	0.86**	
				Physical Neglect	1.29**	

Study No.	Author	Study Aim/Research Question	Main Findings	Scale	Correlation Coefficient Between SCC and Trauma	Effect Size
4	**Vartanian, Froreich and Smyth (2016)** *Childhood trauma*	To examine whether early family adversity would predict lower self-concept clarity, and if self-concept clarity would predict thin-ideal internalization and body dissatisfaction.	Early family adversity predicted low self-concept clarity, which in turn predicted thin-ideal internalization and body dissatisfaction.	Risky Families Questionnaire – student sample	-0.32***	Medium
				Families Questionnaire – community sample	-0.34***	Medium
5	**Boelen (2017)** *Death of a loved one*	To investigate the role of self-concept clarity and loss-centrality in predicting bereavement outcome and the degree to which these concepts contributed to emotional distress after loss.	Lower self-concept clarity and higher centrality of the loss were both associated with symptom levels of Prolonged Grief Disorder, Post-Traumatic Stress Disorder and depression.	Prolonged Grief Disorder Scale	0.47***	Medium
6	**Chiu, Chang & Hui (2017)** *Childhood trauma*	To investigate the relationship between dissociation proneness, self-concept clarity, and potentially traumatizing events.	Childhood interpersonal trauma may play a role in the genesis of the identity symptoms through the interaction with this attribute of dissociation proneness.	Childhood Trauma Questionnaire	-0.23*	Small
7	**Keshet & Gilboa-Schechtman (2017)** *Sexual trauma*	To deepen the understanding of self-concept impairments among sexually assaulted women with varying levels of posttraumatic distress.	Sexually assaulted women reported greater self-concept impairments than women with a main trauma of a road traffic accident, regardless of their diagnostic status.	Age at trauma	*0*.21**	Small
				Number of traumas that occurred	-0.29***	Small

Study No.	Author	Study Aim/Research Question	Main Findings	Scale	Correlation Coefficient Between SCC and Trauma	Effect Size
				Posttraumatic Diagnostic scale score	-0.51***	Large
8	**Vartanian, Hayward, Smyth, Paxton & Touyz (2018)** *Childhood trauma*	To examine a theoretical model linking negative early life experiences to body dissatisfaction and disordered eating via self-concept clarity and sociocultural factors.	1) Self-concept clarity was negatively correlated with sociocultural pressures, internalization, appearance comparison, body dissatisfaction, and disordered eating. 2) Early adversity was primarily associated with disordered eating and excessive exercise outcomes through lower self-concept clarity, more frequent engagement in social comparisons, and greater body dissatisfaction.	Risky Families Questionnaire	-0.30***	Medium
				Childhood Trauma Questionnaire	-0.31***	Medium
9	**Holt, Slade & Sellwood (2018)** *Birth Trauma*	To explore the relationships between birth experience and trauma, adjustment to motherhood, self-concept clarity and psychotic-like experiences in new mothers.	1) Trauma appraisals of the birth and struggling with adjustment to motherhood indirectly predicted psychotic-like experiences, a relationship dependent on self-concept clarity. 2) Trauma appraisals and adjustment to motherhood were mediating factors between birth experience and self-concept clarity, but post-traumatic stress symptoms were not, suggesting that traumatic birth or difficulties with adjustment, rather than symptom experience, are important in the disruption of self-concept clarity.	The Wijma Delivery Experience Questionnaire B	-0.37**	Medium
				Trauma appraisals using DSM-IV Criteria	-0.27**	Small
				PTSD Symptoms using Impact of Events Scale – revised	-.41**	Medium

Study No.	Author	Study Aim/Research Question	Main Findings	Scale	Correlation Coefficient Between SCC and Trauma	Effect Size
10	**Schiller, Pinus, Hammen & Shahar (2019)** *Terrorism*	1) To examine the scarring effect of exposure to terror-related stress and psychological distress as complicating factors in Israeli emerging adults' self-development. 2) To investigate the role of terror in eroding individuals' self-concept.	1) Findings show robust support for the scarring model in four out of the seven self-concept dimensions: inadequate self, generalized self- efficacy, reassuring self, and self-concept clarity. 2) Exposure to terror leads to self-concept deficiency.	Psychological distress (baseline) - Brief Symptom Inventory	-0.46*	Medium
				Psychological distress (follow up) – Brief Symptom Inventory	-.37*	Medium
				Index of Prior Exposure to Terror	-0.15	Non-significant
				Index of Physical Exposure to Terror	-0.06	Non-significant
				Relational Exposure to Terror	-0.03	Non-significant
11	**Keshet & Gilboa-Schechtman (2019)** *Sexual trauma*	To examine the effects of sexual trauma on self-perception, including post-traumatic cognitions, self-esteem and self-concept clarity when sexual trauma was either the main trauma or a background trauma.	In comparison to other trauma-types, women who were exposed to sexual trauma reported higher levels of depression, lower self-esteem, and decreased clarity of their self-perceptions.	Post-traumatic Cognitions Inventory Subscale	-0.70***	Large
				Post-traumatic Diagnostic Scale	-0.58***	Large
				Age at main trauma	0.27***	Small
12	**Wong Dirghangi & Hart (2019)**	To investigate whether self-concept clarity mediates mental health outcomes commonly associated with adverse childhood experiences.	1) Self-concept clarity mediated the associations between adverse childhood experiences and each of the mental health outcomes: suicide behaviour, depression,	Adverse Childhood Experiences Scale: Emotional Abuse	-0.18**	Small

Study No.	Author	Study Aim/Research Question	Main Findings	Scale	Correlation Coefficient Between SCC and Trauma	Effect Size
	Childhood Trauma		loneliness, perceived stress, and life distress. 2) The experience of individual adverse childhood experiences differently related to self-concept clarity, with the experiences of emotional and sexual abuse, emotional neglect, the presence of domestic violence, and presence of mental illness being the most strongly associated.	Adverse Childhood Experiences Scale: Mother Treated Violently	-0.17**	Small
				Adverse Childhood Experiences Scale: Mental Illness	-0.18**	Small
				Adverse Childhood Experiences Scale: Sexual Abuse	-0.14*	Small
				Adverse Childhood Experiences Scale: Emotional Neglect	-0.12*	Small
				Adverse Childhood Experiences Scale: Physical Abuse	-0.09	Non-significant
				Adverse Childhood Experiences Scale: Physical Neglect	-0.11	Non-significant
				Adverse Childhood Experiences Scale: Separation/Divorce	-0.09	Non-significant
				Adverse Childhood Experiences Scale: Substance Use	-0.09	Non-significant

Study No.	Author	Study Aim/Research Question	Main Findings	Scale	Correlation Coefficient Between SCC and Trauma	Effect Size
				Adverse Childhood Experiences Scale: Incarcerated Household Member	-0.04	Non-significant
13	**Hayward, Vartanian, Kwok & Newby (2020)** *Childhood Trauma*	To investigate whether childhood adversity would predict low self-concept clarity, which in turn would predict higher symptoms of depression, generalized anxiety, obsessive compulsive disorder, and social anxiety.	1) Higher levels of childhood adversity predicted experiences of depression and anxiety disorder symptoms via lower self-concept clarity. 2) Intolerance of uncertainty and self-concept clarity mediate the association between early adversity and psychopathology later in life.	Childhood Trauma Questionnaire	-0.41***	Medium
				Risky Families Questionnaire	-0.42***	Medium
14	**Vartanian & Hayward (2020)** *Childhood Trauma*	1) To determine which dimensions of "internalization" are most relevant to the Identity Disruption Model. 2) To examine whether there would be an indirect path between self-concept clarity and body dissatisfaction via internalization.	1) Early adversity was negatively associated with self-concept clarity. 2) Self-concept clarity predicted lower internalization and body dissatisfaction, but was not significantly related to endorsement or awareness. 3) There was a significant indirect effect from early adversity to self-concept clarity to internalization to body dissatisfaction.	Risky Families Questionnaire	-0.41***	Medium

Study No.	Author	Study Aim/Research Question	Main Findings	Scale	Correlation Coefficient Between SCC and Trauma	Effect Size
15	**Paetzold & Rholes (2021)** *Childhood Trauma*	To investigate whether attachment style mediates the relationship between child abuse and dissociation, and whether this mediating role is moderated by self-concept clarity.	1) Lower SCC was positively correlated with childhood abuse. 2) The relationship between child abuse and dissociation is mediated in parallel by adult disorganised attachment, avoidance and anxiety. 3) The mediating role of attachment style that connects child abuse to dissociation is moderated by self-concept clarity.	The Child Trauma Screening Questionnaire	0.46**	Medium
16	**Lassri Bregman-Hai & Soffer-DudekShahar (2022)** *Childhood Sexual Abuse*	To investigate the association between childhood sexual abuse and dissociation among well functioning individuals by focusing on the potentially protective role of self-concept clarity.	Self-concept clarity is a protective factor, buffering the association between childhood sexual abuse and detachment symptoms.	Combined: Childhood Trauma Questionnaire (sexual abuse subscale); The Sexual Experiences Survey – Short Form Victimization; Post-Traumatic Stress Diagnostic Scale	-0.32**	Medium

Table 3

A Summary of Descriptive Characteristics for Included Studies

Study No.	Author	Country	Study Design	N	Sample Population	Mean age (years)	Gender (% female)	Control group	Traumatic event	Measure of traumatic event
	Boelen, Keijsers & van den Hout (2012) Studies 1 and 3 only									
1	Study 1	Netherlands	Cross-sectional *Non-clinical*	67	Bereaved individuals recruited via online advertisements	47.1	89.6%	No	Bereavement	Inventory of Complicated Grief-revised
2	Study 3	Netherlands	Cohort *Non-clinical*	Group 1: 121 Group 2 (follow-up): 73	Bereaved individuals recruited via online advertisements	Group 1: 44.0 (cross-sectional) Group 2 (follow-up): 44.8	Group 1 86.8% (cross-sectional) Group 2 (follow-up): 84.9%	No	Bereavement	Inventory of Complicated Grief-revised

Study No.	Author	Country	Study Design	N	Sample Population	Mean age (years)	Gender (% female)	Control group	Traumatic event	Measure of traumatic event
3	**Evans, Reid, Preston, Palmier-Claus & Sellwood (2015)**	UK	Case control *Clinical*	Clinical: 29 Non-clinical: 31	Clinical: participants with a diagnosis of psychosis recruited from Early Intervention Pathway Non-clinical: adult learners	All participants aged between 18-38 years	Clinical: 34.5% Non clinical: 38.7%	Yes – adult learners	Childhood trauma	Childhood Trauma Questionnaire
4	**Vartanian, Froreich and Smyth (2016)**	USA and Australia	Cross sectional *Non-clinical*	694	University students in Australia and community members in the USA	Undergraduates: 19.61 Community: 29.75	100%	No	Childhood trauma	The Risky Families Questionnaire
5	**Boelen (2017)**	Netherlands	Cohort *Non-clinical*	124	Bereaved individuals	58.5 years	69.4%	No	Bereavement	Prolonged Grief Disorder Scale
6	**Chiu, Chang & Hui (2017)**	China	Cross-sectional *Non-clinical*	112	Undergraduate students with dissociation proneness	20.75	60%	No	Childhood trauma	Childhood Trauma Questionnaire

Study No.	Author	Country	Study Design	N	Sample Population	Mean age (years)	Gender (% female)	Control group	Traumatic event	Measure of traumatic event
7	**Keshet & Gilboa-Schechtman (2017)**	Israel	Cross-sectional *Non-clinical*	235 total 1) Motor vehicle accident - no PTSD: 69 2) Motor vehicle accident and PTSD: 18 3) Sexual assault – no PTSD: 49 4) Sexual assault and PTSD: 30 5) Non-traumatized individuals: 69	Jewish-Isreali women recruited via social media and allocated to groups: 1) Motor vehicle accident - no PTSD 2) Motor vehicle accident and PTSD 3) Sexual assault – no PTSD 4) Sexual assault and PTSD 5) Non-traumatized individuals	Total: aged 18-55 years 1) Motor vehicle accident - no PTSD: 28.83 2) Motor vehicle accident and PTSD: 29.89 3) Sexual assault – no PTSD: 30.92 4) Sexual assault and PTSD: 27.93 5) Non-traumatized individuals: 26.64	100%	No	Sexual assault	Posttraumatic Diagnostic Scale; Group comparison – motor vehicle accident group vs sexual assault vs no trauma
8	**Vartanian, Hayward, Smyth, Paxton & Touyz (2018)**	USA	Cross-sectional *Non-clinical*	1023	Online participant pool	26.33	51.71%	N	Childhood adversity	The Risky Families Questionnaire, Childhood Trauma Questionnaire

Study No.	Author	Country	Study Design	N	Sample Population	Mean age (years)	Gender (% female)	Control group	Traumatic event	Measure of traumatic event
9	**Holt, Slade & Sellwood (2018)**	UK	Cross-sectional *Non-clinical*	1393	Mothers who gave birth to their first child 2–6 months before recruitment	28.9	100%	No	Birth trauma	The Wijma Delivery Experience Questionnaire B; trauma appraisals (based on DSM-IV); The Impact of Events Scale-revised
10	**Schiller, Pinus, Hammen & Shahar, (2019)**	Israel	Cohort (baseline collected in a prior study) *Non-clinical*	124	Participants of a prior study (Ben-Gurion University students)	23.11	79.84%	No	Exposure to terrorism	The Brief Symptom Inventory; Questions relating to: index of prior exposure to terror (non-standardised), index of physical exposure to terror (non-standardised), relational exposure to terror (binary)

Study No.	Author	Country	Study Design	N	Sample Population	Mean age (years)	Gender (% female)	Control group	Traumatic event	Measure of traumatic event
11	**Keshet & Gilboa-Schechtman (2019)**	Israel	Cross-sectional *Non-clinical*	Total: 231 1) History of a single sexual trauma: 36 2) History of a single non-sexual trauma: 60 3) History of multiple non-sexual trauma: 31 4) History of multiple trauma types, including a main sexual trauma: 69 5) History of multiple trauma-types including a background sexual trauma: 35	Jewish-Israeli women aged 18+	1) History of a single sexual trauma: 30.50 2) History of a single non-sexual trauma: 28.60 3) History of multiple non-sexual trauma: 27.45 4) History of multiple trauma types, including a main sexual trauma: 29.90 5) History of multiple trauma-types including a background sexual trauma: 29.37	100%	No	Sexual trauma	Posttraumatic Diagnostic Scale; Post-Traumatic Cognitions Inventory Subscale; Group comparison based on trauma-types reported and age at main trauma
12	**Wong Dirghangi & Hart (2019)**	USA	Cross-sectional *Non-clinical*	305	Online participant pool (MTurk)	35.49	46%	No	Childhood trauma	Adverse Childhood Experience Scale

Study No.	Author	Country	Study Design	N	Sample Population	Mean age (years)	Gender (% female)	Control group	Traumatic event	Measure of traumatic event
13	**Hayward, Vartanian, Kwok & Newby (2020)**	USA	Cross-sectional *Non-clinical*	382	Online participant pool (MTurk)	35.60	48.2%	No	Childhood trauma	Childhood Trauma Questionnaire; The Risky Families Questionnaire
14	**Vartanian & Hayward (2020)**	USA	Cross-sectional *Non-clinical*	278	Online participant pool (MTurk)	26.06	100%	No	Childhood trauma	The Risky Families Questionnaire
15	**Paetzold & Rholes (2021)**	USA	Cross-sectional *Non-clinical*	624	Online participant pool (MTurk)	18–29years: 38% 30-39 years: 38% 40+ years: 24%	53.63%	No	Child abuse	Child Trauma Screening Questionnaire
16	**Lassri Bregman-Hai & Soffer-DudekShahar (2022)**	(unknown location)	Cross-sectional *Non-clinical*	65	High-functioning adult females	25.59	100%	No	Childhood trauma	Childhood Trauma Questionnaire; The Sexual Experiences Survey – short form; and The Post-traumatic Stress Diagnostic Scale

Table 4

Global ratings of Included Studies (Based on the Standard Quality Assessment Tool by Kmet et al., 2004)

Key: yes (2); partial (1); no (0) or N/A (X).

Item No.	Boelen, Keijsers & van den Hout (2012) – study 1	Boelen, Keijsers & van den Hout (2012) – study 3	Evans, Reid, Preston, Palmier-Claus &	Vartanian, Froreich and Smyth (2016)	Boelen (2017)	Chiu, Chang & Hui (2017)	Keshet & Gilboa-Schechtman (2017)	Vartanian, Hayward, Smyth, Paxton & Touyz	Holt, Slade & Sellwood (2018)	Schiller, Pinus, Hammen & Shahar, (2019)	Keshet & Gilboa-Schechtman (2019)	Wong Dirghangi & Hart (2019)	Hayward, Vartanian, Kwok & Newby (2020)	Vartanian & Hayward (2020)	Paetzold & Rholes (2021)	Lassri Bregman-Hai & Soffer-DudekShahar
1. Question/objective sufficiently described?	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2
2. Study design evident and appropriate?	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1
3. Method of subject/comparison group selection or source of information/input variables described and appropriate?	1	1	2	1	1	2	1	1	1	2	1	1	1	1	1	2
4. Subject (and comparison group, if applicable) characteristics sufficiently described?	1	1	2	2	2	1	1	2	2	1	2	2	2	2	2	2
5. If interventional and random allocation was possible, was it described?	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6. If interventional and blinding of investigators was possible, was it reported?	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
7. If interventional and blinding of subjects was possible, was it reported?	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?	2	1	2	2	2	2	2	2	1	2	2	1	2	2	2	2
9. Sample size appropriate?	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	1
10. Analytic methods described/justified and appropriate?	2	2	2	2	1	2	2	1	2	2	2	2	2	2	2	2
11. Some estimate of variance is reported for the main results?	1	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2
12. Controlled for confounding?	X	0	2	X	0	1	1	X	X	0	1	X	X	X	X	0
13. Results reported in sufficient detail?	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
14. Conclusions supported by the results?	2	2	2	2	1	1	2	1	1	2	2	2	2	1	2	2
Summary Score	85%	77%	95%	95%	73%	82%	81%	85%	85%	86%	91%	91%	95%	90%	90%	82%

Appendix A

The Trauma History Questionnaire

TRAUMA HISTORY QUESTIONNAIRE

The following is a series of questions about serious or traumatic life events. These types of events actually occur with some regularity, although we would like to believe they are rare, and they affect how people feel about, react to, and/or think about things subsequently. Knowing about the occurrence of such events, and reactions to them, will help us to develop programs for prevention, education, and other services. The questionnaire is divided into questions covering crime experiences, general disaster and trauma questions, and questions about physical and sexual experiences.

For each event, please indicate (circle) whether it happened and, if it did, the number of times and your approximate age when it happened (give your best guess if you are not sure). Also note the nature of your relationship to the person involved and the specific nature of the event, if appropriate.

Crime-Related Events		**Circle one**		***If you circled yes, please indicate***	
				Number of times	**Approximate age(s)**
1	Has anyone ever tried to take something directly from you by using force or the threat of force, such as a stick-up or mugging?	No	Yes		
2	Has anyone ever attempted to rob you or actually robbed you (i.e., stolen your personal belongings)?	No	Yes		
3	Has anyone ever attempted to or succeeded in breaking into your home when you were <u>not</u> there?	No	Yes		
4	Has anyone ever attempted to or succeed in breaking into your home while you <u>were</u> there?	No	Yes		
General Disaster and Trauma		**Circle one**		***If you circled yes, please indicate***	
				Number of times	**Approximate age(s)**
5	Have you ever had a serious accident at work, in a car, or somewhere else? (**<u>If yes</u>**, please specify below) _____	No	Yes		
6	Have you ever experienced a natural disaster such as a tornado, hurricane, flood or major earthquake, etc., where you felt you or your loved ones were in danger of death or injury? (**<u>If yes</u>**, please specify below) _____	No	Yes		

7	Have you ever experienced a "man-made" disaster such as a train crash, building collapse, bank robbery, fire, etc., where you felt you or your loved ones were in danger of death or injury? (**If yes**, please specify below) _____	No	Yes		
8	Have you ever been exposed to dangerous chemicals or radioactivity that might threaten your health?	No	Yes		
9	Have you ever been in any other situation in which you were seriously injured? (**If yes**, please specify below) _____	No	Yes		
10	Have you ever been in any other situation in which you feared you might be killed or seriously injured? (**If yes**, please specify below) _____	No	Yes		
11	Have you ever seen someone seriously injured or killed? (**If yes**, please specify who below) _____	No	Yes		
12	Have you ever seen dead bodies (other than at a funeral) or had to handle dead bodies for any reason? (**If yes**, please specify below) _____	No	Yes		
13	Have you ever had a close friend or family member murdered, or killed by a drunk driver? (**If yes**, please specify relationship [e.g., mother, grandson, etc.] below) _____	No	Yes		
14	Have you ever had a spouse, romantic partner, or child die? (**If yes**, please specify relationship below) _____	No	Yes		
15	Have you ever had a serious or life-threatening illness? (**If yes**, please specify below) _____	No	Yes		
16	Have you ever received news of a serious injury, life-threatening illness, or unexpected death of someone close to you? (**If yes**, please indicate below) _____	No	Yes		

17	Have you ever had to engage in combat while in military service in an official or unofficial war zone? (**If yes**, please indicate where below) _____	No	Yes		
Physical and Sexual Experiences		**Circle one**		***If you circled yes, please indicate***	
				Repeated?	**Approximate age(s) and frequency**
18	Has anyone ever made you have intercourse or oral or anal sex against your will? (**If yes**, please indicate nature of relationship with person [e.g., stranger, friend, relative, parent, sibling] below) _____	No	Yes		
19	Has anyone ever touched private parts of your body, or made you touch theirs, under force or threat? (**If yes**, please indicate nature of relationship with person [e.g., stranger, friend, relative, parent, sibling] below) _____	No	Yes		
20	Other than incidents mentioned in Questions 18 and 19, have there been any other situations in which another person tried to force you to have an unwanted sexual contact?	No	Yes		
21	Has anyone, including family members or friends, ever attacked you with a gun, knife, or some other weapon?	No	Yes		
22	Has anyone, including family members or friends, ever attacked you without a weapon and seriously injured you?	No	Yes		
23	Has anyone in your family ever beaten, spanked, or pushed you hard enough to cause injury?	No	Yes		
24	Have you experienced any other extraordinarily stressful situation or event that is not covered above? (**If yes**, please specify below) _____	No	Yes		

Citation:
Hooper, L. M., Stockton, P., Krupnick, J., & Green, B. L. (2011). The development, use, and psychometric properties of the Trauma History Questionnaire. *Journal of Loss and Trauma, 16,* 258-283.

Appendix B

PsycInfo and PsycArticles Search Strategy

TX "self-concept clarity" OR "self-concept clarity scale" OR "clarity of self-concept" AND (TX (DE "Birth Trauma" OR DE "Collective Trauma" OR DE "Intergenerational Trauma" OR DE "Racial Trauma" OR DE "Traumatic Loss" OR DE "Adversity" OR DE "Natural Disasters" OR DE "Extreme Weather" OR DE "Posttraumatic Growth" OR DE "Posttraumatic Stress Disorder" OR DE "Emotional Trauma" OR DE "Posttraumatic Stress" OR DE "Trauma" OR DE "Violence" OR DE "Conflict" OR DE "Gun Violence" OR DE "Patient Violence" OR DE "Police Violence" OR DE "School Violence" OR DE "Sexual Violence" OR DE "Exposure to Violence" OR DE "Terrorism" OR DE "Torture" OR DE "Traumatic Experiences" OR DE "Emotional Abuse" OR DE "Domestic Violence" OR DE "Gender Violence" OR DE "Physical Abuse" OR DE "Sexual Abuse" OR DE "Home Accidents" OR DE "Industrial Accidents" OR DE "Pedestrian Accidents" OR DE "Disasters" OR DE "Injuries" OR DE "Transportation Accidents" OR DE "Air Traffic Accidents" OR DE "Motor Traffic Accidents" OR DE "Complex PTSD" OR DE "Complex Trauma" OR DE "Hazards" OR DE "Accidents" OR DE "Child Death" OR DE "Parental Death" OR DE "Partner Death" OR DE "Sudden Death" OR DE "Grief") OR TX (“Force” OR “stick-up” OR “mugg*” OR “assault*” OR “attack*” OR “robb*” OR “stole*” OR “break-in” OR “burgl*” OR “theft” OR “raid” OR “breaking and entering” OR “housebreak*” OR “forced entry” OR “accident” OR “injur*” OR “natural disaster” OR “tornado” OR “hurricane” OR “flood*” OR “earthquake” OR “death” OR “storm” OR “avalanche” OR “fire” OR “blizzard” OR “landslide” OR “mudslide” OR “tsunami” OR “volcan*” OR “cyclone” OR “man-made disaster” OR “train crash” OR “building collapse” OR “bank robb*” OR “danger” OR “arson” OR “war” OR “terror*” OR “chemical N2 threat” OR “radioactiv*” OR “chemical N2 expos*” OR “hazard*” OR “threat*” OR “kill*” OR “dead bod*” OR “murder*” OR “death N2 spouse” OR “death N2 wife” OR “death N2 husband” OR “death N2 partner” OR “death N2 child” OR “death N2 parent” OR “death N2 loved one” OR “death N2 close” OR “death N2 friend” OR “illness” OR “physical disorder” OR “life-threatening” OR “sickness” OR “disease” OR “ailment” OR “afflict*” OR “infect*” OR “contagi*” OR “outbreak” OR “pandemic” OR “epidemic” OR “combat” OR “military” OR “warzone” OR “war zone” OR “assault” OR “sexual assault” OR “rape” OR “sexual offence” OR “sexual violence” OR “interpersonal violence” OR “domestic abuse” OR “domestic violence” OR “interpersonal violence” OR “sexual coercion” OR “unwanted sexual contact” OR “attack*” OR “weapon” OR “gun” OR “knife” OR “beat*” OR “harm” OR “spank” OR “trauma*” OR “PTSD” OR “post-traumatic stress disorder” OR “complex PTSD” OR “post-traumatic growth”) OR TX (DE "Divorce" OR DE "Marital Separation" OR DE "Life Changes" OR DE "Career Change" OR DE "Lifestyle Changes" OR DE "Marriage" OR DE "Pregnancy" OR DE "Incarceration" OR DE "Correctional Institutions" OR DE "Incarcerated" OR DE "Reemployment" OR DE "Retirement" OR DE "Financial Strain" OR DE "Birth" OR DE "Living Arrangements" OR DE "Empty Nest" OR DE "School Leavers") OR TX (“Divorce” OR “separation” OR “marital separation” OR “relationship dissolution” OR “break-up” OR “estrange*” OR “disunion” OR “split” OR “loss”

OR “grief” OR “detention” OR “imprison*” OR “incarcerat*” OR “institution” OR “jail” OR “marri*” OR “civil partnership” OR “fired” OR “sacked” OR “redundan*” OR “laid off” OR “retire*” OR “dismiss*” OR “discharge*” OR “reconcil*” OR “stop work” OR “health change” OR “pregnan*” OR “expectant” OR “expecting” OR “sexual difficulties” OR “birth” OR “adopt*” OR “household” OR “business readjustment” OR “financial N2 change” OR “change N2 profession” OR “change N2 vocation” OR “change N2 career” OR “change N2 employ*” OR “argu*” OR “mortgage” OR “foreclos*” OR “loan” OR “debt” OR “credit” OR “change N2 responsibilit*” OR “demot*” OR “promot*” OR “child leav* home” OR “daughter leav* home” OR “son leav* home” OR “in-law trouble*” OR “personal achieve*” OR “spouse N3 employ*” OR “partner N3 employ*” OR “begin* N2 school” OR “start* N2 school” OR “end* N2 school” OR “finish* N2 school” OR “leav* N2 school” OR “graduat*” OR “transition” OR “new home” OR “move home” OR “relocate” OR “remodel*” OR “deterior* N3 home” OR “deterior* N3 neighb*” OR “personal habits” OR “boss” OR “employer” OR “working hours” OR “working condition*” OR “new school” OR “recreat* time” OR “leisure time” OR “religio* activity” OR “social activit*” OR “sleep* habit*” OR “family get-together” OR “family gathering” OR “eating habit” OR “vacation” OR “holiday” OR “violation” OR “Life event”))

Appendix C

CINAHL Search Strategy

TX "self-concept clarity" OR "clarity of self-concept" OR "Self-concept clarity scale" AND (TX ((MH "Psychological Trauma") OR (MH "Historical Trauma") OR (MH "Trauma") OR (MH "Accidental Injuries") OR (MH "Stress Disorders, Post-Traumatic") OR (MH "Sexual Trauma") OR (MH "Multiple Trauma") OR (MH "Wounds and Injuries") OR (MH "Injury, Occupational Disease, Poisoning") OR (MH "Accidents") OR (MH "Fires") OR (MH "Drowning") OR (MH "Chemical Hazard Release") OR (MH "Biohazard Release") OR (MH "Accidents, Traffic") OR (MH "Accidents, Occupational") OR (MH "Accidents, Home") OR (MH "Accidents, Aviation") OR (MH "Disasters") OR (MH "Natural Disasters") OR (MH "Mass Casualty Incidents") OR (MH "Violence") OR (MH "Adverse Childhood Experiences") OR (MH "Community Violence") OR (MH "Dating Violence") OR (MH "Sibling Violence") OR (MH "School Violence") OR (MH "Gun Violence") OR (MH "Gender-Based Violence") OR (MH "Exposure to Violence") OR (MH "Domestic Violence") OR (MH "Terrorism") OR (MH "Theft") OR (MH "Sexual Abuse") OR (MH "Crime") OR (MH "War Crimes") OR (MH "Assault and Battery") OR (MH "Kidnapping") OR (MH "Human Trafficking")) OR TX (“Force” OR “stick-up” OR “mugg*” OR “assault*” OR “attack*” OR “robb*” OR “stole*” OR “break-in” OR “burgl*” OR “theft” OR “raid” OR “breaking and entering” OR “housebreak*” OR “forced entry” OR “accident” OR “injur*” OR “natural disaster” OR “tornado” OR “hurricane” OR “flood*” OR “earthquake” OR “death” OR “storm” OR “avalanche” OR “fire” OR “blizzard” OR “landslide” OR “mudslide” OR “tsunami” OR “volcan*” OR “cyclone” OR “man-made disaster” OR “train crash” OR “building collapse” OR “bank robb*” OR “danger” OR “arson” OR “war” OR “terror*” OR “chemical threat” OR “radioactiv*” OR “chemical expos*” OR “hazard*” OR “threat*” OR “kill*” OR “dead bod*” OR “murder*” OR “illness” OR “physical disorder” OR “life-threatening” OR “sickness” OR “disease” OR “ailment” OR “afflict*” OR “infect*” OR “contagi*” OR “outbreak” OR “pandemic” OR “epidemic” OR “combat” OR “military” OR “warzone” OR “war zone” OR “assault” OR “sexual assault” OR “rape” OR “sexual offence” OR “sexual violence” OR “interpersonal violence” OR “domestic abuse” OR “domestic violence” OR “interpersonal violence” OR “sexual coercion” OR “unwanted sexual contact” OR “attack*” OR “weapon” OR “gun” OR “knife” OR “beat*” OR “harm” OR “spank” OR “trauma*” OR “PTSD” OR “post-traumatic stress disorder” OR “complex PTSD” OR “post-traumatic growth”) OR TX ((MH "Life Change Events") OR (MH "Catastrophic Illness") OR (MH "Death") OR (MH "Divorce") OR (MH "Marriage") OR (MH "Midlife Crisis") OR (MH "Parenthood") OR (MH "Personal Loss") OR (MH "Retirement") OR (MH "Life Experiences") OR (MH "Life Style Changes") OR (MH "Pregnancy") OR (MH "Correctional Facilities") OR (MH "Debt, Financial") OR (MH "Financial Stress") OR (MH "Residence Characteristics") OR (MH "Family Separation")) OR TX (“Divorce” OR “separation” OR “marital separation” OR “relationship dissolution” OR “break-up” OR “estrange*” OR “disunion” OR “split” OR “loss” OR “grief” OR “detention” OR “imprison*” OR “incarcerat*” OR “institution” OR “jail” OR “marri*” OR “civil partnership” OR “fired” OR “sacked” OR “redundan*” OR “laid off” OR “retire*” OR “dismiss*” OR “discharge*” OR

“reconcil*” OR “stop work” OR “health change” OR “pregnan*” OR “expectant” OR “expecting” OR “sexual difficulties” OR “birth” OR “adopt*” OR “household” OR “business readjustment” OR “financial change” OR “career change” OR “argu*” OR “mortgage” OR “foreclos*” OR “loan” OR “debt” OR “credit” OR “responsibilit*” OR “demot*” OR “promot*” OR “empty nest” OR “personal achieve*” OR “employ*” OR “start* N2 school” OR “school leaver” OR “graduat*” OR “transition” OR “new home” OR “move home” OR “relocate” OR “remodel*” OR “personal habits” OR “boss” OR “working hours” OR “working condition*” OR “new school” OR “recreat*” OR “leisure” OR “religio*” OR “social activit*” OR “sleep* habit*” OR “family gathering” OR “eating habit” OR “vacation” OR “holiday” OR “violation” OR “Life event”))

Appendix D

Pubmed Search Strategy

(((((("Psychological Trauma"[MeSH Terms] OR "Trauma and Stressor Related Disorders"[MeSH Terms] OR "posttraumatic growth, psychological"[MeSH Terms] OR "Crime"[MeSH Terms] OR "Accidents"[MeSH Terms]) AND "Accidental Injuries"[MeSH Terms]) OR "Natural Disasters"[MeSH Terms] OR "Mass Casualty Incidents"[MeSH Terms] OR "Terrorism"[MeSH Terms] OR "Death"[MeSH Terms] OR "Bereavement"[MeSH Terms] OR "Critical Illness"[MeSH Terms] OR "Disease Outbreaks"[MeSH Terms] OR "Warfare"[MeSH Terms] OR "Intimate Partner Violence"[MeSH Terms] OR "Sex Offenses"[MeSH Terms] OR "Force"[Text Word] OR "stick-up"[Text Word] OR "mugg*"[Text Word] OR "assault*"[Text Word] OR "attack*"[Text Word] OR "robb*"[Text Word] OR "stole*"[Text Word] OR "break-in"[Text Word] OR "burgl*"[Text Word] OR "theft"[Text Word] OR "raid"[Text Word] OR "breaking and entering"[Text Word] OR "housebreak*"[Text Word] OR "forced entry"[Text Word] OR "Accident"[Text Word] OR "injur*"[Text Word] OR "natural disaster"[Text Word] OR "tornado"[Text Word] OR "hurricane"[Text Word] OR "flood*"[Text Word] OR "earthquake"[Text Word] OR "Death"[Text Word] OR "storm"[Text Word] OR "avalanche"[Text Word] OR "fire"[Text Word] OR "blizzard"[Text Word] OR "landslide"[Text Word] OR "mudslide"[Text Word] OR "tsunami"[Text Word] OR "volcan*"[Text Word] OR "cyclone"[Text Word] OR "man-made disaster"[Text Word] OR "train crash"[Text Word] OR "building collapse"[Text Word] OR "bank robb*"[Text Word] OR "danger"[Text Word] OR "arson"[Text Word] OR "war"[Text Word] OR "terror*"[Text Word] OR "chemical threat"[Text Word] OR "radioactiv*"[Text Word] OR "chemical expos*"[Text Word] OR "hazard*"[Text Word] OR "threat*"[Text Word] OR "kill*"[Text Word] OR "dead bod*"[Text Word] OR "murder*"[Text Word] OR "death of child"[Text Word] OR "death of parent"[Text Word] OR "illness"[Text Word] OR "physical disorder"[Text Word] OR "life-threatening"[Text Word] OR "sickness"[Text Word] OR "disease"[Text Word] OR "ailment"[Text Word] OR "afflict*"[Text Word] OR "infect*"[Text Word] OR "contagi*"[Text Word] OR "outbreak"[Text Word] OR "pandemic"[Text Word] OR "epidemic"[Text Word] OR "combat"[Text Word] OR "military"[Text Word] OR "warzone"[Text Word] OR "war zone"[Text Word] OR "Assault"[Text Word] OR "sexual assault"[Text Word] OR "rape"[Text Word] OR "sex offence"[Text Word] OR "sexual violence"[Text Word] OR "interpersonal violence"[Text Word] OR "domestic abuse"[Text Word] OR "domestic violence"[Text Word] OR "interpersonal violence"[Text Word] OR "sexual coercion"[Text Word] OR "unwanted sexual contact"[Text Word] OR "attack*"[Text Word] OR "weapon"[Text Word] OR "gun"[Text Word] OR "knife"[Text Word] OR "beat*"[Text Word] OR "harm"[Text Word] OR "spank"[Text Word] OR "complex PTSD"[Text Word]) AND 1996/01/01:2023/12/31[Date - Publication]) OR (("Life Change Events"[MeSH Terms] OR "Divorce"[MeSH Terms] OR "Family Separation"[MeSH Terms] OR "Career Mobility"[MeSH Terms] OR "Marriage"[MeSH Terms] OR "Pregnancy"[MeSH Terms] OR "Parturition"[MeSH Terms] OR "Correctional Facilities"[MeSH Terms] OR "Retirement"[MeSH Terms] OR "Financial Stress"[MeSH Terms] OR

"Residence Characteristics"[MeSH Terms] OR "Student Dropouts"[MeSH Terms] OR "separation"[Text Word] OR "marital separation"[Text Word] OR "relationship dissolution"[Text Word] OR "break-up"[Text Word] OR "estrange*"[Text Word] OR "disunion"[Text Word] OR "split"[Text Word] OR "loss"[Text Word] OR "grief"[Text Word] OR "detention"[Text Word] OR "imprison*"[Text Word] OR "incarcerat*"[Text Word] OR "institution"[Text Word] OR "jail"[Text Word] OR "marri*"[Text Word] OR "civil partnership"[Text Word] OR "fired"[Text Word] OR "sacked"[Text Word] OR "redundan*"[Text Word] OR "laid off"[Text Word] OR "dismiss*"[Text Word] OR "discharge*"[Text Word] OR "reconcil*"[Text Word] OR "stop work"[Text Word] OR "health change"[Text Word] OR "expectant"[Text Word] OR "expecting"[Text Word] OR "sexual difficulties"[Text Word] OR "birth"[Text Word] OR "adopt*"[Text Word] OR "household"[Text Word] OR "financial change"[Text Word] OR "change employ*"[Text Word] OR "argu*"[Text Word] OR "mortgage"[Text Word] OR "foreclos*"[Text Word] OR "loan"[Text Word] OR "debt"[Text Word] OR "credit"[Text Word] OR "demot*"[Text Word] OR "promot*"[Text Word] OR "personal achieve*"[Text Word] OR "spouse employ*"[Text Word] OR "partner employ*"[Text Word] OR "start school"[Text Word] OR "leave school"[Text Word] OR "graduat*"[Text Word] OR "transition"[Text Word] OR "new home"[Text Word] OR "relocate"[Text Word] OR "remodel*"[Text Word] OR "personal habits"[Text Word] OR "boss"[Text Word] OR "employer"[Text Word] OR "working hours"[Text Word] OR "working condition*"[Text Word] OR "new school"[Text Word] OR "recreat*"[Text Word] OR "leisure time"[Text Word] OR "religio*"[Text Word] OR "social activit*"[Text Word] OR "sleep habit*"[Text Word] OR "family gathering"[Text Word] OR "eating habit"[Text Word] OR "vacation"[Text Word] OR "holiday"[Text Word] OR "violation"[Text Word] OR "life event"[Text Word]) AND 1996/01/01:2023/12/31[Date - Publication])) AND ("Self-Concept clarity"[Title/Abstract] OR "SCC"[Title] OR "Self-Concept Clarity Scale"[Title/Abstract] OR "SCCS"[Title])

Appendix E

Web of Science Search Strategy

"self-concept clarity" OR "self-concept clarity scale" OR "clarity of self-concept" (Topic) AND ("Birth Trauma" OR "Collective Trauma" OR "Intergenerational Trauma" OR "Racial Trauma" OR "Traumatic Loss" OR "Adversity" OR "Natural Disasters" OR "Extreme Weather" OR "Posttraumatic Growth" OR "Posttraumatic Stress Disorder" OR "Emotional Trauma" OR "Posttraumatic Stress" OR "Trauma" OR "Violence" OR "Conflict" OR "Gun Violence" OR "Patient Violence" OR "Police Violence" OR "School Violence" OR "Sexual Violence" OR "Exposure to Violence" OR "Terrorism" OR "Torture" OR "Traumatic Experiences" OR "Emotional Abuse" OR "Domestic Violence" OR "Gender Violence" OR "Physical Abuse" OR "Sexual Abuse" OR "Home Accidents" OR "Industrial Accidents" OR "Pedestrian Accidents" OR "Disasters" OR "Injuries" OR "Transportation Accidents" OR "Air Traffic Accidents" OR "Motor Traffic Accidents" OR "Complex PTSD" OR "Complex Trauma" OR "Hazards" OR "Accidents" OR "Child Death" OR "Parental Death" OR "Partner Death" OR "Sudden Death" OR "Grief" OR “Force” OR “stick-up” OR “mugg*” OR “assault*” OR “attack*” OR “robb*” OR “stole*” OR “break-in” OR “burgl*” OR “theft” OR “raid” OR “breaking and entering” OR “housebreak*” OR “forced entry” OR “accident” OR “injur*” OR “natural disaster” OR “tornado” OR “hurricane” OR “flood*” OR “earthquake” OR “death” OR “storm” OR “avalanche” OR “fire” OR “blizzard” OR “landslide” OR “mudslide” OR “tsunami” OR “volcan*” OR “cyclone” OR “man-made disaster” OR “train crash” OR “building collapse” OR “bank robb*” OR “danger” OR “arson” OR “war” OR “terror*” OR “chemical” OR “radioactiv*” OR “hazard*” OR “threat*” OR “kill*” OR “dead bod*” OR “murder*” OR “death” OR “illness” OR “physical disorder” OR “life-threatening” OR “sickness” OR “disease” OR “ailment” OR “afflict*” OR “infect*” OR “contagi*” OR “outbreak” OR “pandemic” OR “epidemic” OR “combat” OR “military” OR “warzone” OR “war zone” OR “assault” OR “sexual assault” OR “rape” OR “sexual offence” OR “sexual violence” OR “interpersonal violence” OR “domestic abuse” OR “domestic violence” OR “interpersonal violence” OR “sexual coercion” OR “unwanted sexual contact” OR “attack*” OR “weapon” OR “gun” OR “knife” OR “beat*” OR “harm” OR “spank” OR “trauma*” OR “PTSD” OR “post-traumatic stress disorder” OR “complex PTSD” OR “post-traumatic growth” (Topic) OR "Divorce" OR "Marital Separation" OR "Life Changes" OR "Career Change" OR "Lifestyle Changes" OR "Marriage" OR "Pregnancy" OR "Incarceration" OR "Correctional Institutions" OR "Incarcerated" OR "Reemployment" OR "Retirement" OR "Financial Strain" OR "Birth" OR "Living Arrangements" OR "Empty Nest" OR "School Leavers" OR “Divorce” OR “separation” OR “marital separation” OR “relationship dissolution” OR “break-up” OR “estrange*” OR “disunion” OR “split” OR “loss” OR “grief” OR “detention” OR “imprison*” OR “incarcerat*” OR “institution” OR “jail” OR “marri*” OR “civil partnership” OR “fired” OR “sacked” OR “redundan*” OR “laid off” OR “retire*” OR “dismiss*” OR “discharge*” OR “reconcil*” OR “stop work” OR “health change” OR “pregnan*” OR “expectant” OR “expecting” OR “sexual difficulties” OR “birth” OR “adopt*” OR “household” OR “business

readjustment” OR “financial change” OR “profession” OR “vocation” OR “career” OR “employ*” OR “argu*” OR “mortgage” OR “foreclos*” OR “loan” OR “debt” OR “credit” OR “responsibilit*” OR “demot*” OR “promot*” OR “child leav* home” OR “daughter leav* home” OR “son leav* home” OR “in-law trouble*” OR “personal achieve*” OR “graduat*” OR “transition” OR “new home” OR “move home” OR “relocate” OR “remodel*” OR “neighb*” OR “personal habits” OR “boss” OR “employer” OR “working hours” OR “working condition*” OR “new school” OR “recreat*” OR “leisure time” OR “religio*” OR “social activit*” OR “sleep* habit*” OR “family get-together” OR “family gathering” OR “eating habit” OR “vacation” OR “holiday” OR “violation” OR “Life event” (Topic))

Appendix F

The Quality Appraisal Tool Used in this Review: The Standard Quality Assessment Criteria for Evaluating Primary Research Papers from a Variety of Fields (Kmet, 2004)

Table 1. Checklist for assessing the quality of quantitative studies

Criteria		YES (2)	PARTIAL (1)	NO (0)	N/A
1	Question / objective sufficiently described?				
2	Study design evident and appropriate?				
3	Method of subject/comparison group selection or source of information/input variables described and appropriate?				
4	Subject (and comparison group, if applicable) characteristics sufficiently described?				
5	If interventional and random allocation was possible, was it described?				
6	If interventional and blinding of investigators was possible, was it reported?				
7	If interventional and blinding of subjects was possible, was it reported?				
8	Outcome and (if applicable) exposure measure(s) well defined and robust to measurement / misclassification bias? Means of assessment reported?				
9	Sample size appropriate?				
10	Analytic methods described/justified and appropriate?				
11	Some estimate of variance is reported for the main results?				
12	Controlled for confounding?				
13	Results reported in sufficient detail?				
14	Conclusions supported by the results?				

of research. We determined that it was not feasible to develop a single, operational scoring system capturing the central notions of "quality" described in the literature as relevant to both qualitative and quantitative reports. We, therefore, developed two separate systems. Rather than developing explicit definitions for the two types of research, our distinction between the two was practical. Studies employing quantitative methods were appraised using the system for quantitative studies, while studies identified by the researchers as qualitative or employing qualitative methods such as focus groups, semi-structured interviews, etc.[20] were appraised using the system for qualitative studies.

Appendix G

Instructions for Authors: Article Reporting Standards for Psychological

Trauma: Theory, Research, Practice, and Policy

JARS–Quant | Table 1

Information Recommended for Inclusion in Manuscripts that Report New Data Collections Regardless of Research Design

Title and Title Page

Title

- Identify main variables and theoretical issues under investigation and the relationships between them.
- Identify the populations studied.

Author Note

- Provide acknowledgment and explanation of any special circumstances, including
    - Registration information if the study has been registered
    - Use of data also appearing in previous publications
    - Prior reporting of the fundamental data in dissertations or conference papers
    - Sources of funding or other support
    - Relationships or affiliations that may be perceived as conflicts of interest
    - Previous (or current) affiliation of authors if different from location where the study was conducted
    - Contact information for the corresponding author
    - Additional information of importance to the reader that may not be appropriately included in other sections of the paper

Abstract

Objectives

- State the problem under investigation, including main hypotheses

Participants

- Describe subjects (nonhuman animal research) or participants (human research), specifying their pertinent characteristics for the study; in animal research, include genus and species. Participants are described in greater detail in the body of the paper.

Study Method

- Describe the study method, including
  - Research design (e.g., experiment, observational study)
  - Sample size
  - Materials used (e.g., instruments, apparatus)
  - Outcome measures
  - Data-gathering procedures, including a brief description of the source of any secondary data. If the study is a secondary data analysis, so indicate

Findings

- Report findings, including effect sizes and confidence intervals or statistical significance levels

Conclusions

- State conclusions, beyond just results, and report the implications or applications

Introduction

Problem

- State the importance of the problem, including theoretical or practical implications.

Review of Relevant Scholarship

- Provide a succinct review of relevant scholarship, including
  - Relation to previous work
  - Differences between the current report and earlier reports if some aspects of this study have been reported on previously

Hypothesis, Aims and Objectives

- State specific hypotheses, aims, and objectives including
  - Theories or other means used to derive hypotheses

    - Primary and secondary hypotheses
    - Other planned analyses
- State how hypotheses and research design relate to one another.

Method

Inclusion and Exclusion

- Report inclusion and exclusion criteria, including any restrictions based on demographic characteristics.

Participant Characteristics

- Report major demographic characteristics (e.g., age, sex, ethnicity, socioeconomic status) and important topic-specific characteristics (e.g., achievement level in studies of educational interventions).
- In the case of animal research, report the genus, species, and strain number or other specific identification, such as the name and location of the supplier and the stock designation. Give the number of animals and the animals' sex, age, weight, physiological condition, genetic modification status, genotype, health-immune status, drug or test naïveté, and previous procedures to which the animal may have been subjected.

Sampling Procedures

- Describe procedures for selecting participants, including
    - Sampling method if a systematic sampling plan was implemented
    - Percentage of sample approached that actually participated
    - Whether self-selection into the study occurred (either by individuals or by units, such as schools or clinics)
- Describe settings and locations where data were collected as well as dates of data collection.
- Describe agreements and payments made to participants.
- Describe institutional review board agreements, ethical standards met, and safety monitoring.

Sample Size, Power and Precision

- Describe the sample size, power, and precision, including
    - Intended sample size
    - Achieved sample size, if different from the intended sample size
    - Determination of sample size, including
        - Power analysis, or methods used to determine precision of parameter estimates
        - Explanation of any interim analyses and stopping rules employed

Measures and Covariates

- Define all primary and secondary measures and covariates, including measures collected but not included in the report.

Data Collection

- *Describe methods used to collect data.*

Quality of Measurements

- Describe methods used to enhance the quality of measurements, including
    - Training and reliability of data collectors
    - Use of multiple observations

Instrumentation

- Provide information on validated or ad hoc instruments created for individual studies, for individual studies (e.g., psychometric and biometric properties).

Masking

- Report whether participants, those administering the experimental manipulations, and those assessing the outcomes were aware of condition assignments.
- If masking took place, provide a statement regarding how it was accomplished and whether and how the success of masking was evaluated.

Psychometrics

- Estimate and report values of reliability coefficients for the scores analyzed (i.e., the researcher's sample), if possible. Provide estimates of convergent and discriminant validity where relevant.
- Report estimates related to the reliability of measures, including
    - Interrater reliability for subjectively scored measures and ratings
    - Test–retest coefficients in longitudinal studies in which the retest interval corresponds to the measurement schedule used in the study
    - Internal consistency coefficients for composite scales in which these indices are appropriate for understanding the nature of the instruments being used in the study
- Report the basic demographic characteristics of other samples if reporting reliability or validity coefficients from those samples, such as those described in test manuals or in norming information for the instrument.

Conditions and Design

- State whether conditions were manipulated or naturally observed. Report the type of design as per the JARS–Quant tables:
    - Experimental manipulation with participants randomized
        - Table 2 and Module A
    - Experimental manipulation without randomization
        - Table 2 and Module A
    - Clinical trial without randomization
        - Table 2 and Modules A and C
    - Clinical trial without randomization
        - Table 2 and Modules B and C
    - Non-experimental design (i.e., no experimental manipulation): observational design, epidemiological design, natural history, and so forth (single-group designs or multiple- group comparisons)
        - Table 3
    - Longitudinal design
        - Table 4
    - N-of-1 studies
        - Table 5
    - Replications
        - Table 6
- Report the common name given to designs no currently covered in JARS-Quant

Data Diagnostics

- Describe planned data diagnostics, including
    - Criteria for post-data-collection exclusion of participants, if any
    - Criteria for deciding when to infer missing data and methods used for imputation of missing data
    - Definition and processing of statistical outliers
    - Analyses of data distributions
    - Data transformations to be used, if any

Analytic Strategy

- Describe the analytic strategy for inferential statistics and protection against experiment-wise error for:
    - Primary hypotheses
    - Secondary hypotheses
    - Exploratory hypotheses

Results

Participant Flow

- Report the flow of participants, including

  - Total number of participants in each group at each stage of the study
  - Flow of participants through each stage of the study (include figure depicting flow, when possible; see the JARS–Quant Participant Flowchart)

Recruitment

- Provide dates defining the periods of recruitment and repeated measures or follow-up

Statistics and Data Analysis

- Provide information detailing the statistical and data-analytic methods used, including
  - Missing data
    - Frequency or percentages of missing data
    - Empirical evidence and/or theoretical arguments for the causes of data that are missing—for example, missing completely at random (MCAR), missing at random (MAR), or missing not at random (MNAR)
    - Methods actually used for addressing missing data, if any
  - Descriptions of each primary and secondary outcome, including the total sample and each subgroup, that includes the number of cases, cell means, standard deviations, and other measures that characterize the data used
  - Inferential statistics, including
    - Results of all inferential tests conducted, including exact p values if null hypothesis significance testing (NHST) methods were used, and reporting the minimally sufficient set of statistics (e.g., dfs, mean square [MS] effect, MS error) needed to construct the tests
    - Effect-size estimates and confidence intervals on estimates that correspond to each inferential test conducted, when possible
    - Clear differentiation between primary hypotheses and their tests–estimates, secondary hypotheses and their tests–estimates, and exploratory hypotheses and their test–estimates
  - Complex data analyses—for example, structural equation modeling analyses (see also Table 7), hierarchical linear models, factor analysis, multivariate analyses, and so forth, including
    - Details of the models estimated
    - Associated variance–covariance (or correlation) matrix or matrices
    - Identification of the statistical software used to run the analyses (e.g., SAS PROC GLM or the particular R package)

  - Estimation problems (e.g., failure to converge, bad solution spaces), regression diagnostics, or analytic anomalies that were detected and solutions to those problems.
  - Other data analyses performed, including adjusted analyses, if performed, indicating those that were planned and those that were not planned (though not necessarily in the level of detail of primary analyses).
- Report any problems with statistical assumptions and/or data distributions that could affect the validity of findings.

Discussion

Support of Original Hypotheses

- Provide a statement of support or nonsupport for all hypotheses, whether primary or secondary, including
  - Distinction by primary and secondary hypotheses
  - Discussion of the implications of exploratory analyses in terms of both substantive findings and error rates that may be uncontrolled

Similarity of Results

- Discuss similarities and differences between reported results and work of others

Interpretation

- Provide an interpretation of the results, taking into account
  - Sources of potential bias and threats to internal and statistical validity
  - Imprecision of measurement protocols
  - Overall number of tests or overlap among tests
  - Adequacy of sample sizes and sampling validity

Generalizability

- Discuss generalizability (external validity) of the findings, taking into account
  - Target population (sampling validity)
  - Other contextual issues (setting, measurement, time; ecological validity)

Implications

- Discuss implications for future research, program, or policy.

Chapter Two: Empirical Paper

Self-Concept Clarity and Trauma: The Mediating Role of Self-Concept Clarity Between Adulthood and Childhood Trauma and Post-Traumatic Distress

Prepared in accordance with the instructions for authors for:

Psychological Trauma: Theory, Research, Practice, and Policy

Laura Walker

Doctorate in Clinical Psychology

Faculty of Health and Medicine

Lancaster University

Lancaster

LA1 4YT

l.walker10@lancaster.ac.uk

Word Count: 7,854

Excluding references, tables, figures and appendices

Abstract

Objective: Lower self-concept clarity (SCC) is associated with childhood trauma and specific experiences of trauma during adulthood, as well as poor mental health outcomes. This study aimed to explore the relationships between traumatic experiences during adulthood, SCC and post-traumatic stress disorder (PTSD) symptoms. It was hypothesised that: There would be an association between PTSD symptoms and SCC; There would be a difference in SCC and PTSD symptoms between the adulthood trauma group and the childhood trauma groups; SCC would mediate the relationship between trauma age group and PTSD symptoms.

Participants: A clinical sample was recruited, consisting of 95 adults who were accessing Improving Access to Psychological Therapies (IAPT) for therapy for their mental health problem.

Method: A cross-sectional study was conducted using online self-report measures of SCC, trauma outcomes, experiences of trauma throughout the lifespan and demographic information.

Findings: SCC was significantly negatively correlated with PTSD symptoms across the sample (p = <0.01). Childhood trauma survivors reported significantly lower SCC and greater PTSD symptoms than those who experienced trauma during adulthood alone. SCC mediated the relationship between trauma age group, and PTSD outcomes, with more meaningful associations found in the childhood trauma group.

Conclusions: Findings align with previous research linking SCC and poor mental health outcomes. Future research could benefit from examining SCC alongside specific trauma types, and in adolescent samples. Limitations include the small sample and inability to establish cause and effect due to the cross-sectional design.

The Structure of Self

Self-concept clarity (SCC) is "*the extent to which self-beliefs are clearly and confidently defined, internally consistent and temporally stable*" (Campbell et al., 1996, p.141). People with higher SCC feel sure of who they are and have a stronger, more consistent understanding of themselves across different settings (Campbell et al., 1996). SCC belongs to a class of constructs that involves structural aspects of the self (Crocetti & Van Dijk, 2018), referring to the way in which the contents of the self-concept are organised (Campbell et al., 2003). This is distinct from the content itself, which focuses on the knowledge held about individual characteristics. Self-esteem, which is closely linked with SCC (DeMarree & Lodi-Smith, 2018), focuses on the content of self (how highly one thinks of oneself) whereas SCC addresses how consistently this knowledge is held (whether an individual's view of themselves varies from one day to the next).

Whilst thought to develop in adolescence, when an individual's sense of self is faced with biological, social, educational and cognitive changes (Crocetti et al., 2016), SCC is subject to disruption throughout the lifespan (Lodi-Smith & Roberts, 2010). Traumatic events are disruptive to an individual's sense of self, including SCC (Kouvelis & Kangas, 2021).

The *Theory of Structural Dissociation of the Personality* suggests that following a potentially traumatizing event, some individuals are unable to integrate the experience into their biography of themselves (van der Hart et al., 2010). As a result, the way in which the contents of the self are structured following a traumatic event may be problematic. This can lead to psychological difficulties later in life, such as dissociative disorders and Post-Traumatic Stress Disorder (PTSD) symptoms, such as flashbacks or feeling that the event was unreal.

Trauma survivors can be characterised into sets of ‘action tendencies,’ which describe the tendency to respond to events in certain ways. van der Hart et al. (2010) posit that these ‘action tendencies’ characterize two basic types of psychobiological subsystems of the personality, which construct models of who that person is, what the world is like and how they relate to it. Therefore, an individual’s first-person perspective is based on on-going integrative actions of creating models of self. Some survivors may be not able to integrate trauma memories into phenomenal models and concepts of self. Paetzold and Rholes (2021) also cite the links between an integrated sense of self, attachment style and psychological difficulties later in life. An integrated personality will encompass a single, consistent first-person perspective on the self, others, the world and an individual’s relation to the world (van der Hart et al., 2010). As such, the structure of the self, encompassing SCC, could be crucial in our understanding of trauma symptom development in some survivors.

The Impact of Trauma

Trauma is defined as “*exposure to actual or threatened death, serious injury or sexual violence*,” through direct experience, witnessing, learning that it happened to a close person and repeated exposure to details of the traumatic event (American Psychiatric Association, 2013). The long-term impact of trauma is influenced by factors such as randomness, intent, the age at which the trauma occurred, the nature of the relationship with the perpetrator and whether the event was repeated (Arnold & Fisch, 2011).

Early childhood trauma is linked with lower social and psychological functioning in adulthood and poorer physical and mental health outcomes (Felitti & Anda, 2010; Szajnberg et al., 2010), including depressive symptoms (Bureau et al.,

2010), suicidality, hallucinations and psychosis (Felitti & Anda, 2010; Varese et al., 2012), bipolar disorder, phobias, anxiety disorders and PTSD (van der Kolk & d'Andrea, 2010). Similarly, reduced SCC is associated with poorer mental health outcomes including positive psychotic symptoms (de Sousa et al., 2016; Evans et al., 2015; Weinberg et al., 2012), disordered eating (Perry et al., 2008), personality disorder traits (Cohen et al., 2016), depression (Wong et al., 2019) and anxiety disorders (Butzer & Kuiper, 2006), as well as quality of life indicators such as suicidality and loneliness (Wong et al., 2019), relationship satisfaction (Lewandowski et al., 2010) and workplace meaningfulness (Oh & Roh, 2019). Given that both traumatic experiences and SCC are individually associated with poor mental health outcomes, the question arises as to whether the constructs interact, leading to specific outcomes.

Self-Concept Clarity and Exposure to Trauma Across the Lifespan

There is a growing body of research examining the relationships between childhood trauma, SCC and adult outcomes. Childhood abuse, particularly emotional neglect, is linked with lower SCC due to lack of carer attunement, resulting in the child developing disparate and un-integrated self-representations (Ice, 2019). Significant adversity has a negative impact on the developing brain (Lupien et al., 2018), with exposure to trauma during early life increasing the risk of mental health problems and risky adult behaviours (Felitti et al., 1998). Therefore, trauma at different stages of life will have different impacts on brain development (Bremner, 2006), and as a result the impact of trauma during adulthood or childhood may differ. In addition, if SCC is considered to be protective, the impact of trauma may be greater during the developmental period compared with during adulthood.

Despite this, there is still potential for adults to encounter overwhelming stressful incidents, especially through occupational trauma. Krause et al. (2004), perhaps controversially, argue that traumatic experiences during adult life play a more important role in shaping adult physical health than adversity encountered in childhood. Exposure to trauma at any age is related to increased mental health problems compared to those without a history of trauma (Zlotnick et al., 2008). This contradiction, coupled with the gaps in literature focusing on adulthood trauma and SCC, prompts exploration. Should a relationship be found, it could provide an insight to the mechanisms through which trauma symptoms develop. SCC could explain some of the variation in outcomes. An adult sample was chosen for this study because they may have already developed SCC which was unchallenged by adversity or trauma during critical developmental years. It is important to consider the impact of trauma throughout the lifespan and its potential links with SCC. Research could benefit from knowing what the differences might be and why.

There are relationships between SCC and specific traumatic events during adulthood, including bereavement (Boelen, 2017; Boelen et al., 2012), birth trauma (Holt et al., 2018) and sexual assault (Keshet & Gilboa-Schechtman, 2017, 2019). However, no research is apparent regarding the relationship between SCC and the full range of traumas during adulthood.

Why Trauma and Self-Concept Clarity Matter

It is important to consider SCC alongside trauma because it is a defining feature of some post-traumatic difficulties. Complex Post-Traumatic Stress Disorder (CPTSD) occurs when a person has endured recurring or long-term exposure to extremely threatening traumatic events (ICD-11; World Health Organization, 2022). Indicators of CPTSD include an impaired sense of self, alterations in self-perception

and a compromise in self-development (Resick et al., 2012). Whilst not directly referencing SCC, the ICD-11 identifies disruption to the self as a criterion for the diagnosis of CPTSD, highlighting the potential significance of its role (Brewin et al., 2017).

The relationship between trauma and self-identity is thought to be reciprocal, with traumatic experiences disrupting the course of identity development, whilst an individual's identity might also alter the trajectory of post-traumatic outcomes (Berman et al., 2020). SCC is intertwined with healthy identity development (Crocetti & Van Dijk, 2018), and may be vulnerable to disruption in the wake of traumatic events.

Exploring the relationships between SCC and trauma during adulthood is important because if a link is found, it could have meaningful implications for healthcare interventions and pathways. SCC is important in promoting recovery in people with severe mental health difficulties (Hasson-Ohayon et al., 2014; Hasson-Ohayon et al., 2016), therefore clinicians and services may be able to consider interventions to support individuals who are vulnerable to poor mental health outcomes due to low SCC. Enhancing SCC could ameliorate mental health difficulties by promoting stronger and more consistent self-knowledge (Chiu et al., 2017).

Alongside its links with traumatic events and health outcomes, research has begun to examine SCC as a mediating variable, for example between childhood adversity and outcomes such as psychosis (Evans et al., 2015) or poor mental health (Wong et al., 2019). SCC also mediates associations between non-trauma related constructs, such as wellbeing and social anxiety (Liu et al., 2017), stress and subjective wellbeing (Ritchie et al., 2011) and media influence and body image (Seo

et al., 2022). Given its role as a mediator in various psychological phenomena, including trauma, it would be interesting to explore SCC's potential mediating role between trauma during adulthood and mental health outcomes.

The literature provides evidence that traumatic events in childhood and specific events during adulthood are associated with reductions in SCC. However, a gap remains whereby the relationship between adult trauma, SCC (and its potential role as a mediator) and PTSD symptoms remains unexplored. This study aims to contribute a piece of the puzzle regarding what we know about SCC, trauma and the sequalae of psychological processes that could make individuals more vulnerable to trauma symptoms and poor mental health outcomes.

The present study aims to examine the impact of trauma during adulthood and childhood on PTSD outcomes and whether SCC mediates these relationships.

Hypotheses

1. There will be an association between trauma symptoms and SCC.
2. There will be a difference in SCC between the group who experienced trauma exclusively in adulthood compared with the group where childhood trauma had been experienced.
3. There will be a difference in trauma symptoms between the group who experienced trauma exclusively in adulthood compared with the group where childhood trauma had been experienced.
4. SCC will mediate the relationship between trauma age group (adulthood and childhood) and trauma symptoms.

Method

Design

A cross-sectional, questionnaire-based design was adopted, recruiting a clinical sample. All data were collected via an online system (Qualtrics, 2005). This project received ethical approval from the Health Research Authority and Health Care Research Wales (HRA & HCRW).

The researcher consulted with a Service User Researcher in the Trust that was supporting recruitment for this study. Recommended changes were implemented, for example use of diverse language around trauma experiences. Overall it was agreed that the study was of low risk to participant wellbeing. To acknowledge the perspective of Experts by Experience, Members of the Lancaster University Public Involvement Network were invited via email to share feedback about the study and materials.

Participants

A clinical sample of participants was recruited from Improving Access to Psychological Therapies (IAPT; Clark, 2018) services across the Northwest region of England. IAPT services provide evidence-based primary care psychological interventions for individuals with common mental health problems. Clients are routinely asked if they consent to being contacted for research purposes and their details collated. Consenting individuals who had already completed an assessment with an IAPT practitioner, who had not identified any elements of high risk to themselves or others, were invited to participate. Participants were required to be aged 18+ and fluent in English.

Service referral criteria included: anyone aged over 16 with a GP covered by the service who may be struggling with depression or anxiety disorders suitable for Cognitive Behavioural Therapy. Generally, people who are accessing mental health

teams or therapy elsewhere and those who are affected by bipolar disorder, psychosis, schizophrenia, personality disorder, suicide risk, concerns about memory in older age or dependency on drugs or alcohol are excluded.

Measures

Demographic information. Participants were asked to provide their age, gender, ethnicity, sexual orientation, highest level of education attained, marital status, employment status and the reason for their referral to IAPT. These are the participant's self-reports of reasons for their referral and were not verified by the researcher, who did not have any access to personal records or IAPT databases.

Self-Concept Clarity. The Self-Concept Clarity Scale (SCCS; Campbell et al., 1996) is a 12-item scale which measures the extent to which an individual's self-concept is 'clearly defined, internally consistent and temporally stable.' Respondents answer on Likert scales from 1 (strongly disagree) to 5 (strongly agree). Example items include "in general I have a clear sense of who I am" and the scale includes reverse-scored items, such as "my beliefs about myself often conflict with one another." The higher an individual's score on this scale, the greater their SCC. The SCCS has a good internal consistency ($\alpha = .86$) and test-retest reliability ($r = .79$) (Campbell et al., 2003), even when translated for use beyond Western cultures (Wu, 2012). The Cronbach's α score for the SCCS in this study was .83, showing good internal consistency.

Trauma symptomatology. The PTSD Checklist 5 (PCL5; Weathers, 2013) was used to measure trauma symptomatology. This measure was found to be a 'psychometrically sound' measure of PTSD symptoms with consistently good reliability (Blevins, 2015). Participants respond on Likert scales from 0 (not at all) to 4

(extremely) in regards to how often in the last month they had been troubled by the problem. Items on the scale include “feeling jumpy or easily startled” and “avoiding memories, thoughts, or feelings related to the stressful experience?” A higher score on this scale indicates more severe post-traumatic symptoms. The Cronbach’s α score for the PCL5 in this study was .93, showing very good internal consistency.

Experiences of trauma (and trauma age group). Traumatic experiences and the age at which they occurred were collected using Green’s (1996) Trauma History Questionnaire (THQ). This widely used measure has good test-retest reliability and evidence of validity (Hooper et al., 2011). It was selected due to its ability to reliably capture frequencies and experiences of different types of trauma, which can be grouped into ‘themes,’ (crime-related events, general disaster and trauma and physical and sexual experiences), which created scope to explore the impact of these themes on SCC and outcomes. The THQ requires participants to specify the age at which the trauma occurred; any traumatic experience reported over the age of 18 was classified as an adult trauma.

Procedure

An email containing information about the study and a link for participation was sent to eligible individuals. Upon clicking the link, potential participants were advised about the nature of the study through an information sheet and consent form.

Upon proceeding, participants were asked to complete demographic information, the SCCS, THQ and finally the PCL5. Following questionnaire completion, participants received a debrief which included helpful resources to access in case of distress.

Data Analysis

To examine the association between SCC and trauma symptoms, a Pearson's correlation was conducted (Hypothesis 1). A predictive power calculation for a 2-tailed correlation to achieve a power of 0.8 at a probability level of $p = .05$ requires 82 participants for a medium effect size (0.3), which was achieved in this sample. A medium effect size was chosen because previous research citing relationships between SCC, trauma and psychological outcomes report medium-sized relationships (Wong et al., 2019; Keshet & Gilboa-Schechtman, 2019).

For data analysis purposes, two groups were then defined on the basis of *adulthood* vs *childhood* trauma, i.e. those with trauma exclusively in *adulthood* (labelled '*adulthood;'* n=29) versus those with *childhood* trauma (whether or not there was also trauma during adulthood; labelled '*childhood;'* n=62). The four participants who reported no trauma were excluded. These groups were used to compare differences between those who had been traumatized in *childhood* and *adulthood* through the following analyses.

Independent t-tests were conducted to identify whether there were differences between the *adulthood* trauma and *childhood* trauma groups in SCC (Hypothesis 2) and PTSD symptoms (Hypothesis 3). A predictive power calculation for a 2-tailed between groups t-test to achieve power of 0.8 at a probability level of $p = .05$ requires around 64 participants per group for a medium effect size (0.3).

Finally, a mediation analysis was conducted to examine whether SCC played a mediating role between trauma age group (*childhood* or *adulthood*) and trauma symptoms (Hypothesis 4). To explore the mediating role of SCC between trauma age and level of trauma symptomatology, a bias-corrected bootstrap test has the

highest power (Fritz & MacKinnon, 2007). For 0.8 power to be achieved within a bias-corrected bootstrap test where the effects of the independent variable (trauma age group) and mediating factor (SCC), and the effects of the mediating factor (SCC) and the dependent variable (trauma symptomatology) are 0.39 (a medium effect size), an estimated minimum sample size of 71 was recommended (Fritz & MacKinnon, 2007). Evans et al., (2015) cite a medium effect size when exploring the mediating effects of SCC between childhood trauma and psychosis.

Results

Sample Characteristics

The following will summarise characteristics of the whole sample. Of the 1180 individuals who were invited, 96 participated (8% response rate). One participant was excluded as they did not answer any questions on one of the measures, leaving a total sample of 95. Three participants missed question 10 on the SCCS. Although this is less than 5% of cases, an analysis was conducted to confirm that the data were missing at random. Within the whole sample, eight items were missed on the SCCS and PCL5 collectively (0.2% of survey items). A mean substitution method was used to handle missing values. This involved calculating the average scores for that item from participants who answered and using this to complete missing items. The changes in the overall score for each participant on the SCCS and PCL5 were minimal, with a maximum difference in mean overall score of 0.08 when comparing the adjusted data with original data.

Participants were aged between 18 and 73 years (M = 36.72, SD = 14.65). The majority were female (n=77, 81.1%) with 17 male and one non-binary

participant. Most of the sample described themselves as white (n=88, 92.6%). Demographic data are summarised in Table 1.

TABLE 1 ABOUT HERE

Participants were referred to their local IAPT service for support with generalized anxiety disorder (n=24), depression (n=22), PTSD (n=20), health anxiety (n=8), social anxiety (n=3), obsessive-compulsive disorder (n=2), something else (n=9) and some were unsure of the reason for their referral (n=7). The sample reported trauma in both childhood and adulthood (n=55, 57.9%), exclusively during adulthood (n=29, 30.5%), exclusively during childhood (n=7, 7.4%) or not at all (n=4, 4.2%).

Cut-off scores indicative of PTSD according to the PCL5 vary depending on the population and setting (example military vs civilian), with a suggested cut-off ranging between 31-33 (Ashbaugh et al., 2016; Murphy et al., 2017; Weathers, 2013). In the present study, the higher cut-off was used to ensure that the certainty of PTSD was greater. Scores of over 33 were considered indicative of PTSD.

Despite only 20 participants citing PTSD as the main reason for their referral, 66 participants (69.5%) met the threshold suggestive of a diagnosis of PTSD. Of the 20 people referred for PTSD, one did not meet the threshold, meaning that 47 people met the threshold for PTSD but their referral was for another reason. A significant relationship between referral reason (*PTSD* or *not PTSD*) and PTSD symptoms (*PTSD caseness* or *below PTSD caseness*) was found χ^2 (1, N = 95) = 7.78, p = .005.

Literature suggests that the nature of a trauma can influence outcomes for participants in terms of differences in both SCC and trauma symptoms (Keshet and

Gilboa-Schechtman, 2019). Therefore, supplementary analyses were performed to enable comparisons between the sample in this study and those reported elsewhere. Independent t-tests revealed that SCCS and PCL5 scores did not significantly differ between people who experienced crime-related trauma (n=52) or general disaster (n=89) and those who had not.

TABLE 2 ABOUT HERE

People who reported physical or sexual trauma (n=66) scored significantly lower on the SCCS (t = 2.11, p = .04) and higher on the PCL5 (t = -3.05, p = .003) than those who did not, highlighting that the nature of the trauma influences outcomes.

TABLE 3 ABOUT HERE

Main Analyses

Data were checked for parametricity and suitability for relevant analyses. Shapiro-Wilk's test (Shapiro & Wilk, 1965) and a visual inspection of the histograms, normal Q-Q plots and box plots (Appendix A) showed that the SCCS scores were approximately normally distributed in the *adulthood* sample, with a skewness of .36 (SE = .44) and kurtosis of -.37 (SE = .86). However, in the *childhood* group, the data had a skewness of 1.21 (SE = .30) and kurtosis of 1.50 (SE = .60), which created a positive skew across the whole sample (skewness = .84, SE = .25; kurtosis = .38, SE = .49). The 'winsorizing' technique was used to replace outliers with the next highest score that was not an outlier (Field, 2018a). Skewness and kurtosis were <1 following implementation of this technique.

For PCL5 scores, data for both groups were approximately normally distributed according to Shapiro Wilk's test and a visual review of histograms, normal Q-Q plots and box plots.

Hypothesis 1

Univariate analyses of association between main study variables are presented in Table 4. There was a significant negative correlation between trauma symptomatology and SCC across the whole sample (r = -.47, p = <0.01), which confirmed Hypothesis 1.

TABLE 4 ABOUT HERE

The sample was then split based on the formal definition of *adulthood* and *childhood* trauma groups as per the information in the Data Analysis section. For the *adulthood* group, the correlation between SCC and trauma symptomatology was non-significant (n=29, r = -.33, p = .08). For the *childhood* group, the there was a significant correlation (n=55, r = -.49, p = <0.01). This indicates a difference in outcomes between the *adulthood* and *childhood* groups. However, the *adulthood* group is underpowered due to a small sample, and a post-hoc calculation suggests a power of 0.37.

Comparison of *Adulthood* Trauma and *Childhood* Groups

Hypothesis 2

All of the following analyses were conducted based on the formal definition of *adulthood* and *childhood* trauma groups. Hypothesis 2 was assessed using independent t-tests. A medium effect size required 64 participants in each group but this was not reached. However, the sample size for each group was met for a large effect size (n=26).

An independent t-test found significant differences (*t* (89) = 2.43, *p* =.02) between SCC outcomes for the *adulthood* group (M = 32.06, SD = 8.83) and the *childhood* group (M = 27.79, SD = 7.26). This suggests that people who experienced trauma exclusively in *adulthood* had significantly higher SCC than *childhood* trauma survivors, although in absolute terms the difference in SCC appears small. This supports Hypothesis 2.

Hypothesis 3

Hypothesis 3 was supported by further independent t-tests which explored the differences between trauma symptoms between each group. There were significant differences (*t* (89) = 2.6, *p* =.01) between post-traumatic distress for the *adulthood* participants (M = 35.21, SD = 17.28) and the *childhood* participants (M = 45.15, SD = 16.76). The magnitude of the difference in the means (mean difference = 9.94, 95% CI [2.37, 17.51]) was significant. These findings suggest that *childhood* trauma survivors experienced significantly more severe PTSD symptoms than survivors of trauma in *adulthood*.

Hypothesis 4

The PROCESS extension (Hayes, 2018) was used to conduct a mediation analysis in SPSS (Hypothesis 4; Kane & Ashbaugh, 2017). The model (Figures 1-2) considers the dichotomous independent variable (trauma age group: *adulthood* or *childhood*) against SCC (mediator; measured by the SCCS) and trauma symptomology (dependent variable; measured by the PCL5).

Before mediation analysis, the data were examined for meeting statistical assumptions, including homeoscedacticity of the data, linear relationships between variables, normality and independent data points (Hayes, 2018; Kane & Ashbaugh,

2017).

The outcome of the mediation provided results of the linear model of SCC predicted from trauma age group (‘*a*’ path; Figures 1-2). Trauma age group significantly predicted SCC, $a = -4.26$, 95% CI [−7.74, −0.78], $p = 0.02$. The negative effect value indicates that SCC was greater in the adulthood group.

SCC significantly predicted trauma symptomatology outcomes (‘*b’* path; Figures 1-2), $b = -0.93$, 95% CI [-1.35, -0.52], $p < 0.001$. As SCC increases, trauma symptomatology outcomes decline (and vice versa).

Trauma age group did not significantly predict trauma symptomatology outcomes with SCC in the model (‘*c*’’ path; Figures 1-2), $c' = 5.96$, 95% CI [−1.14, 13.07], $p = 0.10$, suggesting that SCC played a part in mediating the relationship between trauma age group and trauma symptoms.

The mediation analysis displays the total effect of the predictor (trauma age group) on the outcome (trauma symptom outcomes) when SCC (the mediator) is not present in the model (Field, 2018b). When SCC is not in the model, trauma age group significantly predicts trauma symptoms ($c = 9.94$, 95% CI [2.37, 17.51], $p = 0.01$. Since *childhood* traumas were labelled with ‘1’, the positive b-value suggests that PTSD outcomes are worse in the *childhood* population.

The final mediation outcome displays results for the indirect effect of trauma age group on trauma symptoms (the effect via SCC) and suggests a significant mediation: $ab = 3.97$, 95% CI [0.52, 8.32]. Given that the CI range does not include zero, it supports the idea that SCC mediated the relationship between trauma age group and PTSD outcomes.

Discussion

Summary of Findings

This study considers an alternative perspective to previous research, shifting the focus from childhood trauma to people who experienced trauma during adulthood. In summary, there is a relationship between *childhood* or *adulthood* trauma, SCC and trauma symptomatology. Findings are suggestive of a closer relationship between childhood trauma and outcomes, which is consistent with the current evidence base.

Through correlational analyses, SCC and trauma symptomatology were found to be significantly associated across the sample. The negative relationship suggests that as SCC increases, trauma symptoms are expected to decrease (Hypothesis 1). This finding is consistent with previous research linking self-concept to post-traumatic distress (Keshet & Gilboa-Schechtman, 2017). Since higher SCC is associated with improved mental wellbeing (Binsale, 2017), this finding could have clinically relevant implications. However due to unclear causality it is impossible to conclude whether a person's trauma symptomatology changed due to external factors and consequently affected SCC.

Adulthood versus Childhood Trauma

As predicted in Hypothesis 2, the results suggest that there are differences in SCC depending on trauma age group (*adulthood* or *childhood* trauma). Whilst this finding is consistent with previous research around childhood trauma and SCC, it does not highlight survivors of adulthood trauma as particularly vulnerable to lower SCC. The *adulthood* trauma group had significantly higher SCC than the *childhood* trauma group.

SCC is said to develop in adolescence, when an individual consolidates their

sense of identity through formation of personal values and roles (Schwartz et al., 2011). Trauma occurring in childhood could invalidate an individual's sense of self and limit future opportunities for identity development. Identity disruption, operationalized by SCC, is one of the mechanisms through which adverse childhood experiences lead to poor mental health outcomes (Hayward et al., 2020). In the present study, SCC was higher in individuals who experienced adulthood trauma exclusively, which in turn was associated with less severe PTSD symptoms. This could perhaps suggest that traumatic experiences are less likely to disrupt an individual's sense of self if it is already established and potentially more robust compared to disruption during childhood when it is still developing. However, this cross-sectional study was unable to establish changes in SCC over time, so the direction of the relationship is unclear.

This study does not specifically analyse the crucial period of adolescence or emerging adulthood and SCC disruption in the face of trauma: future research could address this. It should be noted that trauma occurring during childhood is a risk factor for subsequent trauma occurring during adulthood (Bürgin et al., 2021). Furthermore, trauma experienced exclusively in childhood was relatively rare within the sample. The significantly higher levels of PTSD seen within the *childhood* trauma group (Hypothesis 3) could be due to an accumulation of trauma as opposed to the fact that childhood trauma occurred. However, SCC may still play a part in this, as it may be considered a risk factor for further traumas itself. As the evidence stands, the causal links between these variables need teasing out further before firm conclusions can be drawn.

This study could help identify whether SCC is subject to disruption following traumatic occurrences, as some previous studies suggest. This could happen

through the breakdown of previously held self-assumptions and modification of existing schemas about oneself (Keshet and Gilboa-Schechtman, 2017). For example, survivors of sexual assault may have been subject to "*extreme*" schema changes and experience that contradict previous self-perceptions (Keshet and Gilboa-Schechtman, 2019, p.479). Thus the importance of studying an adult sample could shed light on the sequalae of symptom development and post-traumatic difficulties which might not be evident in an adolescent sample whose SCC has not yet fully developed.

Self-Concept Clarity as a Mediator

In this study, a mediating effect was present, where the effects of trauma age group on trauma symptoms operate through the effect of SCC (Hypothesis 4). Thus, SCC is a possible reason for the effect of trauma age on trauma symptoms. This is consistent with previous research whereby SCC plays a mediating role between traumatic experiences and poor mental health outcomes (Evans et al., 2015; Holt et al., 2018; Paetzold & Rholes, 2021).

Similarly, previous research cites SCC as a mediator between distressing situations and unpleasant outcomes, for example between loneliness and depression (Richman et al., 2016), life stress and depression (Chang, 2001) and stress and subjective wellbeing (Ritchie et al., 2011). It is clear from both the evidence base and current findings that SCC has an important role to play in mediating processes towards or away from better overall wellbeing. This is clinically relevant because it can be used to understand processes between traumatic events and outcomes, and could influence interventions towards positive change (Agler & De Boeck, 2017). The clinical sample recruited for this study should be representative of other service users accessing primary care mental health services,

and as such could inform care pathways in IAPT going forwards.

A possible connection between SCC and poor mental health outcomes could be linked with its role with regards to coping, an unexplored variable within this study. SCC is associated with coping style (Cicero, 2018), whereby individuals with higher SCC are more likely to engage with planning and taking action, whereas individuals with low SCC are more likely to engage with maladaptive coping styles (Smith et al., 1996). Individuals with higher SCC may hold greater behavioural options to draw upon when faced with trauma, which may underly the findings of the present study. In contrast to childhood trauma victims, those who experienced adulthood trauma may have developed adequate coping styles to protect SCC in the aftermath of trauma. However, because the direction of the association is unclear, it could be that at the time of traumatization, the adults already have increased SCC compared with their younger counterparts, and are able to utilize different behaviours.

SCC development is thought to intersect with interactions with significant others, particularly during adolescence where identifying a sense of self is a ‘core developmental task’ during a time of significant change (Lodi-Smith & Crocetti, 2018). Prior to this time, the developing self can be considered alongside more observable personality constructs such as ‘The Big Five’ (Doherty & Hughes, 2014). Childhood adversity may influence personality development, prompting higher neuroticism and lower resilience in the face of challenging events later in life (Schneider et al., 2021). This could link with self-related constructs, including SCC, as it informs the way individuals perceive and interact with the world around them. SCC relates negatively with neuroticism, anxious attachment, avoidant attachment and passive coping styles (Dunlop, 2018).

Relationships have been identified between disrupted early attachment and difficulties in constructing a meaningful life narrative and self-identity (Holmes, 2014). Individuals who experienced their first traumatic event during adulthood may have lived through the SCC developmental period without significant disruption, and consequently may be less vulnerable in the aftermath of trauma.

Self-Concept Clarity and the Nature of Trauma

People who had experienced physical and sexual trauma had lower SCC and higher PTSD severity than those who did not. These findings are consistent with existing research around sexual trauma (Keshet & Gilboa-Schechtman, 2017, 2019), identity confusion and re-identification (for example from strong and independent to "victim") in the aftermath (Boyle, 2017). Interpersonal trauma, in particular sexual abuse, has been found to be significantly associated with identity disruption in comparison to controls and other types of abuse, with greater identity disturbance in younger victims (Kouvelis & Kangas, 2021). The current findings are consistent with this literature. However, the t-tests conducted in this study that compare outcomes depending on trauma type do not consider how these factors overlap, for example people who experienced only physical and sexual trauma compared with those who experienced all three trauma types. Thus, the interactions between the type of trauma, SCC and post-traumatic distress require further attention.

"Betrayal trauma" refers to incidents where "*individuals or institutions that people depend on for survival harm or violate them*," (Freyd et al., 2005, p.84) and could have a profound impact on one's sense of self. Such experiences involve a significant boundary violation and betrayal of trust, which could be particularly impactful for the individual's developing sense of self. Betrayal traumas are also associated with increased symptoms of PTSD and dissociation (Goldsmith et al.,

2012) and changes in self-related constructs such as low self-esteem (Tremblay et al., 1999) and low self-efficacy (Lawson & Akay-Sullivan, 2020). Betrayal traumas are damaging to overall wellbeing, relationships, self-concept and beliefs about others and the world (Freyd et al., 2005) and an individual may disconnect themselves from others or experience dissociative symptoms as a result (Lawson & Akay-Sullivan, 2020). This links to theories of some trauma survivors being unable to integrate trauma memories into their concept of self, which could link with self-clarity in a more profound way than a non-betrayal trauma (van der Hart et al., 2010).

Clinical Implications

Findings of this study suggest that participants with higher SCC were less likely to experience symptoms of PTSD. This has meaningful implications for clinicians, as SCC could act as a protective factor against PTSD outcomes in the aftermath of trauma. Interventions for trauma survivors can be adapted or supplemented to include constructs that have been linked to higher SCC such as social support (Wong et al., 2019) and physical exercise (Liu et al., 2015) to buffer the impact of trauma. Such elements could be incorporated into primary care interventions, for example using behavioural activation techniques to specifically plan time spent accessing social support or participating in exercise.

Since lower SCC is linked with experiences of being traumatised, it could be important for Clinical Psychologists to consider SCC in formulations and therapeutic intervention, so that work could help build or reconstruct individuals' sense of self. When working with trauma survivors, it could be beneficial to consider theories that are mindful of how one's sense of self fits within their view of the world, and give agency to how an individual thinks about or reconstructs traumatic events in line with their self-narrative (Brown & Augusta-Scott, 2007). Narrative Therapy acknowledges

that an individual's understanding of who they are is shaped by relationships with others and experiences, and that individuals' stories help shape one's sense of 'self,' (Combs & Freedman, 2016). Narrative and values writing have been linked with higher SCC (Surdey, 2016), although further research could be warranted to explore links between SCC and Narrative Therapy.

Given the findings of this empirical chapter, Clinical Psychologists could be mindful of the impact of trauma on SCC and what this means for clients. Psycho-education around SCC and trauma could be beneficial to help individuals to understand how trauma could disrupt a person's sense of self (Horowitz, 2015). Trauma-based psycho-education aims to empower survivors, understand connections between trauma experiences and reactions and provide ways to manage through identifying and normalising symptoms (Ghafoori et al., 2016; Whitworth, 2016) and already features in evidence-based interventions for PTSD (Foa et al., 2009), with significant improvements for participants in domains of overall health, spirituality and interpersonal relationships (Rice & Moller, 2006). Therefore, Clinical Psychologists could consider adaptations to psycho-educational programs to include elements that focus on SCC disruption to bring awareness to some of the difficulties survivors may face and to find helpful coping mechanisms.

A further recommendation could be for Clinical Psychologists to consider assessing SCC when supporting survivors of trauma. This could be particularly meaningful for survivors of sexual trauma, for whom SCC was found to be lower and symptoms of PTSD were higher than other groups. Supporting individuals to increase SCC through the aforementioned avenues could help alleviate PTSD symptoms. However, this may only be relevant for people who have lower SCC to begin with, making accurate assessment even more important. Using the SCCS

could be a simple and efficient way of assessing SCC at the start of direct therapeutic work.

Sixty-six participants met the threshold for a PTSD diagnosis according to the PCL5, yet only 20 self-reported PTSD as the reason for their referral. The high number of individuals with clinically relevant PTSD symptoms suggests the need for trauma-informed primary care services. In order to improve care delivered within all mental health services, clinicians should consider adopting and encouraging in others a trauma-informed approach. Trauma-informed services should prevent re-traumatisation by realising that trauma can affect individuals and groups, and by recognising the signs, symptoms and widespread impact of trauma (Office for Health Improvement & Disparities, 2022). In particular, the participants in this study were at the start of their journey in primary care services, making trauma-informed assessments all the more important. Following trauma-informed practice, such as ‘focus on relationships’ and ‘healing environments,’ could help trauma survivors to remain in services and access the support they need (Sweeney et al., 2022).

Limitations

Sampling and Method

An initial power analysis suggested that 71 participants were needed to detect a significant medium effect size in the mediation analysis. Despite this being achieved, a larger sample may have produced more well-balanced groups, making comparisons between variables more meaningful. This was particularly prominent because only a small number of participants had experienced no adulthood trauma (n=7) or no trauma at all (n=4) so it was not possible to make the full range of possible comparisons. Childhood trauma could have acted as a confounding variable

for participants who had experienced both adulthood and childhood trauma and it is unclear how findings compare to a non-traumatized population. Further research should aim to have a larger control group for comparison.

Although some findings are relatively consistent with the existing literature, causal links cannot be established due to the nature of cross-sectional research. It is unclear whether SCC was disrupted by the traumatic event. Longitudinal studies addressing SCC before and after traumatic experiences would be helpful in identifying whether SCC is subject to disruption in traumatized adult samples and whether this impacts PTSD outcomes. Schiller et al. (2019) go some way in exploring these factors in university students exposed to terrorism. However this study focused on SCC alongside other elements of self, such as self-criticism, as opposed to examining psychopathological outcomes.

The normative trend of SCC is that it increases throughout an individual's lifespan with variations in its trajectory, for example increasing in midlife as individuals consolidate roles, and being threatened later in life because of identity-defining changes such as retirement (Lodi-Smith & Crocetti, 2018). The age range of participants was 18-73 years, meaning that some older adults are not accounted for in this study. Given that there are associations with SCC and age, results may not be a true representation of SCC changes across the lifespan, and may have been hindered by the online design, which may not have been accessible to the older population (Office for National Statistics, 2020). It is noted that age is a factor that influences access to IAPT, and the proportion of older people accessing support for common mental health difficulties is lower in people aged 65+ (0.6%) compared with their younger counterparts (3.1%; Rzepnicka et al., 2022). It could be that, whilst the sample is not inclusive to all age ranges, it is reflective of the different age groups

accessing support from IAPT.

Whilst the sample is skewed towards specific demographics, such as White and female participants, this could be representative of the population of people with common mental health difficulties accessing IAPT (Rzepnicka et al., 2022). In their review of Census data, Rzepnicka et al. (2022) explore the demographics of people with probable common mental health difficulties in the wider population and in those accessing IAPT. They suggest that in the general population, common mental health difficulties are more prevalent in women (22.5%) compared to men (15.9%), and women more likely than men to access IAPT and receive treatment. Similarly, the higher proportion of White participants could be a reflection of White people being more represented in IAPT compared with people from other groups, even though people with mixed ethnic heritage had the highest proportion of people with probable common mental health difficulties. Asian groups were particularly under-represented in IAPT as well, suggesting that whilst the sample is not diverse in terms of age, gender or ethnicity, it may reflect the demographic of people being represented in IAPT services.

Participants were recruited through online systems, meaning only those with access to IT resources could participate, so people with lower socio-economic background or limited computer expertise may have been excluded. The narrow demographic of participants in this study may reflect the accessibility of the questionnaires or a reflection of the individuals accessing primary care services.

The sample is vulnerable to self-selection bias, and may have attracted participants with similar attributes and in turn may have skewed elements of the findings. The Participant Information Sheet highlighted trauma as an area of interest, which could account for the preponderance of traumatized participants. Furthermore,

92% of the recipients of the invitation email did not participate. Such a low response rate calls into question barriers to participation, such as lack of incentive.

Additional Constructs

The measure of PTSD symptomatology used in this study fails to include items that explore the dissociative subtype of PTSD (Frewen et al., 2015). The aforementioned *Theory of Structural Dissociation of the Personality* highlights how the personality of traumatized individuals may be divided in dissociative subsystems or parts, whereby the more severe and chronic the traumatization, the more dissociative parts can be expected to exist (van der Hart et al., 2010). Therefore this study may have benefitted from using a measure that included dissociative symptoms.

SCC is closely related to self-esteem, which is an important aspect of the self that interacts with post-traumatic distress (Tavakoli & Wu, 2023). Existing research highlights the importance of discussing self-esteem alongside SCC because of how closely they are linked (DeMarree & Lodi-Smith, 2018). However, data on self-esteem were not collected as part of this project and as such its influences may have been overlooked.

This study does not distinguish between how many traumas people experienced at each point in their life or consider the accumulative impact. The effect between childhood trauma and SCC disruption may be accumulative, with adulthood SCC reducing in alignment with a higher number of adverse childhood experiences (Wong et al., 2019). Of the present sample, 89 experienced multiple traumas, two reported a single trauma and four reported no trauma at all. On average, participants experienced more types of trauma during adulthood (M = 4.13, SD = 2.14) compared

with childhood (M = 2.14, SD = 2.27). Whilst this number does not account for multiple experiences of the same trauma, it does tell us that adults are more likely to experience a wider range of traumas than during childhood. Further research could examine whether the frequency and nature of traumatic experiences in adulthood correlates with disrupted SCC, as it does with childhood trauma survivors.

Future Research

This study was conducted on an adult sample to explore levels of SCC following traumatic events across the lifespan, as opposed to previous research that focused primarily on childhood events and disruptions. Since SCC is thought to develop in adolescence, this study aimed to explore the impact of trauma in individuals whose SCC may have developed without the complications of childhood trauma causing disruption. Some suggest that higher SCC can 'buffer' the impacts of stressful life events on wellbeing due to increased availability of useful coping mechanisms (Smith et al., 1996).It is currently unknown whether the same is true when a person experiences significant disruption to their identity, wellbeing and daily lives in the face of trauma. However, given the important links between adolescence and SCC, future research may benefit from examining the differences between various age groups, for whom trauma outcomes may differ. One future research direction could replicate this study in Child and Adolescent Mental Health Service settings.

This study does not examine the time passed since the person experienced the traumatic event. Some participants may have only recently experienced trauma, and others may have engaged in previous psychological interventions or accessed support to overcome post-traumatic distress. Future research could examine whether time is a 'healing' factor in terms of SCC change and post-traumatic

outcomes. It may be associated with ‘post-traumatic growth’ (Tedeschi & Calhoun, 2004).

Conclusion

Results suggest that SCC plays a significant role between age of trauma occurrence (*adulthood* vs *childhood*) and post-traumatic symptomatology. Findings align with previous research that childhood trauma impacts SCC and psychological outcomes, and provides evidence that trauma experienced exclusively during adulthood yields different outcomes to those experienced during childhood.

Findings suggest important interactions between SCC and post-traumatic outcomes, which could have meaningful implications for services supporting trauma survivors. The clinical sampling method should make the findings of this study relevant for the population accessing primary care mental health services, and it is hoped that it can inform care pathways for trauma survivors in ways that develop an individual’s sense of self.

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Figure 1

*A Simple Mediation Using the Mediating Effect of Self-Concept Clarity (SCC) On the Relationship Between Trauma Age Group (*Adulthood *or* Childhood *Trauma) And Trauma Symptomatology.*

Note: a is effect of trauma age group on self-concept clarity; b is effect of SCC on trauma symptomatology; c' is direct effect of trauma age group on trauma symptomatology; c is the total effect of trauma age group on trauma symptomatology.

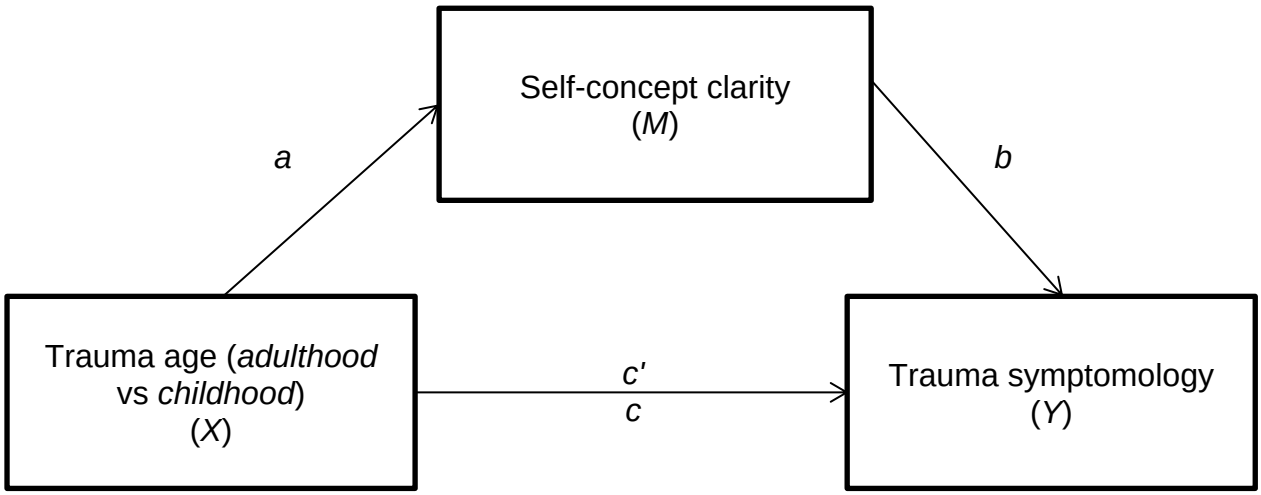


Figure 2

Mediation model of Adulthood *or* Childhood *Trauma as a Predictor of Trauma Symptomatology Mediated by SCC*

Note: The confidence interval for the indirect effect is a bootstrapped CI based on 10,000 samples.

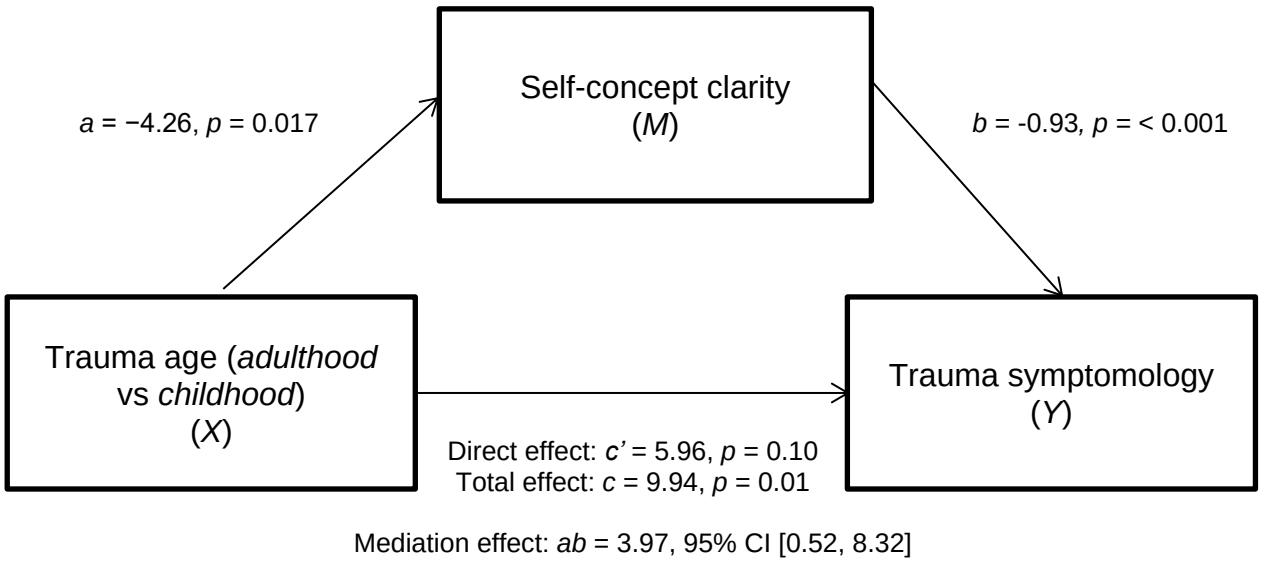


Table 1

Demographic Characteristics of the Sample (all Self-Reported)

Individual-level variables	N	Percent
Gender		
Male	17	17.9
Female	77	81.1
Non-binary	1	1.1
Ethnicity		
Asian or Asian British	5	5.3
Black, Black British, Caribbean or African	1	1.1
Any other mixed or multiple ethnic background	1	1.1
White	88	92.6
Sexual orientation		
Unspecified	5	5.3
Heterosexual	71	74.7
Bisexual	11	11.6
Pansexual	3	3.2
Asexual/heterosexual	2	2.1
Homosexual, gay or lesbian	1	1.1
Heteroromantic	1	1.1
Queer	1	1.1
Education level		
GCSEs/O-levels	32	33.7
A-levels	21	22.1
Undergraduate degree	25	26.3
Postgraduate degree	14	14.7
Doctoral degree	3	3.2
Marital status		
Married or co-habiting	49	51.6
Widow(er)	2	2.1
Divorced or separated	10	10.5

Single	34	35.8
Employment		
Employed (full-time or part-time)	59	62.1
Full-time homemaker or carer	3	3.2
Retired	9	9.5
Unemployed	9	9.5
Unpaid volunteer	2	2.1
Student	13	13.7
Reason for referral to [IAPT Service]		
Depression	22	23.2
Health anxiety	8	8.4
Generalized Anxiety	24	25.3
Obsessive-Compulsive Disorder (OCD)	2	2.1
Post-Traumatic Stress Disorder (PTSD)	20	21.1
Social Anxiety	3	3.2
Something else	9	9.5
Unsure	7	7.4

Table 2

Independent Sample t-tests Examining the Relationships Between SCC and the Type of Trauma Experienced by the Participant Across the Whole Sample

	Self-Concept Clarity						
	Trauma disclosed		Trauma not disclosed				
Type of Trauma	*M*	*SD*	*M*	*SD*	*t*	*p*	Cohen's *d*
Crime-related	29.60	7.95	28.96	8.00	-.39	.70	-.08
General disaster	29.05	7.90	33.10	8.16	1.21	.23	.51
Sexual or physical	28.19	8.18	31.85	6.83	2.11	.04	.47

Table 3

Independent Sample t-tests Examining the Relationships Between PCL-5 Score and the Type of Trauma Experienced by the Participant Across the Whole Sample

Type of Trauma	PTSD Symptoms						
	Trauma disclosed		Trauma not disclosed				
	M	*SD*	*M*	*SD*	*t*	*p*	Cohen's *d*
Crime-related	40.37	17.79	42.05	17.83	.46	.65	.09
General disaster	41.71	17.55	32.5	19.89	-1.23	.22	-.52
Sexual or physical	44.65	17.78	33.10	15.04	-3.05	.003	-.68

Table 4

A Summary of Pearson's Correlations Between Each Variable

		Total Sample			Adulthood Group			Childhood Group		
		1	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**
Trauma age group	Pearson Correlation	1	-.25*	.27*	1			1		
	Sig. (2-tailed)		.017	.011						
	N		91	91						
SCCS	Pearson Correlation	-.25*	1	-.47		1	-.33			-.49**
	Sig. (2-tailed)	.017					.08			<.001
	N	91		95			29			62
PCL5	Pearson Correlation	.27*	-.47			-.33			-.49**	1
	Sig. (2-tailed)	.011				.08			<.001	
	N	91	95			29			62	

** = Correlation is significant at the 0.01 level (2-tailed)
* = Correlation is significant at the 0.02 level (2-tailed)

Table 5

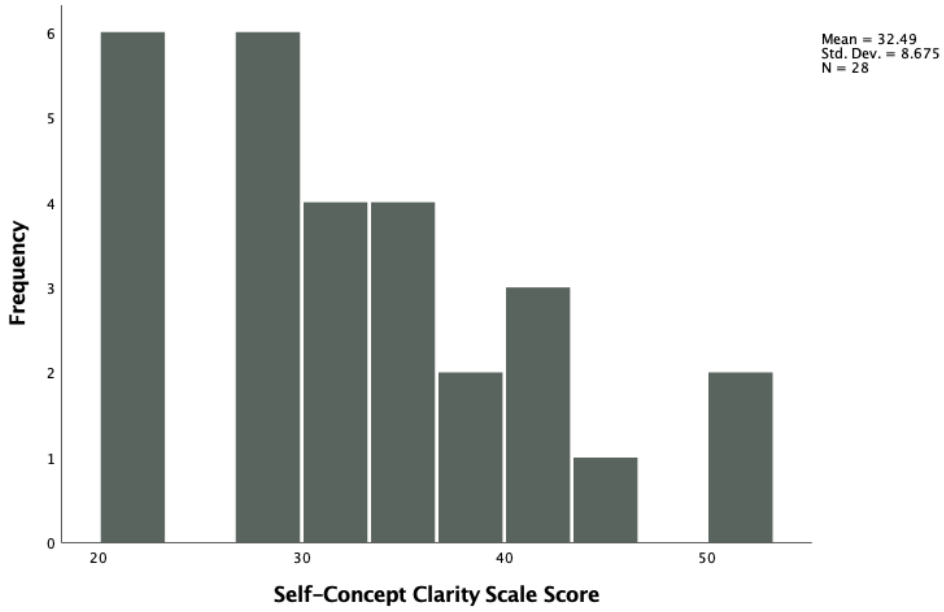
Sample Data for the Tools Used to Measure Self-Concept Clarity (The Self-Concept Clarity Scale) and Trauma Symptomatology (The PTSD Checklist 5)

	Measure	
	Self-Concept Clarity Scale	PTSD Checklist 5
Mean	29.31	41.13
Standard Deviation	7.94	17.74
Cronbach's a	0.83	0.93
Possible Range	12-60	0-80
Actual Range	15-51	3-79

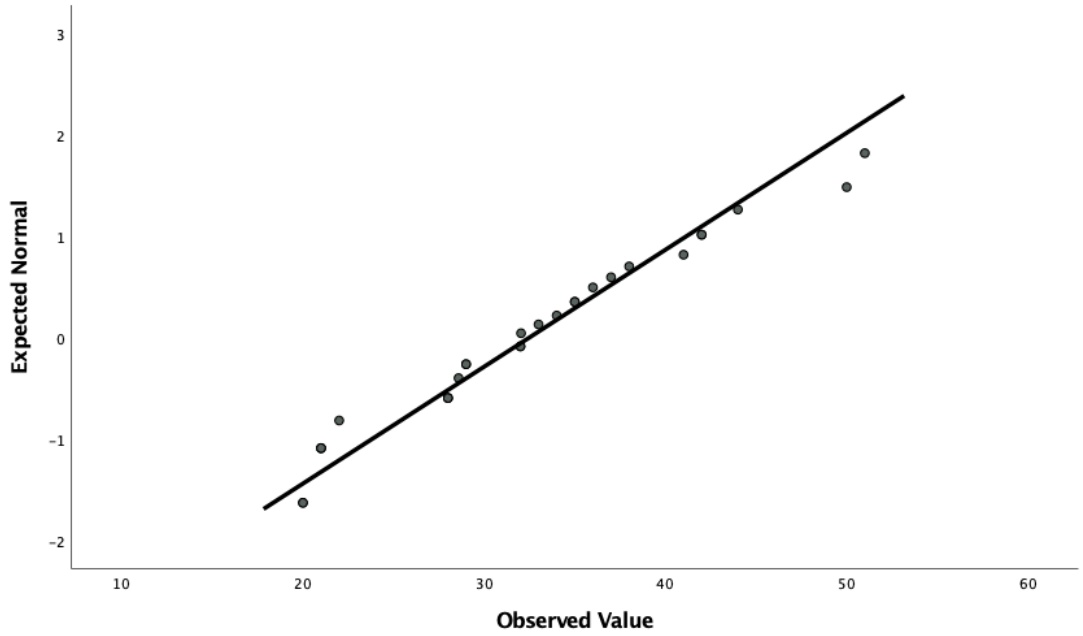
Appendix A

SPSS Outputs

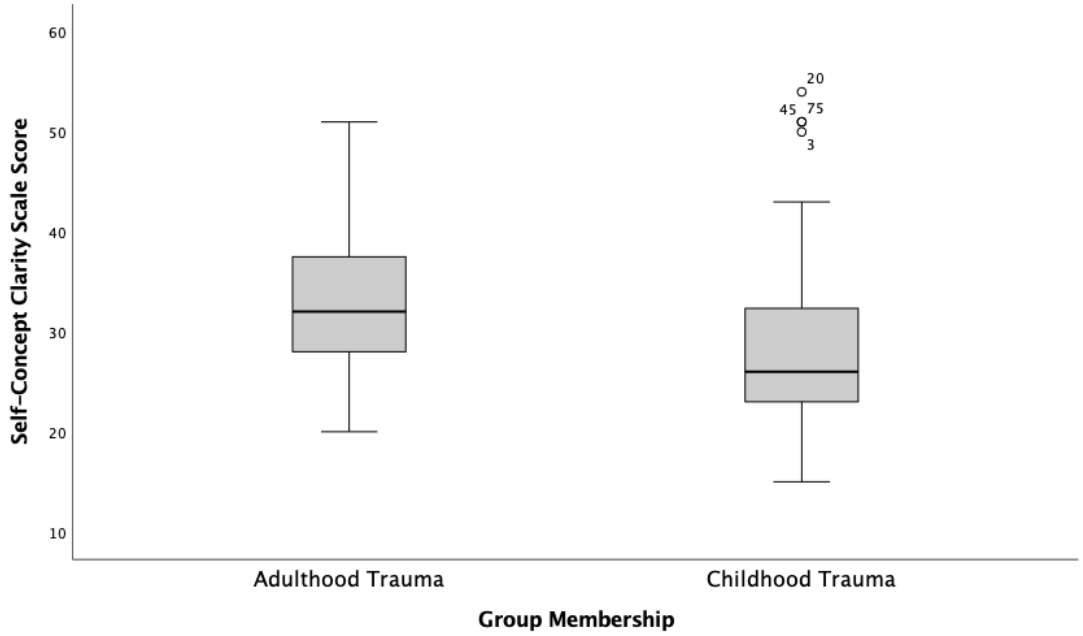
A Histogram Demonstrating the Distribution of SCCS Scores in the Adulthood *Group*



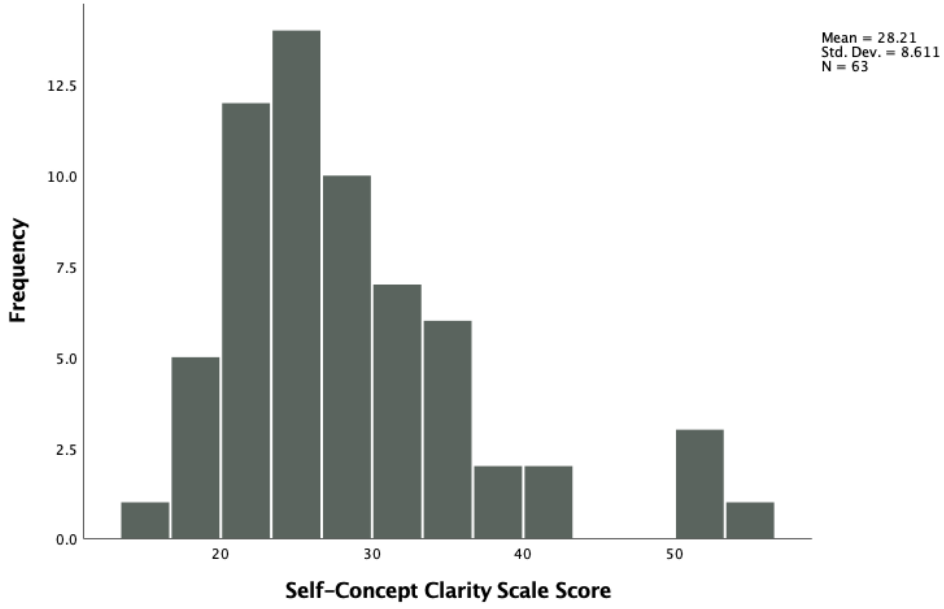
A Normal Q-Q Plot Demonstrating the Distribution of SCCS Scores in the Adulthood *Group*



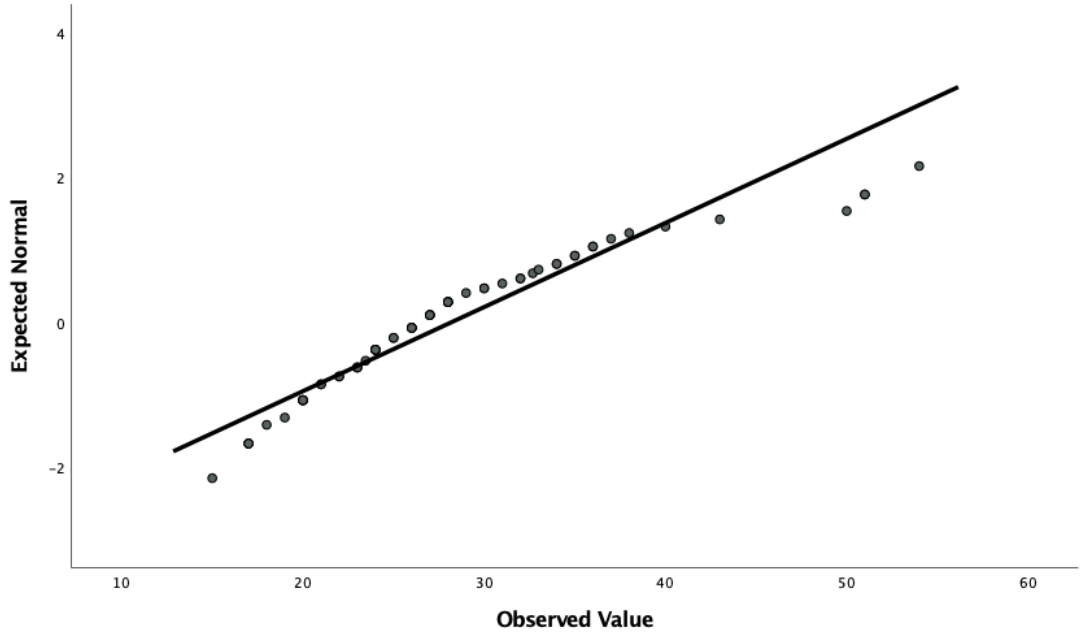
A Box Plot Demonstrating the Distribution of SCCS Scores in the Adulthood *Group and the* Childhood *Group (Prior to Winsorizing)*



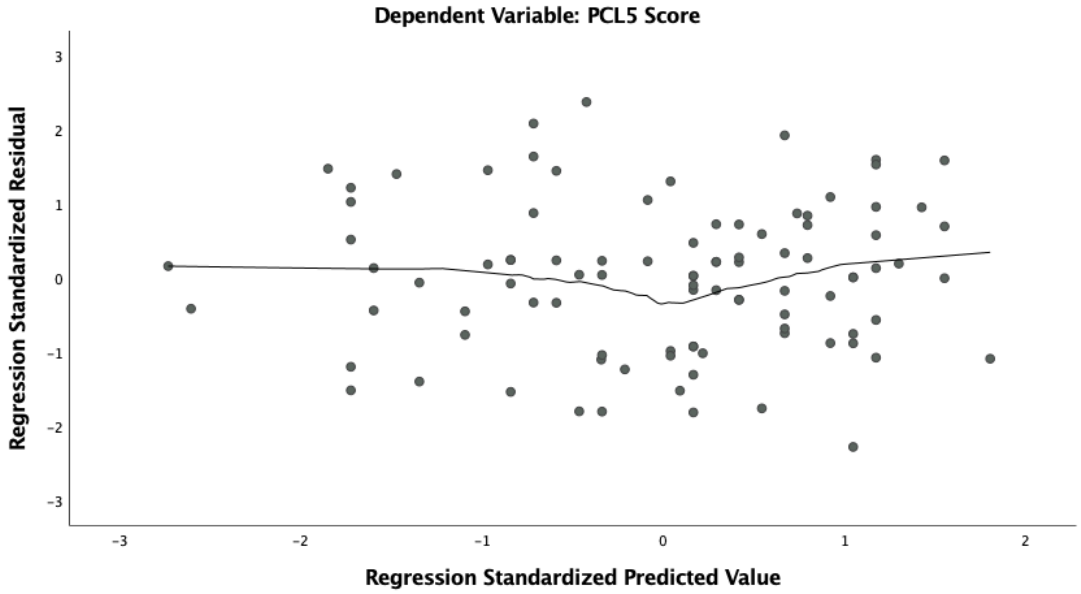
A Histogram Demonstrating the Distribution of SCCS Scores in the Childhood *Group (Prior to Winsorizing)*



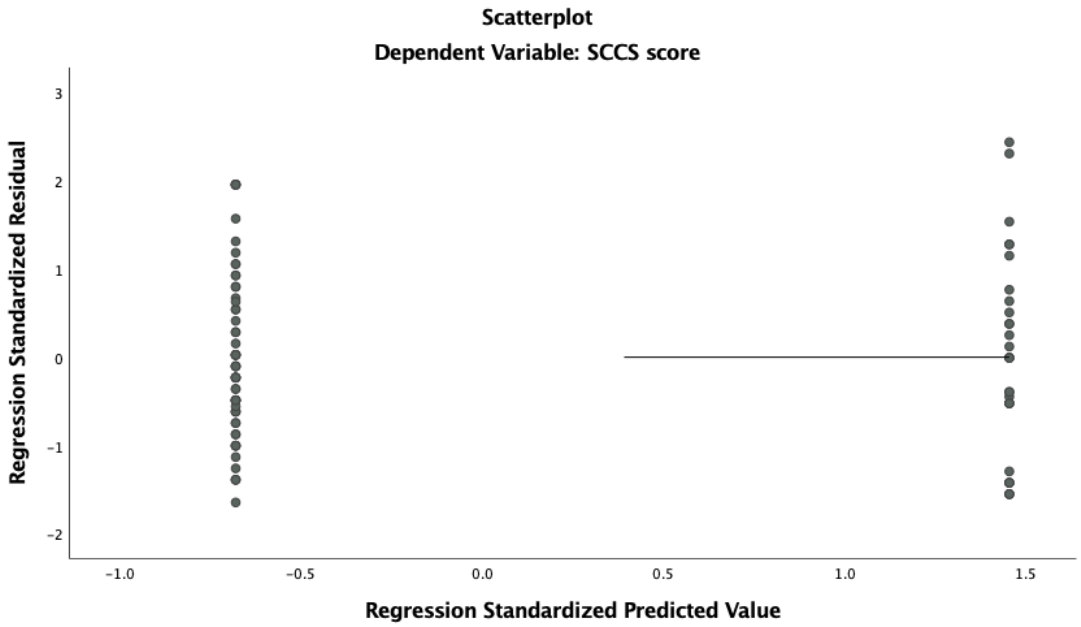
A Normal Q-Q Plot Demonstrating the Distribution of SCCS Scores in the Childhood *Group (Prior to Winsorizing)*



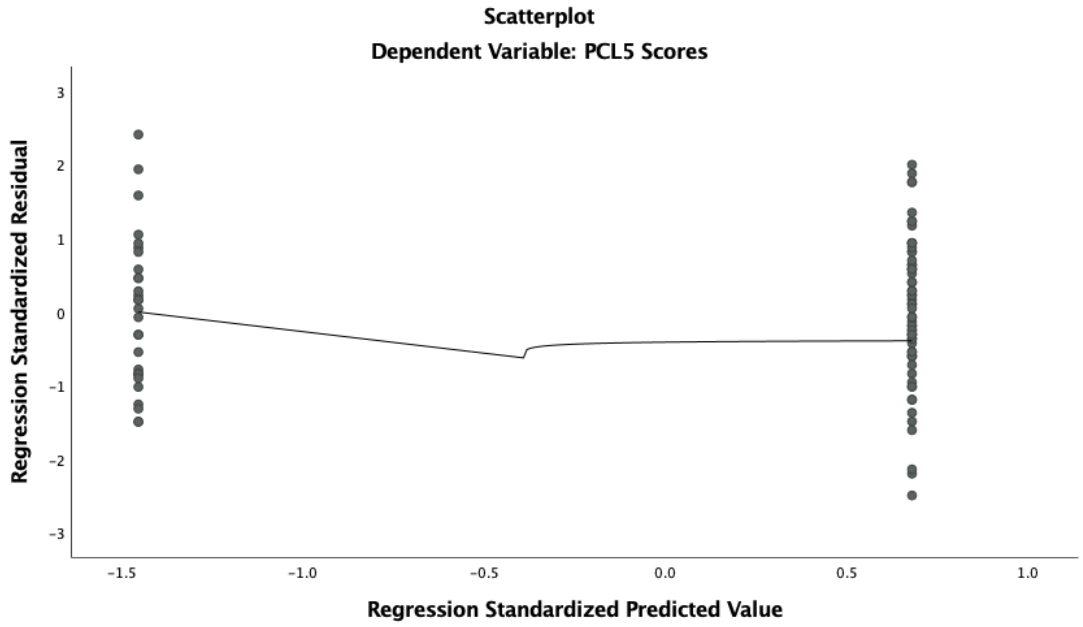
Regression Residual Scatter Plot to Help Examine Linearity and Homeoscedacicity of the Data: SCC Predicting Trauma Symptomatology



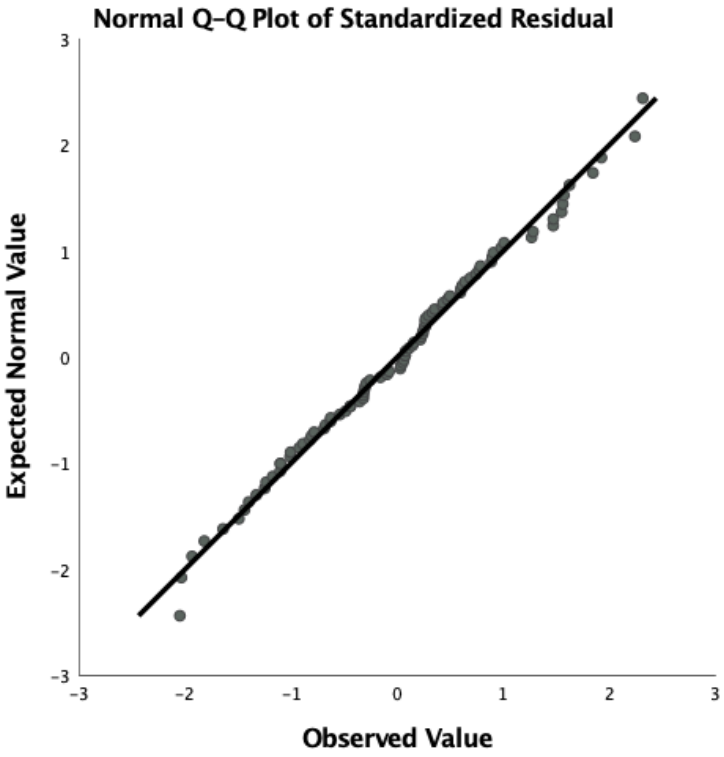
Regression Residual Scatter Plot to Help Examine Linearity and Homeoscedacicity of the Data: Trauma Age Group Predicting SCCS



Regression Residual Scatter Plot to Help Examine Linearity and Homeoscedacicity of the Data: Trauma Age Group Predicting Trauma Symptomatology



A Q-Q Plot of the Regression Residuals



Appendix B

Instructions for Authors: Article Reporting Standards for Psychological

Trauma: Theory, Research, Practice, and Policy

JARS–Quant | Table 1

Information Recommended for Inclusion in Manuscripts that Report New Data Collections Regardless of Research Design

Title and Title Page

Title

- Identify main variables and theoretical issues under investigation and the relationships between them.
- Identify the populations studied.

Author Note

- Provide acknowledgment and explanation of any special circumstances, including
    - Registration information if the study has been registered
    - Use of data also appearing in previous publications
    - Prior reporting of the fundamental data in dissertations or conference papers
    - Sources of funding or other support
    - Relationships or affiliations that may be perceived as conflicts of interest
    - Previous (or current) affiliation of authors if different from location where the study was conducted
    - Contact information for the corresponding author
    - Additional information of importance to the reader that may not be appropriately included in other sections of the paper

Abstract

Objectives

- State the problem under investigation, including main hypotheses

Participants

- Describe subjects (nonhuman animal research) or participants (human research), specifying their pertinent characteristics for the study; in animal research, include genus and species. Participants are described in greater detail in the body of the paper.

Study Method

- Describe the study method, including
  - Research design (e.g., experiment, observational study)
  - Sample size
  - Materials used (e.g., instruments, apparatus)
  - Outcome measures
  - Data-gathering procedures, including a brief description of the source of any secondary data. If the study is a secondary data analysis, so indicate

Findings

- Report findings, including effect sizes and confidence intervals or statistical significance levels

Conclusions

- State conclusions, beyond just results, and report the implications or applications

Introduction

Problem

- State the importance of the problem, including theoretical or practical implications.

Review of Relevant Scholarship

- Provide a succinct review of relevant scholarship, including
  - Relation to previous work
  - Differences between the current report and earlier reports if some aspects of this study have been reported on previously

Hypothesis, Aims and Objectives

- State specific hypotheses, aims, and objectives including
  - Theories or other means used to derive hypotheses
  - Primary and secondary hypotheses
  - Other planned analyses
- State how hypotheses and research design relate to one another.

Method

Inclusion and Exclusion

- Report inclusion and exclusion criteria, including any restrictions based on demographic characteristics.

Participant Characteristics

- Report major demographic characteristics (e.g., age, sex, ethnicity, socioeconomic status) and important topic-specific characteristics (e.g., achievement level in studies of educational interventions).
- In the case of animal research, report the genus, species, and strain number or other specific identification, such as the name and location of the supplier and the stock designation. Give the number of animals and the animals' sex, age, weight, physiological condition, genetic modification status, genotype, health-immune status, drug or test naïveté, and previous procedures to which the animal may have been subjected.

Sampling Procedures

- Describe procedures for selecting participants, including
  - Sampling method if a systematic sampling plan was implemented
  - Percentage of sample approached that actually participated
  - Whether self-selection into the study occurred (either by individuals or by units, such as schools or clinics)
- Describe settings and locations where data were collected as well as dates of data collection.
- Describe agreements and payments made to participants.
- Describe institutional review board agreements, ethical standards met, and safety monitoring.

Sample Size, Power and Precision

- Describe the sample size, power, and precision, including
  - Intended sample size
  - Achieved sample size, if different from the intended sample size
  - Determination of sample size, including
    - Power analysis, or methods used to determine precision of parameter estimates
    - Explanation of any interim analyses and stopping rules employed

Measures and Covariates

- Define all primary and secondary measures and covariates, including measures collected but not included in the report.

Data Collection

- *Describe methods used to collect data.*

Quality of Measurements

- Describe methods used to enhance the quality of measurements, including
  - Training and reliability of data collectors
  - Use of multiple observations

Instrumentation

- Provide information on validated or ad hoc instruments created for

individual studies, for individual studies (e.g., psychometric and biometric properties).

Masking

- Report whether participants, those administering the experimental manipulations, and those assessing the outcomes were aware of condition assignments.
- If masking took place, provide a statement regarding how it was accomplished and whether and how the success of masking was evaluated.

Psychometrics

- Estimate and report values of reliability coefficients for the scores analyzed (i.e., the researcher's sample), if possible. Provide estimates of convergent and discriminant validity where relevant.
- Report estimates related to the reliability of measures, including
    - Interrater reliability for subjectively scored measures and ratings
    - Test–retest coefficients in longitudinal studies in which the retest interval corresponds to the measurement schedule used in the study
    - Internal consistency coefficients for composite scales in which these indices are appropriate for understanding the nature of the instruments being used in the study
- Report the basic demographic characteristics of other samples if reporting reliability or validity coefficients from those samples, such as those described in test manuals or in norming information for the instrument.

Conditions and Design

- State whether conditions were manipulated or naturally observed. Report the type of design as per the JARS–Quant tables:
    - Experimental manipulation with participants randomized
        - Table 2 and Module A
    - Experimental manipulation without randomization
        - Table 2 and Module A
    - Clinical trial without randomization
        - Table 2 and Modules A and C
    - Clinical trial without randomization
        - Table 2 and Modules B and C
    - Non-experimental design (i.e., no experimental manipulation): observational design, epidemiological design, natural history, and so forth (single-group designs or multiple- group comparisons)
        - Table 3
    - Longitudinal design
        - Table 4
    - N-of-1 studies
        - Table 5
    - Replications
        - Table 6

- Report the common name given to designs no currently covered in JARS-Quant

Data Diagnostics

- Describe planned data diagnostics, including
  - Criteria for post-data-collection exclusion of participants, if any
  - Criteria for deciding when to infer missing data and methods used for imputation of missing data
  - Definition and processing of statistical outliers
  - Analyses of data distributions
  - Data transformations to be used, if any

Analytic Strategy

- Describe the analytic strategy for inferential statistics and protection against experiment-wise error for:
  - Primary hypotheses
  - Secondary hypotheses
  - Exploratory hypotheses

Results

Participant Flow

- Report the flow of participants, including
  - Total number of participants in each group at each stage of the study
  - Flow of participants through each stage of the study (include figure depicting flow, when possible; see the JARS–Quant Participant Flowchart)

Recruitment

- Provide dates defining the periods of recruitment and repeated measures or follow-up

Statistics and Data Analysis

- Provide information detailing the statistical and data-analytic methods used, including
  - Missing data
    - Frequency or percentages of missing data
    - Empirical evidence and/or theoretical arguments for the causes of data that are missing—for example, missing completely at random (MCAR), missing at random (MAR), or missing not at random (MNAR)
    - Methods actually used for addressing missing data, if any
  - Descriptions of each primary and secondary outcome, including the total sample and each subgroup, that includes the number of cases, cell means, standard deviations, and other measures that characterize the data used
  - Inferential statistics, including
    - Results of all inferential tests conducted, including exact p values if null hypothesis significance testing (NHST)

methods were used, and reporting the minimally sufficient set of statistics (e.g., dfs, mean square [MS] effect, MS error) needed to construct the tests
        - Effect-size estimates and confidence intervals on estimates that correspond to each inferential test conducted, when possible
        - Clear differentiation between primary hypotheses and their tests–estimates, secondary hypotheses and their tests–estimates, and exploratory hypotheses and their test–estimates
    - Complex data analyses—for example, structural equation modeling analyses (see also Table 7), hierarchical linear models, factor analysis, multivariate analyses, and so forth, including
        - Details of the models estimated
        - Associated variance–covariance (or correlation) matrix or matrices
        - Identification of the statistical software used to run the analyses (e.g., SAS PROC GLM or the particular R package)
    - Estimation problems (e.g., failure to converge, bad solution spaces), regression diagnostics, or analytic anomalies that were detected and solutions to those problems.
    - Other data analyses performed, including adjusted analyses, if performed, indicating those that were planned and those that were not planned (though not necessarily in the level of detail of primary analyses).
- Report any problems with statistical assumptions and/or data distributions that could affect the validity of findings.

Discussion

Support of Original Hypotheses

- Provide a statement of support or nonsupport for all hypotheses, whether primary or secondary, including
    - Distinction by primary and secondary hypotheses
    - Discussion of the implications of exploratory analyses in terms of both substantive findings and error rates that may be uncontrolled

Similarity of Results

- Discuss similarities and differences between reported results and work of others

Interpretation

- Provide an interpretation of the results, taking into account
    - Sources of potential bias and threats to internal and statistical

validity
    - Imprecision of measurement protocols
    - Overall number of tests or overlap among tests
    - Adequacy of sample sizes and sampling validity

Generalizability

- Discuss generalizability (external validity) of the findings, taking into account
    - Target population (sampling validity)
    - Other contextual issues (setting, measurement, time; ecological validity)

Implications

- Discuss implications for future research, program, or policy.

JARS–Quant | Table 3

Reporting Standards for Studies Using No Experimental Manipulation (Single-Group Designs, Natural-Group Comparisons, etc.; In Addition to Material Presented in Table 1

Title/Abstract

Study Design

- Describe the design of the study

Data Use

- State the type of data used

Method

Participant Selection

- Describe the method(s) of selecting participants (i.e., the units to be observed, classified, etc.), including
    - Method(s) of selecting participants for each group (e.g., methods of sampling, place of recruitment) and the number of cases in each group
    - Matching criteria (e.g., propensity score), if matching was used
- Identify the data sources used (e.g., sources of observations, archival records), and if relevant, include codes or algorithms used to select participants or link records

Variables

- Define all variables clearly, including
    - Exposure
    - Potential predictors, confounders and effect modifiers
- State how each variable was measured

Comparability of Assessment

- Describe the comparability of assessment across groups (e.g., the likelihood of observing or recording an outcome in each group for reasons unrelated to the effect of the intervention)

Analysis

- Describe how predictors, confounders, and effect modifiers were included in the analysis

Discussion

Limitations

- Describe potential limitations of the study. As relevant, describe the possibility of misclassification, unmeasured confounding, and changing eligibility criteria over time

Chapter Three: Critical Appraisal

Laura Walker

Doctorate in Clinical Psychology

Faculty of Health and Medicine

Lancaster University

Lancaster

LA1 4YT

l.walker10@lancaster.ac.uk

Word count: 3,970

Excluding references and tables

This paper aims to consider the current understanding of self-concept clarity (SCC) and its association with traumatic events. The systematic literature review and empirical study synthesise the existing literature, present new data and highlight future directions for the field, but are limited in scope. This appraisal will consider a more in-depth discussion on the subject in line with parallel theoretical perspectives, including strengths and limitations of the project overall, and suggestions for future research.

The Theory of Self-Concept Clarity

Some self-related constructs, such as self-esteem or self-image, are widely recognized. In clinical contexts, less attention has been paid to how consistently we understand ourselves, and SCC remains a relatively unfamiliar construct to many. As described in the previous chapters, SCC is "*the extent to which the contents of an individual's self-concept are clearly defined, internally consistent and temporally stable*," (Campbell et al., 1996, p.141).

The overarching term of 'self-concept' refers to how an individual describes their knowledge, feelings and ideas about themselves (Martin et al., 2010), and encompasses constructs such as SCC alongside many others. The broader concept of 'self' has been widely researched, with books and journals dedicated to its understanding. However, throughout my examination of the literature, there were occasions where self-related constructs were difficult to detach from each other, such as self-concept differentiation, which explains a person's variability in self-descriptions across different roles (Bigler et al., 2001).

I used the Self-Concept Clarity Scale (Campbell et al., 1996) for ease of comparison across the literature and to ensure I was comparing relevant constructs.

Additional scales aimed at measuring SCC exist, but due to the broadness of SCC's definition, it is unclear whether they tap into different aspects of SCC, and therefore it has been suggested that multiple measures could be used in future research (Lodi-Smith & DeMarree, 2018).

Self-esteem has particularly significant relationships with SCC (DeMarree & Lodi-Smith, 2018), with established links on both a day-to-day (Nezlek & Plesko, 2001) and longitudinal basis (Wu et al., 2010). Since self-esteem was not a variable of interest in the systematic review or the empirical study, it could be that the relevance and strength of findings based on SCC alone are overestimated if self-esteem was not accounted for.

Exploring Self-Concept Clarity and Trauma

The findings of this project aligned with previous research that traumatic events, particularly childhood trauma, are linked with SCC (Wong et al., 2019). However, the current project examined SCC in isolation, with limited discussion around other psychological constructs that may have influenced or confounded results. For example, attachment style and coping mechanisms develop differently in those who have experienced childhood adversity (Bowlby, 1988; Curran et al., 2021). As such, these constructs may have a profound impact on the development of an individual's sense of self. Wu (2009) identified negative links between attachment tendency and SCC, but note self-esteem as a mediator. Thus it is important to consider additional constructs that could interact with SCC and childhood development following adversity.

Attachment theory relates to early relationships that infants share with caregivers and how these form a foundation for personality and interpersonal

relationships later in life (Bowlby, 1969). Individuals are thought to develop a positive self-concept through interactions with caregivers, thus SCC and attachment tendency may be inherently linked. Hayes (2021) revealed that higher childhood trauma, avoidant adult attachment styles and anxious attachment styles were associated with diminished SCC, and anxious adult attachment styles and avoidant adult attachment styles were associated with greater childhood trauma.

The self-beliefs that children develop based on early caregiving experiences pave the way for social interactions at other critical times of life when social networks depend upon societal approval (Sedikides & Spencer, 2007). Those with low SCC might be more likely to turn to external sources of approval and appraisal and place a higher focus on perceived appraisals from others (Stopa et al., 2010). This highlights important links between developments in sense of self and attachment theory.

Findings of the previous chapters make it clear that relationships exist between SCC and traumatic experiences. However, due to the cross-sectional design of the empirical study and many of the studies in the review, it is difficult to confirm the causal direction of relationships. Those who have experienced historical trauma are at greater risk of experiencing subsequent trauma (NICE, 2022b), which is clear from the empirical study, where a significant majority of participants reported multiple trauma experiences. For example, historical sexual abuse is a risk factor for sexual assault later in life (World Health Organization, 2010). SCC is lower in survivors of sexual assault trauma compared with non-traumatized individuals and non-sexual traumas (Keshet & Gilboa-Schechtman, 2017), thus raising the question of whether these elements are connected. Further research is required to investigate

the nature of relationships between SCC and multiple traumas, trauma types and longitudinal impacts.

A possible question to raise is whether childhood trauma links to low SCC, which in turn contributes to risk of further traumas in adulthood. This could be particularly poignant given that, as stated above, those with low SCC may seek approval from others which could potentially leave them vulnerable to abuse. Furthermore, traumatic experiences are common among specific groups (Shalev et al., 2017). Future research could focus on more of these groups in the hopes of identifying whether lower SCC puts people at risk of experiencing trauma.

It is important to consider why the relationship between SCC and trauma is so widely observed and how trauma experiences might challenge how an individual thinks of themselves and the world. Future research could benefit from exploring these constructs in more detail.

Strengths

A limited number of studies examine SCC and trauma outcomes using psychometrically robust measures of PTSD. In a systematic review examining SCC alongside psychopathology outcomes, only one included study focused on PTSD (Binsale, 2017). The current project is gradually bridging this gap between knowledge around SCC and trauma.

The review process was thorough. Furthermore the empirical findings draw on data from a genuine clinical sample. This could make findings more generalizable to and meaningful for people accessing primary care mental health services in the UK.

The project builds on established findings regarding the role of SCC as a mediator. Both chapters link traumatic events with SCC and a range of outcomes and highlight the role of SCC in wellbeing.

Limitations

Trauma was defined within the boundaries of identifiable, specific, significant events that have a profound impact on the individual, often termed ‘big T traumas,’ (Shapiro, 2001; Straussner & Calnan, 2014). Therefore, the impact of cumulative stressful events that have a lasting impact on the individual (‘small t traumas,’; Shapiro, 2001, p.43.) may have been overlooked by use of psychometric measures to operationalise trauma. One such example is racial discrimination. ‘Racial microstressors,’ such as being ignored or treated rudely based on one’s race, can cause significant distress and have a lasting negative impact on psychological wellbeing (Kogan et al., 2015). Racial self-concept, which defines attitudes and positivity one holds towards their racial group, mediates the relationship between exposure to racial discrimination and depressive symptoms (Kogan et al., 2015).

Furthermore, the use of the Trauma History Questionnaire (THQ) in both the literature review and empirical chapters limits the focus to the perspective of victims, for example asking “has anyone… ever attacked you with a gun, knife or some other weapon?” However, some individuals may be vulnerable to potentially morally injurious experiences, including perpetrating or failing to prevent acts that transgress moral beliefs and expectations (Litz et al., 2009). For example, military personnel might be responsible for perpetrating trauma, such as killing an enemy combatant or failing to prevent atrocities, which has a lasting impact on psychological wellbeing, including depression and PTSD (Litz et al., 2009; Williamson et al., 2018) and was overlooked in both the empirical and literature review chapters.

The contributions of qualitative literature are minimal throughout this project and in the wider literature base. A qualitative approach could have offered rich insights to individual experiences and explanations of SCC and perceptions of self in the aftermath of traumatic events, which could have provided a greater understanding of the different contexts and meanings that are important for survivors (Austin & Sutton, 2014). For example, Bellet et al. (2020) provide a qualitative enquiry on SCC and Prolonged Grief Disorder that complements the quantitative findings of Boelen et al., (2012; 2017) and elaborates by suggesting that the loss of a loved one can contribute to identity confusion or the sense that a part of oneself has died with their loved one. Such rich profiles of individual experiences can be missed in quantitative data, thus highlighting the importance of qualitative research. However, a full appraisal of both quantitative and qualitative literature was beyond the scope of this thesis and could be a direction for future research.

Within the empirical chapter, no data were collected regarding the time since the trauma occurred. Participants for whom a traumatic experience happened within recent weeks might have had very different experiences compared with someone who has been living with historical trauma for a prolonged period. During the time between trauma and study participation, post-traumatic distress could also have been impacted by individual differences, such as gender, which could be a particularly salient factor (Lodi-Smith & Crocetti, 2018). There are subtle differences between genders when considering the impact of traumatic events; trajectories of recovery may be relatively equal, but strategies to move individuals towards recovery hold different foci for men and women (Akerkar & Fordham, 2017). Outcomes could also differ depending on the nature of the trauma. For example, lifetime sexual violence has been linked with post-traumatic stress disorder in old age (Nobels et al.,

2022), whereas grief following a bereavement may be brief or prolonged (Parkes & Prigerson, 2010).

The age range of participants in the empirical chapter fell between 18-73 years, meaning that a significant number of older adults may not accounted for. It is thought that SCC has a curvilinear relationship with age, whereby SCC is positively related to age from young adulthood and middle age but negatively related in older adulthood (Lodi-Smith & Roberts, 2010). Therefore, findings of the empirical study may not be a true representation of SCC changes across the lifespan. Participation may have been hindered by the online design, which may not have been accessible to the older population. This pitfall may also have been relevant in the systematic literature review where most studies were cross-sectional online surveys and therefore may not have been accessible to a diverse population.

The limited number of older adult participants in the empirical project may also be a reflection of people within this age range struggling to access IAPT services. Among people with common mental health difficulties, for whom the IAPT programme was developed, people aged 65+ were significantly under-represented, with only 4.5% accessing support (Rzepnicka et al., 2022). This may be a reflection of lower prevalence of common mental health difficulties in older people, which was estimated at 13.8% in people aged 65+, and over 20% in all other age groups (Rzepnicka et al., 2022). However it may be the case that additional help-seeking barriers influence older people's engagement with IAPT, including stigma, ageism and difficulty obtaining an initial diagnosis (Polacsek et al., 2019). Suggestions have been made for improving access to IAPT for older people, including communicating the effectiveness of treatment for older adults and increasing the confidence of IAPT staff to support older adults (Health Innovation Network, 2019).

Both the systematic literature review and the empirical paper are weighted towards a female demographic, with 81.1% of participants of the empirical study being female, which is not representative of the region recruited from (50.9% female) or the UK (51% female) (Office for National Statistics, 2021; 2012). In the literature review, a high proportion of the studies (82%) recruited an exclusively or majority female sample. This limits the generalizability of the research and highlights the need for research in a broader array of populations (Lodi-Smith & DeMarree, 2018). Despite this, in the general population, women are more likely to have a probable common mental health difficulty (22.5% of women compared with 15.9% of men) and to receive treatment from IAPT (2.3%) compared with men (1.3%), so it could be that the sample are representative of IAPT service users (Rzepnicka et al., 2022).

The ethnicity of participants in the empirical chapter was not representative of the wider population of the region, with 92.6% of the sample describing themselves as White compared with 85.6% of the region (Office for National Statistics, 2021). It is noted that White people with probable common mental health difficulties are more represented in IAPT services generally (9.7%), especially when compared with Asian ethnic groups (6.5%; Rzepnicka et al., 2022). As such, the empirical chapter may not have collected data that is representative of the region, but it appears more representative of the population accessing IAPT.

Furthermore, demographic information was not collected about national identity or country of birth. Given that living abroad experiences are thought to impact SCC (Adam et al., 2018), it could be a missed opportunity to examine whether trauma associated with living abroad experiences, for example refugees, align with changes in SCC. This is especially prominent because being born outside

of the UK was a factor associated with lower treatment rates for common mental health difficulties in IAPT (Rzepnicka et al., 2022).

Race and ethnicity may be related to SCC. In a study examining the role of ethnic identity and SCC, White participants had lower SCC scores than other ethnic groups (Cicero & Cohn, 2018). Racial and ethnic identity is an element of the self-concept that both reflects differences between race and ethnicity, but also involves a sense of shared history, values and a cultural bond (Woo et al., 2019).

It is important to consider ethnicity alongside SCC because traumatic events suffered through inter-group conflicts, such as colonization, terrorism or slavery often involve specific ethnic groups and have consequences both for the generation that live through trauma and their descendants (Taylor & Usborne, 2010). Stronger racial identity, the extent to which a person normatively defines themselves with regard to race, is thought to play a positive role in mental wellbeing and predicts better psychological functioning (Hardeman et al., 2016). Interventions focusing on clarification of cultural identity can promote the wellbeing of group members who have experienced collective trauma (Taylor & Usborne, 2010).

The bias of a convenience sample may mean that findings are not generalizable (Elfil & Negida, 2017). The method used may have appealed more to those with an interest in trauma or psychology research. Since recruitment took place fully online, the study may have appealed to a demographic of people with easier or more frequent access to emails. One reflection is that all those who were invited to participate had previously consented to being contacted for research purposes, which again could appeal to a narrower demographic.

Given that the sample was small compared to the potential pool of participants (only 8% of those invited completed the questionnaires), it is likely that many people with trauma will have been missed. A systematic review of online response rates in counselling journals found an average response rate of 34.2% (Poynton et al., 2019), with more positive responses found when defined and refined populations were targeted (Wu et al., 2022). Due to the data collection methods (with the online system only exporting complete data sets), it is unclear how many people started the study and then disengaged. Future research could benefit from accessing a non-clinical sample, either to act as a comparison group or to extend the pool of potential participants within the wider population, as it is likely that there are many people who have experience trauma but do not access primary care mental health services.

Whilst it has been beneficial to recruit a clinical sample from IAPT services, the findings of this study may have limited applications further afield than the UK population. The National Health Service is unique to the United Kingdom, and experiences of accessing mental healthcare might not be generalizable on a multi-national scale, despite IAPT-informed models growing in popularity across the world (Clark, 2019).

In contrast, the literature review draws on evidence from a wide geographical range, with research based in the USA, Netherlands, UK, Australia, China and Israel. It is useful to examine studies from sites across the world in order to compare findings between different cultures and backgrounds, and not being restricted to a Western demographic or ‘norm’. One limitation is that several of the studies were conducted by the same pool of researchers, meaning that some of the difficulties faced, such as recruitment or cross-sectional design, were repeated.

Potential Ways Forward

The empirical study identified 66 participants who met the threshold for a PTSD diagnosis according to the PCL5 (Weathers, 2013), with a significantly lower amount citing PTSD as the reason for their referral. In addition, the mean score on the PCL5 in this sample was 41.13, and a score of 33 or over meets the cut off for PTSD. This could suggest that service users may be receiving treatment that overlooks their PTSD symptoms. As discussed in the empirical chapter, this highlights the demand for trauma-informed primary care services. Regardless of the main reason for their referral and direction of treatment, PTSD is common in the population seeking support from IAPT.

One important aspect of trauma-informed care is around understanding how it can affect people, including how mental health problems can develop in response to trauma, and offering support following trauma disclosures (Mind, 2022). However, NICE guidelines suggest that within the stepped-care model, clients struggling with depression or generalized anxiety (the two most common self-reported reasons for referral for participants) can expect up to 8 sessions of 20-30 minutes of CBT-informed self-help (NICE, 2020, 2022a). Often such sessions adhere to an agenda in which there is limited scope to spend time on how trauma may link with presenting problems. Furthermore, if PTSD symptoms are not addressed early, mental health treatments can be impeded through poor engagement, premature termination and risk of relapse (SAMHSA, 2014).

Trauma-informed care aims to avoid re-traumatisation, which can be triggered by reminders of the event (Office for Health Improvement & Disparities., 2022). Thus, re-traumatisation could happen at initial assessments when service users are asked to reflect on historical trauma and potential links to current difficulties (National

Collaborating Centre for Mental Health, 2023). Given that a significant proportion of the empirical sample (66%) met the threshold for PTSD, and an even higher number reported having experienced a trauma in their lifetime (96%), it is important for practitioners to respond to trauma disclosures with reassurance, support, follow-ups and by checking in on the person's safety and emotional state (Sweeney et al., 2018). It would be helpful for trauma-informed care to be prioritised despite the limited timeframe in which IAPT practitioners must conduct an initial assessment.

With this in mind, it could be that the practitioner has recognised a history of trauma but identified other presenting difficulties as a priority in the interests of maintaining the 'least restrictive' approach initially. The 'problem descriptor' allocated by the IAPT practitioner at assessment is used to match the client's presenting difficulty with an ICD-10 diagnosis to inform the treatment intervention (National Collaborating Centre for Mental Health, 2023). The empirical study requested participants report the reason for their referral, which may differ to the service's 'problem descriptor,' but this does not mean they are accessing an incorrect treatment pathway. Therefore caution must be taken when interpreting these reflections.

One future action for IAPT services could be for practitioners to re-assess at the start of treatment, with trauma-informed guidance in mind. This could help to confirm that clients are accessing support that has been correctly matched to their needs, whilst being mindful of the risk of re-traumatizing survivors. Implications for IAPT services are important, since they are often the first point of contact between the public and mental health services within the stepped care model, and were used by almost 1.2 million people in 2021/22 (NHS England, Accessed 2023).

Increased SCC is related to positive mental health outcomes, and lower SCC is linked with poorer psychological outcomes (Binsale, 2017). Therefore it is important to consider the usefulness of SCC as a focal point of therapeutic intervention. Individuals with higher SCC are more likely to understand their own problems, thoughts, emotions and behaviours, which can promote progress and change, whereas individuals with lower SCC may find it difficult to identify problematic thoughts, feelings or behaviours and may have an inconsistent understanding of their difficulties (Leite & Kuiper, 2008). Assessing SCC prior to psychological intervention could help clients and practitioners establish a clearer sense of self and a foundation from which to change. This however, raises the question as to how this might be achieved. The Self-Concept Clarity Scale is a quick and effective tool for measuring SCC cross-sectionally and could be incorporated into assessment work with relative ease.

Potential Impact

The previous chapters highlighted ways in which care pathways could be informed by SCC theory. Findings have consistently shown that childhood trauma is linked with SCC, meaning that interventions looking to increase SCC could be more meaningful for childhood trauma survivors than those who have experienced trauma in adulthood.

Findings suggest that different types of trauma lead to different outcomes. Childhood emotional neglect can have a more powerful impact on an individual's SCC compared to other types of childhood adversity (Evans et al., 2015; Ice, 2019), and sexual trauma is linked with higher psychology difficulty compared with non-sexual trauma (Keshet & Gilboa-Schechtman, 2017). As a result, services may wish

to tailor support to focus on improving SCC only with those for whom it is relevant, thus increasing the rationale for assessing SCC at assessment.

SCC could be strengthened by engagement in physical health exercise programs (Liu et al., 2015; Velez et al., 2010), which could be a practical supplement for behaviour-based interventions that are already offered within IAPT services, such as behavioural activation. In practice, clinicians and service users could work together to plan specific times in which clients engage in physical activity, and explore the benefits of this from a more general Cognitive Behavioural Therapy (CBT)-based perspective as a means of incorporating fulfilling activities into people's lives (Kanter et al., 2010), and by promoting psycho-education enhancing SCC. Certain specific CBT approaches to building positive mental imagery, incorporating cognitive elaboration might be adapted to enhance SCC. For example Tarrier (2010) developed an approach to building positive emotions by enhancing cognitive elaboration on positive memories. Focussing on memories of self-defining experiences in a similar way, may also enhance SCC.

Having a strong cultural identity is linked with higher SCC, and including work to strengthen cultural identity could influence SCC and in turn have a positive impact on wellbeing (Usborne & Taylor, 2010). Narrative writing and values writing have also been encouraged as a means of improving SCC in adolescents through a deeper understanding of self-knowledge, purpose and direction (Surdey, 2016). It is possible that developing such interventions for adults would also lead to the enhancement of SCC.

Given its strong links with self-esteem, theory around SCC could be used to supplement existing interventions addressing low self-esteem.

Conclusions

This critical appraisal has explored some of the strengths of the research, and provided reflections on where the findings interact with the wider landscape of literature. Despite some difficulties, such as the exclusion of rich qualitative data and ‘small t’ events, several recommendations arose from the work which are summarised in Table 1.

Whilst this project contributes only a small piece of the puzzle of understanding the self following trauma, opportunities for future research could help to guide our knowledge even further. It is hoped that this research will be able to inform support offered to trauma survivors in mental healthcare settings.

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Table 1

Key Recommendations from the Thesis

Future Research Directions	Clinical Recommendations
Future studies could focus on recruitment from clinical samples as opposed to online recruitment pools from the general population.	Clinical Psychologists may wish to consider therapeutic models that consider identity disruption when supporting trauma survivors with low SCC, including Dialectical Behavioural Therapy and Narrative Therapy.
Where study participation takes place fully online (example surveys), tests of attention should also be utilised.	Clinical Psychologists could support self-reflective practice in care teams which could influence SCC.
Studies examining SCC should also include a measure of self-esteem due to its close links with SCC.	Clinical Psychologists could consider Mentalization Based Therapy as a helpful avenue for working on SCC with trauma survivors.
Longitudinal studies of SCC and trauma would be beneficial.	Clinicians could consider using a measure of SCC during assessment.
Future research should consider examining SCC and trauma in adolescent samples.	Care teams should adopt a trauma-informed approach within services given the high prevalence of self-reported PTSD symptoms in the empirical chapter.
Future research should explore the links between SCC and therapeutic models such as Narrative Therapy to see whether meaningful applications exist for psychological work.	Existing primary care interventions could be supplemented to help clients increase SCC where appropriate, for example using Behavioural Activation to plan time for activities that have been linked to increased SCC, such as physical exercise and social support.
Qualitative research that addresses experiences of trauma and SCC should be conducted.	Knowledge around SCC should be used to supplement psycho-education for trauma survivors.
Future research should focus on the impact of specific trauma types on SCC, particularly physical and sexual trauma.	
Control groups should be recruited when studying SCC and trauma.	

Chapter 4: Ethics Section

Self-Concept Clarity and Trauma

IRAS Application

Full Set of Project Data IRAS Version 6.3.5

Welcome to the Integrated Research Application System

IRAS Project Filter

The integrated dataset required for your project will be created from the answers you give to the following questions. The system will generate only those questions and sections which (a) apply to your study type and (b) are required by the bodies reviewing your study. Please ensure you answer all the questions before proceeding with your applications.

Please complete the questions in order. If you change the response to a question, please select 'Save' and review all the questions as your change may have affected subsequent questions.

Please enter a short title for this project (maximum 70 characters)
Self-concept clarity and trauma

1. Is your project research?

◉ Yes ○ No

2. Select one category from the list below:

○ Clinical trial of an investigational medicinal product
○ Combined trial of an investigational medicinal product and an investigational medical device
○ Clinical investigation or other study of a medical device
○ Other clinical trial to study a novel intervention or randomised clinical trial to compare interventions in clinical practice
○ Basic science study involving procedures with human participants
◉ Study administering questionnaires/interviews for quantitative analysis, or using mixed quantitative/qualitative methodology
○ Study involving qualitative methods only
○ Study limited to working with human tissue samples (or other human biological samples) and data (specific project only)
○ Study limited to working with data (specific project only)
○ Research tissue bank
○ Research database

If your work does not fit any of these categories, select the option below:

○ Other study

2a. Please answer the following question(s):

a) Does the study involve the use of any ionising radiation?	○ Yes	◉ No
b) Will you be taking new human tissue samples (or other human biological samples)?	○ Yes	◉ No
c) Will you be using existing human tissue samples (or other human biological samples)?	○ Yes	◉ No

3. In which countries of the UK will the research sites be located? *(Tick all that apply)*

☑ England

☐ Scotland
☐ Wales
☐ Northern Ireland

3a. In which country of the UK will the lead NHS R&D office be located:

◉ England
◯ Scotland
◯ Wales
◯ Northern Ireland
◯ This study does not involve the NHS

4. Which applications do you require?

☑ IRAS Form
☐ Confidentiality Advisory Group (CAG)
☐ HM Prison and Probation Service (HMPPS)

Most research projects require review by a REC within the UK Health Departments' Research Ethics Service. Is your study exempt from REC review?

◯ Yes ◉ No

5. Will any research sites in this study be NHS organisations?

◉ Yes ◯ No

5a. Are all the research costs and infrastructure costs (funding for the support and facilities needed to carry out the research e.g. NHS support costs) for this study provided by a NIHR Biomedical Research Centre (BRC), NIHR Applied Research Collaboration (ARC), NIHR Patient Safety Translational Research Centre (PSTRC), or an NIHR Medtech and In Vitro Diagnostic Co-operative (MIC) in all study sites?

Please see information button for further details.

◯ Yes ◉ No

Please see information button for further details.

5b. Do you wish to make an application for the study to be considered for NIHR Clinical Research Network (CRN) Support and inclusion in the NIHR Clinical Research Network Portfolio?

Please see information button for further details.

◯ Yes ◉ No

The NIHR Clinical Research Network (CRN) provides researchers with the practical support they need to make clinical studies happen in the NHS in England e.g. by providing access to the people and facilities needed to carry out research "on the ground".

*If you select yes to this question, information from your IRAS submission will automatically be shared with the NIHR CRN. **Submission of a Portfolio Application Form (PAF) is no longer required.***

6. Do you plan to include any participants who are children?

○ Yes ◉ No

7. Do you plan at any stage of the project to undertake intrusive research involving adults lacking capacity to consent for themselves?

○ Yes ◉ No

Answer Yes if you plan to recruit living participants aged 16 or over who lack capacity, or to retain them in the study following loss of capacity. Intrusive research means any research with the living requiring consent in law. This includes use of identifiable tissue samples or personal information, except where application is being made to the Confidentiality Advisory Group to set aside the common law duty of confidentiality in England and Wales. Please consult the guidance notes for further information on the legal frameworks for research involving adults lacking capacity in the UK.

8. Do you plan to include any participants who are prisoners or young offenders in the custody of HM Prison Service or who are offenders supervised by the probation service in England or Wales?

○ Yes ◉ No

9. Is the study or any part of it being undertaken as an educational project?

◉ Yes ○ No

Please describe briefly the involvement of the student(s):
This project will contribute to an an individual student doctoral qualification (DClinPsy) of one of the researchers (Laura Walker). Laura Walker will be undertaking the research project under the supervision of Bill Sellwood and Gail Farrell.

9a. Is the project being undertaken in part fulfilment of a PhD or other doctorate?

◉ Yes ○ No

10. Will this research be financially supported by the United States Department of Health and Human Services or any of its divisions, agencies or programs?

○ Yes ◉ No

11. Will identifiable patient data be accessed outside the care team without prior consent at any stage of the project (including identification of potential participants)?

○ Yes ◉ No

Integrated Research Application System
Application Form for Research administering questionnaires/interviews for quantitative analysis or mixed methodology study

The Chief Investigator should complete this form. Guidance on the questions is available wherever you see this symbol displayed. We recommend reading the guidance first. The complete guidance and a glossary are available by selecting Help.

Please define any terms or acronyms that might not be familar to lay reviewers of the application.

Short title and version number: (maximum 70 characters - this will be inserted as header on all forms)
Self-concept clarity and trauma

PART A: Core study information

1. ADMINISTRATIVE DETAILS

A1. Full title of the research:

Is self-concept clarity a mediating factor between experiences of adult trauma and level of trauma symptomology?

A2-1. Educational projects

Name and contact details of student(s):

Student 1

Title	Forename/Initials	Surname
Miss	Laura	Walker

Address	Division of Health Research, Health Innovation One Sir John Fisher Drive Lancaster University
Post Code	LA1 4AT
E-mail	l.walker10@lancaster.ac.uk
Telephone	07982032650
Fax	

Give details of the educational course or degree for which this research is being undertaken:

Name and level of course/ degree:
Doctorate in Clinical Psychology (DClinPsy)

Name of educational establishment:
Lancaster University

Name and contact details of academic supervisor(s):

Academic supervisor 1

Title	Forename/Initials	Surname
Professor	Bill	Sellwood

Address	Division of Health Research, Health Innovation One Sir John Fisher Drive Lancaster University
Post Code	LA1 4AT
E-mail	b.sellwood@lancaster.ac.uk
Telephone	+44 (0)1524 593998
Fax	

Please state which academic supervisor(s) has responsibility for which student(s):
Please click "Save now" before completing this table. This will ensure that all of the student and academic supervisor details are shown correctly.

Student(s)	Academic supervisor(s)
Student 1 Miss Laura Walker	☑ Professor Bill Sellwood

A copy of a current CV for the student and the academic supervisor (maximum 2 pages of A4) must be submitted with the application.

A2-2. Who will act as Chief Investigator for this study?

- ○ Student
- ◉ Academic supervisor
- ○ Other

A3-1. Chief Investigator:

	Title	Forename/Initials	Surname
	Professor	Bill	Sellwood
Post	Programme Director, Doctorate in Clinical Psychology		
Qualifications	BSc, MSc, PhD		
ORCID ID	0000 0001 8260 9503		
Employer	Lancaster University		
Work Address	Division of Health Research, Health Innovation One Sir John Fisher Drive Lancaster University		
Post Code	LA1 4AT		
Work E-mail	b.sellwood@lancaster.ac.uk		
* Personal E-mail	b.sellwood@lancaster.ac.uk		
Work Telephone	+44 (0)1524 593998		
* Personal Telephone/Mobile	+44 (0)1524 593998		
Fax			

** This information is optional. It will not be placed in the public domain or disclosed to any other third party without prior consent.*
A copy of a current CV (maximum 2 pages of A4) for the Chief Investigator must be submitted with the application.

A4. Who is the contact on behalf of the sponsor for all correspondence relating to applications for this project?
This contact will receive copies of all correspondence from REC and HRA/R&D reviewers that is sent to the CI.

	Title	Forename/Initials	Surname
	Ms	Becky	Gordon
Address	Lancaster University		
	Bailrigg		
	Lancaster		
Post Code	LA1 4YT		
E-mail	sponsorship@lancaster.ac.uk		
Telephone	01524592981		
Fax			

A5-1. Research reference numbers. *Please give any relevant references for your study:*

Applicant's/organisation's own reference number, e.g. R & D (if available):	
Sponsor's/protocol number:	
Protocol Version:	1.0
Protocol Date:	13/02/2022
Funder's reference number (enter the reference number or state not applicable):	N/A
Project website:	

Additional reference number(s):

Ref.Number Description	Reference Number

Registration of research studies is encouraged wherever possible. You may be able to register your study through your NHS organisation or a register run by a medical research charity, or publish your protocol through an open access publisher. If you have registered your study please give details in the "Additional reference number(s)" section.

A5-2. Is this application linked to a previous study or another current application?

○ Yes ◉ No

Please give brief details and reference numbers.

2. OVERVIEW OF THE RESEARCH

To provide all the information required by review bodies and research information systems, we ask a number of specific questions. This section invites you to give an overview using language comprehensible to lay reviewers and members of the public. Please read the guidance notes for advice on this section.

A6-1. Summary of the study. *Please provide a brief summary of the research (maximum 300 words) using language easily understood by lay reviewers and members of the public. Where the research is reviewed by a REC within the UK Health Departments' Research Ethics Service, this summary will be published on the Health Research Authority (HRA) website following the ethical review. Please refer to the question specific guidance for this question.*

This study will investigate the relationships between traumatic experiences that happen in adulthood and the development and severity of post-trauma symptoms. It will explore whether or not a person's understanding of who they are, their beliefs and values (also known as Self-Concept Clarity or SCC), provides a link between adult trauma experiences and post-traumatic symptoms occurring later on. Common symptoms following a trauma include fear, shock, withdrawal or sadness. Other symptoms include intrusive thoughts, which can manifest in nightmares or flashbacks. Sometimes individuals experience avoidance and emotional numbing, or are easily startled or aware of potential danger, known as hyper-arousal. People might experience symptoms in different ways, if at all, and self-concept clarity might affect how these symptoms occur.

Eligible participants are adults seeking support from an Improving Access to Psychological Therapies (IAPT) service in Lancashire. Invitations to participate will be sent via email to people who have previously consented to being contacted for research purposes. Individuals who read the email and accept the invitation to participate can click a link to Qualtrics, where they will be asked to complete online questionnaires that collect information about their background, such as age and ethnicity, self-concept clarity, experiences of trauma throughout life and symptoms of trauma. The questionnaires should take no longer than 35 minutes to complete.
Resultant data will be used to explore the relationships between adult trauma experiences, the development of trauma symptoms, and whether or not self-concept clarity links the two together. Previous research identified links between childhood trauma and self-concept clarity, so this study hopes to expand on these findings by exploring adult trauma and self-concept clarity.
Should a link be found between self-concept clarity and trauma experienced in adulthood, it could have meaningful implications for interventions focusing on increasing self-concept clarity in people with mental health difficulties following trauma.

A6-2. Summary of main issues. *Please summarise the main ethical, legal, or management issues arising from your study and say how you have addressed them.*

Not all studies raise significant issues. Some studies may have straightforward ethical or other issues that can be identified and managed routinely. Others may present significant issues requiring further consideration by a REC, R&D office or other review body (as appropriate to the issue). Studies that present a minimal risk to participants may raise complex organisational or legal issues. You should try to consider all the types of issues that the different reviewers may need to consider.

The current design of the study depends on support from a local IAPT service, which has agreed to facilitate the distribution of questionnaires. It is hoped that the study will not have a significant impact on the workloads the IAPT workforce. However, there is a small chance that service users may seek additional support following engagement with the study. Therefore the service and researchers will liaise to ensure that a robust and accessible package of support is signposted to the participant through the information sheet and debrief. Liaison with IAPT colleagues during team meetings will allow information about the study to be shared with those who will support its distribution.

The study will recruit from a clinical sample of participants, with all those invited to take part having 'open' referrals to the IAPT service. Because potential participants are currently experiencing challenges with their mental health, their motivation or ability to take part may be reduced. Participants with a range of mental health presentations and backgrounds are invited to participate, which should promote uptake and increase the possibility of accessing individuals with trauma experiences, even if that is not their main reason for referral.

People who have experienced traumas might be reminded of such events by taking part in the study. The information sheet and debrief will highlight support systems, such as online resources, the participant's GP or access to third party services such as Samaritans. The information sheet will also include sample questions from the questionnaires so people have an idea of what the study entails. This enhances participant understanding of what to expect from the study so that they are able to make an informed decision about taking part. Participants will be offered the email address of the researcher so that they can ask questions about the study.

Participants will be advised that they can discontinue questionnaire completion and request to have their data removed, which will not impact the support they receive from services. Participants will be asked to share some demographic data such as age and gender, but will be not asked for identifiers such as their name. Because the data are not attributable to participants, it may not be possible to withdraw data after the participant has completed and submitted the questionnaires. The debrief will be made accessible to participants whether they choose to partake for the full extent of the study or not.

Although the flexible nature of an online research study might be more accessible to some, it might be difficult to recruit due to the sensitive nature of the questions being asked of participants.

I have consulted with a representative from the IAPT service from which participants will be recruited and with my field supervisor to discuss the availability of support services for participants should they feel distressed or that taking part has had an impact on their mental health.

All individuals who have previously consented to participating in research through the IAPT service will be invited to take part in this study. Only those who have completed an initial assessment, including a risk assessment, will be invited to participate in the study.

The IAPT service's standard operating procedure advises that those with more complex mental health and safety needs are not appropriate for this service. Therefore only those with a suitable risk management plan and less complex mental health needs are within the database and therefore will be invited to the study.

Data are anonymised and individual consent is gained from each participant.

3. PURPOSE AND DESIGN OF THE RESEARCH

A7. Select the appropriate methodology description for this research. *Please tick all that apply:*

- ☐ Case series/ case note review
- ☐ Case control
- ☐ Cohort observation
- ☐ Controlled trial without randomisation
- ☐ Cross-sectional study
- ☐ Database analysis
- ☐ Epidemiology
- ☐ Feasibility/ pilot study
- ☐ Laboratory study
- ☐ Metanalysis
- ☐ Qualitative research
- ☑ Questionnaire, interview or observation study
- ☐ Randomised controlled trial
- ☐ Other (please specify)

A10. What is the principal research question/objective? *Please put this in language comprehensible to a lay person.*

This study will look at the relationships between traumatic experiences that take place in adulthood and the development and severity of trauma symptoms. It will explore whether or not a person's understanding of who they are, including their beliefs and values (also known as self-concept clarity or SCC), provides a link between the two. Sometimes individuals experience different thoughts, feelings and behaviours following a distressing event, such as fear, sadness or withdrawal from others. In some people this is more prolonged and substantial, and some people are not troubled by these experiences. The study aims to explore the relationships between adult trauma experiences, the development of trauma symptoms, and whether or not the links between the two are, at least in part, dependent upon level of self-concept clarity.
Questionnaires will collect information about the participant's background, such as age and sex, self-concept clarity, experience of trauma in adulthood and symptoms of trauma.

A11. What are the secondary research questions/objectives if applicable? *Please put this in language comprehensible to a lay person.*

Information will be collected about the nature of the trauma experienced to see if there are patterns between the type of trauma experiences (such as betrayal trauma) and self-concept clarity.

A12. What is the scientific justification for the research? *Please put this in language comprehensible to a lay person.*

Self-concept clarity is the "extent to which a person's beliefs about themselves are clearly and confidently defined, internally consistent, and stable," (Campbell et al., 1996). People with lower self-concept clarity are more vulnerable to experiencing difficulties with their mental health, such as anxiety, depression and neuroticism (Surdey, 2016) personality disorders (Cohen, Leibu, Tanis, Ardalan, & Galynker, 2016), paranoia (de Sousa, Sellwood, Spray, Fernyhough, & Bentall, 2016) and psychosis (Evans et al., 2015). In contrast, people with high self-concept clarity often experience better psychological wellbeing (Chiu, Chang, & Hui, 2017). Trauma may compromise the development of a clear and consistent self-concept clarity, which in turn could lead to reduced wellbeing. Most of the research currently focuses on the relationships between childhood trauma and self-concept clarity (Evans, Reid, Preston, Palmier-Claus, & Sellwood, 2015; Hayward, Vartanian, Kwok, & Newby, 2020; Ice, 2019; Vartanian, 2009; Vartanian, Hayward, Smyth, Paxton, & Touyz, 2018; Wong, Dirghangi, & Hart, 2018), so there is a need for adult trauma to be investigated to see if it impacts self-concept clarity in the same way.

If a link is found between adult trauma and self-concept clarity, it could have implications for therapy that supports survivors of trauma. The more we understand about self-concept clarity and trauma, the more patient-centred and well-informed interventions can be developed to match individual needs. Some people might benefit from interventions that focus on improving self-concept clarity to help improve resilience and emotional wellbeing, which in turn could enhance their quality of life.
This research aims to bridge the gap between our understanding of adult trauma and its relationship with self-concept clarity. It will follow similar procedures to those utilised in previous research into self-concept clarity by making use of questionnaires. It will also be used in a clinical setting as opposed to targeting the general population. This will ensure we reach a sample of people who have experienced trauma, as many clients accessing mental healthcare services are survivors of a trauma in their lifetime, varying in severity and duration.
The current study intends to fulfil its aim of examining the relationships between adult trauma and self-concept clarity by using questionnaires that specifically identify the age at which the trauma occurred. Confounding variables, such as childhood trauma experiences, will be considered in the analysis.

A13. Please summarise your design and methodology. *It should be clear exactly what will happen to the research participant, how many times and in what order. Please complete this section in language comprehensible to the lay person. Do not simply reproduce or refer to the protocol. Further guidance is available in the guidance notes.*

Service users of an IAPT (Improving Access to Psychological Therapies) service in the Northwest who have previously consented to being contacted for research purposes will be notified of an opportunity to take part in the current study. The email will contain a link to the study on Qualtrics.
On Qualtrics, the participants will be presented with the information sheet, including a sample question, and a consent form prior to participating. They can decline to take part at this point or disengage at any time during questionnaire completion.
The participants will be presented with questionnaires one at a time. Once they have filled in all of the questionnaires, they will be presented with a debrief, including a brief explanation of the study, resources for support and the contact details of the researchers, should they wish to get in touch. They will not routinely be contacted following completion of the questionnaires.
The study hypothesises that: experiences of trauma will be associated with reduced self-concept clarity; experiences of trauma will predict trauma symptomology; relationship between trauma experiences and trauma symptoms will be accounted for when self-concept clarity acts as a mediator. That is, that the association between traumatic events and levels of post-traumatic symptoms will, at least in part, depend on levels of self-concept clarity. It is also predicted that these relationships will occur independently of history of childhood trauma.
The design of this study has been chosen to increase accessibility, as participants are not required to travel to a site to take part. Furthermore it is hoped that the online method of data collection will limit time and energy costs to the participant as travel to a site will not be necessary. The research aims to recruit a minimum sample size of 71.

A14-1. In which aspects of the research process have you actively involved, or will you involve, patients, service users, and/or their carers, or members of the public?

- [x] Design of the research
- [ ] Management of the research
- [x] Undertaking the research
- [ ] Analysis of results
- [x] Dissemination of findings
- [ ] None of the above

Give details of involvement, or if none please justify the absence of involvement.
The field supervisor works as a clinical psychologist in a CMHT service of the Trust supporting the study. She has been able to advise on clinical elements of the study.
The researcher has consulted with a Service User Researcher in the Trust supporting this project to gather feedback about the design and conduct of the study. It was felt that the questionnaires are low risk and not intrusive or triggering for service users. They did identify that thinking about trauma can be triggering for some participants but this would not be the norm. They also encouraged the use of diverse language around trauma experiences, which has been implemented in the participant information sheet and debrief.
Members of The Lancaster University Public Involvement Network (LUPIN) have been contacted via email to gather feedback about the design of the study from individuals with lived experience of accessing mental health services. The email included an overview of the project and some information about the materials that participants would access (such as the information sheet and debrief). LUPIN members were invited to contact the researcher via email or Microsoft Teams if they would like to know more and to share feedback about the design and conduct of the study.

4. RISKS AND ETHICAL ISSUES

RESEARCH PARTICIPANTS

A15. What is the sample group or cohort to be studied in this research?

Select all that apply:

- ☐ Blood
- ☐ Cancer
- ☐ Cardiovascular
- ☐ Congenital Disorders
- ☐ Dementias and Neurodegenerative Diseases
- ☐ Diabetes
- ☐ Ear
- ☐ Eye
- ☐ Generic Health Relevance
- ☐ Infection
- ☐ Inflammatory and Immune System
- ☐ Injuries and Accidents
- ☑ Mental Health
- ☐ Metabolic and Endocrine
- ☐ Musculoskeletal
- ☐ Neurological
- ☐ Oral and Gastrointestinal
- ☐ Paediatrics
- ☐ Renal and Urogenital
- ☐ Reproductive Health and Childbirth
- ☐ Respiratory
- ☐ Skin
- ☐ Stroke

Gender:	Male and female participants
Lower age limit: 18	Years
Upper age limit: 100	Years

A17-1. Please list the principal inclusion criteria (list the most important, max 5000 characters).

To be eligible, participants must be aged 18 or over. They must have an open referral to MindsMatter (a primary care mental health NHS service) in which they have completed an initial assessment but have not yet started treatment. Participants will need to have sufficient understanding of the English language to read the study materials as translated resources are not available.

A17-2. Please list the principal exclusion criteria (list the most important, max 5000 characters).

Service users who have started treatment with MindsMatter at the time of invitation will be excluded from taking part.

Participants who have been deemed 'high risk' by the service, as confirmed by their clinical team and identified using the appropriate database labels, will be excluded. Those who are unable to read study materials and answer questions in English, as translation is not available, will also be excluded.

RESEARCH PROCEDURES, RISKS AND BENEFITS

A18. Give details of all non-clinical intervention(s) or procedure(s) that will be received by participants as part of the research protocol. *These include seeking consent, interviews, non-clinical observations and use of questionnaires.*

Please complete the columns for each intervention/procedure as follows:

1. Total number of interventions/procedures to be received by each participant as part of the research protocol.
2. If this intervention/procedure would be routinely given to participants as part of their care outside the research, how many of the total would be routine?
3. Average time taken per intervention/procedure (minutes, hours or days)
4. Details of who will conduct the intervention/procedure, and where it will take place.

Intervention or procedure	1	2	3	4
Demographic questionnaire	1	0	5 minutes	Completed online
Trauma history questionnaire	1	0	15 minutes	Completed online
PTSD checklist 5	1	0	10 minutes	Completed online
Self-concept clarity scale	1	0	5 minutes	Completed online

A21. How long do you expect each participant to be in the study in total?

It is anticipated that each participant will spend approximately 35 minutes completing all the questionnaires. This can range from 20-50 minutes.

A22. What are the potential risks and burdens for research participants and how will you minimise them?

For all studies, describe any potential adverse effects, pain, discomfort, distress, intrusion, inconvenience or changes to lifestyle. Only describe risks or burdens that could occur as a result of participation in the research. Say what steps would be taken to minimise risks and burdens as far as possible.

Some of the questionnaires, in particular the Trauma History Questionnaire, contain sensitive information, which can feel distressing or triggering for the participant. The participant information sheet will contain sample questions so that the individual knows before they take part what to expect should they proceed. The debrief will also contain information about support available should participants feel distressed during the study. Participants will be advised that should they become distressed, they can stop engaging with the study at any time, with no consequence to themselves or their treatment.

The time burden may be a challenge for participants, especially if they are struggling with motivation as part of their mental health difficulties. To minimise this risk, participants will be made aware of the estimated completion time in the patient information sheet. Participants are able to discontinue with the study at any time without having to provide a reason.

The researcher's email address will be provided in the patient information sheet, to allow participants to ask questions to raise concerns prior to taking part.

A23. Will interviews/ questionnaires or group discussions include topics that might be sensitive, embarrassing or upsetting, or is it possible that criminal or other disclosures requiring action could occur during the study?

◉ Yes ○ No

If Yes, please give details of procedures in place to deal with these issues:

Some information elicited by questionnaires, particularly the Trauma History Questionnaire, is sensitive in nature and may cause distress for the participant. Participants will receive information about the nature of the questions asked in the study, including sample questions, so they have an understanding of what to expect if they proceed. They will also receive details of support available to them in the debrief, which they will be directed to at the end of the study. There will also be an option to end participation early through a button which will direct participants to the

debrief even if they have not answered all of the questions. Participants will be made aware that they can disengage from the study at any time.
The researcher's email address will be provided in the patient information sheet, to allow participants to ask questions to raise concerns prior to taking part.

A24. What is the potential for benefit to research participants?

Although there are no individual benefits to the participant, by sharing experiences they will be helping to enhance the researcher's understanding of self-concept clarity, trauma experiences and outcomes. It is hoped that this will help improve mental health support and interventions for those who have experienced trauma in their lifetimes.

A26. What are the potential risks for the researchers themselves? *(if any)*

The researcher will not have any direct contact with service users, but it is likely that they will report exposure to distressing traumatic events through their questionnaires. They are not asked to describe the events in any detail. However it may be distressing for the researcher to focus on multiple reports of lifetime trauma. The researcher will be able to utilise supervision for support if needed.

RECRUITMENT AND INFORMED CONSENT

In this section we ask you to describe the recruitment procedures for the study. Please give separate details for different study groups where appropriate.

A27-1. How will potential participants, records or samples be identified? Who will carry this out and what resources will be used?*For example, identification may involve a disease register, computerised search of social care or GP records, or review of medical records. Indicate whether this will be done by the direct care team or by researchers acting under arrangements with the responsible care organisation(s).*

Participants who are accessing support from MindsMatter are routinely asked whether or not they wish to be contacted for research purposes. Those who have previously agreed to be consented for the purposes of research and meet the inclusion criteria will be sent an email, written by the researchers and sent by the administrators of the service, inviting them to participate. This will contain a link to the Qualtrics survey being used to gather data, and includes a participant information sheet and electronic consent form. This eliminates the need for researchers to have access to personal data. The researcher will have no access to participants' personal records during the course of this study. All data will be collected through Qualtrics with no identifying data (such as names).

A27-2. Will the identification of potential participants involve reviewing or screening the identifiable personal information of patients, service users or any other person?

◉ Yes ○ No

Please give details below:
The MindsMatter service supporting this study has access to a database of service users who have consented to be contacted for research purposes. A member of the MindsMatter team will have access to patient information through this database and identify, through a variety of 'filters' suitable participants. At no point of the screening will the primary researcher have access to person identifiable information in the dataset.

A27-3. Describe what measures will be taken to ensure there is no breach of any duty of confidentiality owed to patients, service users or any other person in the process of identifying potential participants.*Indicate what steps have been or will be taken to inform patients and service users of the potential use of their records for this purpose. Describe the arrangements to ensure that the wishes of patients and service users regarding access to their records are respected. Please consult the guidance notes on this topic.*

Only the MindsMatter service that is supporting this project will have access to patient files to identify potential participants. Only those who have previously consented to being contacted for research purposes will be contacted. The researchers will not have direct contact with potential participants and will not have access to their personal data unless the participant volunteers to leave a contact email address at the end of their engagement for dissemination purposes.

A27-4. Will researchers or individuals other than the direct care team have access to identifiable personal information of any potential participants?

○ Yes ◉ No

A28. Will any participants be recruited by publicity through posters, leaflets, adverts or websites?

◉ Yes ○ No

If Yes, please give details of how and where publicity will be conducted, and enclose copy of all advertising material (with version numbers and dates).

Participants will be recruited through an email notifying them of an opportunity to participate in research. A draft of this email can be found in the accompanying documents. It will act as an advertisement for the study that will only be visible to the target population. An informed consent form and participant information sheet will accompany the email. Access to the study will not be publicly advertised.

A29. How and by whom will potential participants first be approached?

Participants will be approached directly via email by the IAPT service that is facilitating the study. At no point will the researcher approach individuals. Researcher contact information will be available should participants wish to get in touch.

Although members of the service will be given information about the study and will therefore be equipped to support potential participants with queries, the staff team will not be involved in facilitating participation beyond this. After receiving the email, it is up to the individual to decide whether or not they wish to participate, but they will have the opportunity to ask any questions or discuss the study with the primary researcher.

A30-1. Will you obtain informed consent from or on behalf of research participants?

◉ Yes ○ No

If you will be obtaining consent from adult participants, please give details of who will take consent and how it will be done, with details of any steps to provide information (a written information sheet, videos, or interactive material). Arrangements for adults unable to consent for themselves should be described separately in Part B Section 6, and for children in Part B Section 7.

If you plan to seek informed consent from vulnerable groups, say how you will ensure that consent is voluntary and fully informed.

Individuals who have consented to be contacted for research purposes and who meet the eligibility criteria will be sent an email containing a link to Qualtrics, which they should click if they wish to participate. The link will contain the participant information sheet and consent form before participants are able to proceed to the quesitonnaires. The invitation will be sent directly from IAPT's admin email account, so the researcher will not have access to any confidential data such as email addresses. The researcher plans to visit the service to share details of the study with staff, so they are prepared should prospective participants have any questions.

If individuals respond to the invitation email with queries, these can be forwarded to the researcher through admin, which eliminates the need for the researcher to have access to contact details of prospective participants. The participant information sheet also includes an email address that participants can contact with queries should they wish to do so. The information sheet and consent form will be visible through Qualtrics. The participant information sheet will provide details of what the individual can expect from taking part in the study, including sample questions. Participants who opt to proceed will be shown the consent form, which can be signed electronically. Following this the survey will begin.

If you are not obtaining consent, please explain why not.

Please enclose a copy of the information sheet(s) and consent form(s).

A30-2. Will you record informed consent (or advice from consultees) in writing?

◉ Yes ○ No

A31. How long will you allow potential participants to decide whether or not to take part?

There is no specific time following receipt of the invitation and access to the participant information sheet in which an individual must decide whether or not to take part in the study. The Qualtrics survey will be available for a period of six months, after which time participants will not be able to participate. Participants are advised that they can decline or withdraw from the study without affecting their care.

A33-1. What arrangements have been made for persons who might not adequately understand verbal explanations or written information given in English, or who have special communication needs? *(e.g. translation, use of interpreters)*

Translated materials are not available for this study. Therefore the inclusion criteria require participants to have a reasonable understanding of the English language. The researcher's contact details are available in patient information sheet and invitation should the individual encounter any difficulties with completing the study.

A35. What steps would you take if a participant, who has given informed consent, loses capacity to consent during the study? *Tick one option only.*

○ The participant and all identifiable data or tissue collected would be withdrawn from the study. Data or tissue which is not identifiable to the research team may be retained.

○ The participant would be withdrawn from the study. Identifiable data or tissue already collected with consent would be retained and used in the study. No further data or tissue would be collected or any other research procedures carried out on or in relation to the participant.

○ The participant would continue to be included in the study.

○ Not applicable – informed consent will not be sought from any participants in this research.

◉ Not applicable – it is not practicable for the research team to monitor capacity and continued capacity will be assumed.

Further details:

Not applicable – it is not practicable for the research team to monitor capacity and continued capacity will be assumed.

CONFIDENTIALITY

In this section, personal data means any data relating to a participant who could potentially be identified. It includes pseudonymised data capable of being linked to a participant through a unique code number.

Storage and use of personal data during the study

A36. Will you be undertaking any of the following activities at any stage (including in the identification of potential participants)? *(Tick as appropriate)*

☐ Access to medical records by those outside the direct healthcare team

☐ Access to social care records by those outside the direct social care team

☐ Electronic transfer by magnetic or optical media, email or computer networks

☐ Sharing of personal data with other organisations

☐ Export of personal data outside the EEA

☐ Use of personal addresses, postcodes, faxes, emails or telephone numbers

☐ Publication of direct quotations from respondents

☐ Publication of data that might allow identification of individuals

☐ Use of audio/visual recording devices

☑ Storage of personal data on any of the following:

- ☐ Manual files (includes paper or film)
- ☐ NHS computers
- ☐ Social Care Service computers
- ☑ Home or other personal computers
- ☑ University computers
- ☐ Private company computers
- ☐ Laptop computers

Further details:
Participants can choose to enter their email address at the end of the study if they would like to receive a summary of the findings following study completion. However, this email address will not be linked to individual study responses. Emails will be kept in a separate password protected file on secure university systems.

A37. Please describe the physical security arrangements for storage of personal data during the study?

All information will be collected online through Qualtrics. As per Lancaster University guidance, consent forms and responses will be stored on a university approved secure cloud storage system, which will have a clear folder structure so that information will be visible to the research supervisor. All documents will be password protected. Participants who have opted to share their name and email address for the purpose of receiving a summary of the findings post-completion will have their data stored in the same space. This information will be destroyed following dissemination.

A38. How will you ensure the confidentiality of personal data? *Please provide a general statement of the policy and procedures for ensuring confidentiality, e.g. anonymisation or pseudonymisation of data.*

Demographic information, such as gender, race and age, will be collected from participants. The name of the service being accessed will also be published in findings, and as a result the region in which participants are GP-registered, will be noted in the findings. No specific identifying data will be collected in the survey. Furthermore, demographic information will not be used to identify individual respondents, but instead may be used to generalise findings to a particular demographic, for example if sex differences are found.

Those who wish to receive a summary of the findings post study have the option to share their name and email address. This is voluntary and not a requirement of the study. This information will be stored in a separate password-protected file to the findings and will be destroyed once findings have been disseminated. This information will only be accessible to the researcher and their research supervisor.

Participants will be contacted directly by the IAPT service, and not the researcher, when invited to take part in this study. Data collected will be anonymous and rendered as such by Qualtrics automatically, therefore the researcher will not have any access at all to identifying information.

A40. Who will have access to participants' personal data during the study? *Where access is by individuals outside the direct care team, please justify and say whether consent will be sought.*

The researchers will have no access to participants' personal files. Personal data submitted through Qualtrics, such as demographics information, will be accessible to the primary researcher and their supervisor. Email addresses for those who have opted to receive a summary of the findings will also be accessible to the researchers, although this is voluntary.

Storage and use of data after the end of the study

A41. Where will the data generated by the study be analysed and by whom?

Any saved information that will be stored on university approved secure cloud storage system with password protection. It will be analysed by the researcher and their research supervisors. The data will be analysed on the

University Campus, and where this in not feasible and analysis needs to take place off-site, a secure university VPN will be used.

A42. Who will have control of and act as the custodian for the data generated by the study?

	Title	Forename/Initials	Surname
	Professor	Bill	Sellwood
Post	Programme Director, Doctorate in Clinical Psychology		
Qualifications	BSc, MSc, PhD		
Work Address	Division of Health Research, Health Innovation One		
	Sir John Fisher Drive		
	Lancaster University		
Post Code	LA1 4AT		
Work Email	b.sellwood@lancaster.ac.uk		
Work Telephone	07889 675 654		
Fax			

A43. How long will personal data be stored or accessed after the study has ended?

- ○ Less than 3 months
- ◉ 3 – 6 months
- ○ 6 – 12 months
- ○ 12 months – 3 years
- ○ Over 3 years

A44. For how long will you store research data generated by the study?

Years: 10
Months: 0

A45. Please give details of the long term arrangements for storage of research data after the study has ended. *Say where data will be stored, who will have access and the arrangements to ensure security.*

Following the conclusion of the study and the writing of the final report, data will be securely transferred to the DClinPsy Research Coordinator who will download the folder and store it securely on the University network, with overview by Professor Sellwood. It will be securely stored on university approved secure network servers.

INCENTIVES AND PAYMENTS

A46. Will research participants receive any payments, reimbursement of expenses or any other benefits or incentives for taking part in this research?

- ○ Yes
- ◉ No

A47. Will individual researchers receive any personal payment over and above normal salary, or any other benefits or incentives, for taking part in this research?

◯ Yes ◉ No

A48. Does the Chief Investigator or any other investigator/collaborator have any direct personal involvement (e.g. financial, share holding, personal relationship etc.) in the organisations sponsoring or funding the research that may give rise to a possible conflict of interest?

◯ Yes ◉ No

NOTIFICATION OF OTHER PROFESSIONALS

A49-1. Will you inform the participants' General Practitioners (and/or any other health or care professional responsible for their care) that they are taking part in the study?

◯ Yes ◉ No

If Yes, please enclose a copy of the information sheet/letter for the GP/health professional with a version number and date.

PUBLICATION AND DISSEMINATION

A50-1. Will the research be registered on a public database?

◯ Yes ◉ No

Please give details, or justify if not registering the research.
The researcher is not aware of any suitable database to register this work on.

Registration of research studies is encouraged wherever possible.
You may be able to register your study through your NHS organisation or a register run by a medical research charity, or publish your protocol through an open access publisher. If you are aware of a suitable register or other method of publication, please give details. If not, you may indicate that no suitable register exists. Please ensure that you have entered registry reference number(s) in question A5-1.

A51. How do you intend to report and disseminate the results of the study? *Tick as appropriate:*

☑ Peer reviewed scientific journals
☑ Internal report
☑ Conference presentation
☐ Publication on website
☐ Other publication
☐ Submission to regulatory authorities
☐ Access to raw data and right to publish freely by all investigators in study or by Independent Steering Committee on behalf of all investigators
☐ No plans to report or disseminate the results
☑ Other (please specify)

Other – direct email to participants who opted to receive a summary of the findings
Other – results will be shared in the researcher's thesis that will contribute towards their DClinPsy qualification and will be publicly available

A52. If you will be using identifiable personal data, how will you ensure that anonymity will be maintained when publishing the results?

Although demographic data will be collected, it will not be possible to decipher individuals from the report due to the grouping of data, for example to discuss differences between groups of different genders or races if they are found.

The only personally identifiable data collected will be a contact emails to disseminate findings should the participant want to provide this. This will be stored separately to the survey responses so there is no link to the surveys, under password protection on university approved secure cloud servers.

Anonymity will be maintained by using Qualtrics, a secure survey system that automatically renders the results anonymous upon completion without the need for researchers to access the information.

A53. How and when will you inform participants of the study results?

If there will be no arrangements in place to inform participants please justify this.
Participants who volunteer their names and email addresses to receive a summary of the findings will be emailed once the study has concluded and after marking of the project.

5. Scientific and Statistical Review

A54-1. How has the scientific quality of the research been assessed? *Tick as appropriate:*

- ☐ Independent external review
- ☐ Review within a company
- ☐ Review within a multi−centre research group
- ☑ Review within the Chief Investigator's institution or host organisation
- ☐ Review within the research team
- ☑ Review by educational supervisor
- ☐ Other

Justify and describe the review process and outcome. If the review has been undertaken but not seen by the researcher, give details of the body which has undertaken the review:
Review by field supervisor

For all studies except non-doctoral student research, please enclose a copy of any available scientific critique reports, together with any related correspondence.

For non-doctoral student research, please enclose a copy of the assessment from your educational supervisor/ institution.

A56. How have the statistical aspects of the research been reviewed? *Tick as appropriate:*

- ☐ Review by independent statistician commissioned by funder or sponsor
- ☐ Other review by independent statistician
- ☐ Review by company statistician
- ☐ Review by a statistician within the Chief Investigator's institution
- ☐ Review by a statistician within the research team or multi−centre group
- ☑ Review by educational supervisor
- ☑ Other review by individual with relevant statistical expertise
- ☐ No review necessary as only frequencies and associations will be assessed – details of statistical input not required

In all cases please give details below of the individual responsible for reviewing the statistical aspects. If advice has been provided in confidence, give details of the department and institution concerned.

	Title	Forename/Initials	Surname
	Professor	Bill	Sellwood
Department	Division of Health Research		
Institution	Lancaster University		
Work Address	Division of Health Research, Health Innovation One		
	Sir John Fisher Drive		
	Lancaster University		
Post Code	LA1 4AT		
Telephone	+44 1524 593998		
Fax			
Mobile			
E-mail	b.sellwood@lancaster.ac.uk		

Please enclose a copy of any available comments or reports from a statistician.

A57. What is the primary outcome measure for the study?

Three tools are used to measure outcomes in this study. These include the Self-Concept Clarity Scale, the Trauma History Questionnaire and the PTSD Checklist 5. The PTSD Checklist 5 will be identifying trauma symptoms, the key dependent variable.

A58. What are the secondary outcome measures?*(if any)*

N/A

A59. What is the sample size for the research? *How many participants/samples/data records do you plan to study in total? If there is more than one group, please give further details below.*

Total UK sample size:	71
Total international sample size (including UK):	71
Total in European Economic Area:	0

Further details:
Group 1 – Participants who have experienced trauma only during adult life
Group 2 – Participants who have experienced only childhood trauma
Group 3 – Participants who have experienced trauma both during childhood and adulthood
Group 4 – Participants who have never experienced a traumatic event

A60. How was the sample size decided upon? *If a formal sample size calculation was used, indicate how this was done, giving sufficient information to justify and reproduce the calculation.*

To explore the mediating role of self-concept clarity between trauma and level of trauma symptomatology, a bias-corrected bootstrap test has the highest power. For 0.8 power to be achieved within a bias-corrected bootstrap test where the effects of the independent variable (trauma experience) and mediating factor (self-concept clarity) and the effects of the mediating factor (self-concept clarity) and the dependent variable (trauma symptoms) are 0.39 (a medium effect size), an estimated minimum sample size of 71 is recommended.

A61-1. Will participants be allocated to groups at random?

○ Yes ◉ No

A62. Please describe the methods of analysis (statistical or other appropriate methods, e.g. for qualitative research) by which the data will be evaluated to meet the study objectives.

Univariate analyses will be used to examine the associations between salient variables (correlations). Multiple regression will look at whether or not trauma experiences throughout life predict trauma outcomes through self-concept clarity. Analysis will consider: regressing self-concept clarity on trauma experience, regressing trauma outcome on trauma experience and regressing trauma outcome on both trauma experience and self-concept clarity.

6. MANAGEMENT OF THE RESEARCH

A63. Other key investigators/collaborators. *Please include all grant co-applicants, protocol co-authors and other key members of the Chief Investigator's team, including non-doctoral student researchers.*

	Title	Forename/Initials	Surname
	Dr	Gail	Farrell
Post	Clinical Psychologist		
Qualifications	DClinPsy Liverpool University 2012		
Employer	Lancashire and South Cumbria NHS Foundation Trust		
Work Address	Mountcroft Resource Centre		
	Albert Street		
	Fleetwood		
Post Code	FY7 6AH		
Telephone	01253 951830		
Fax			
Mobile	07779456741		
Work Email	gail.farrell@lscft.nhs.uk		

A64. Details of research sponsor(s)

A64-1. Sponsor

Lead Sponsor

Status:
- ○ NHS or HSC care organisation
- ◉ Academic
- ○ Pharmaceutical industry
- ○ Medical device industry
- ○ Local Authority
- ○ Other social care provider (including voluntary sector or private organisation)
- ○ Other

Commercial status: Non-Commercial

If Other, please specify:

Contact person

Name of organisation	Lancaster University
Given name	Becky
Family name	Gordon
Address	Lancaster University, Bailrigg, Lancaster

Town/city	Lancaster
Post code	LA1 4YT
Country	United Kingdom
Telephone	01524592981
Fax	
E-mail	sponsorship@lancaster.ac.uk

Legal representative for clinical investigation of medical device (studies involving Northern Ireland only)
Clinical Investigations of Medical Devices that take place in Northern Ireland must have a legal representative of the sponsor that is based in Northern Ireland or the EU

Contact person

Name of organisation
Given name
Family name
Address
Town/city
Post code
Country
Telephone
Fax
E-mail

A65. Has external funding for the research been secured?

Please tick at least one check box.

- ☐ Funding secured from one or more funders
- ☐ External funding application to one or more funders in progress
- ☑ No application for external funding will be made

What type of research project is this?

- ◉ Standalone project
- ○ Project that is part of a programme grant
- ○ Project that is part of a Centre grant
- ○ Project that is part of a fellowship/ personal award/ research training award
- ○ Other

Other – please state:

A66. Has responsibility for any specific research activities or procedures been delegated to a subcontractor (other than a co-sponsor listed in A64-1) ? *Please give details of subcontractors if applicable.*

○ Yes ◉ No

A67. Has this or a similar application been previously rejected by a Research Ethics Committee in the UK or another country?

◯ Yes ◉ No

Please provide a copy of the unfavourable opinion letter(s). You should explain in your answer to question A6-2 how the reasons for the unfavourable opinion have been addressed in this application.

A68-1. Give details of the lead NHS R&D contact for this research:

	Title	Forename/Initials	Surname
	Mr	Andrew	Pennington
Organisation	Lancashire and South Cumbria NHS Foundation Trust		
Address	The Lantern Centre, Vicarage Lane		
	Fulwood		
	Preston		
Post Code	PR2 8DW		
Work Email	andrew.pennington@lscft.nhs.uk		
Telephone	01772 773498		
Fax			
Mobile	07507 847609		

Details can be obtained from the NHS R&D Forum website: http://www.rdforum.nhs.uk

A69-1. How long do you expect the study to last in the UK?

Planned start date: 04/04/2022
Planned end date: 10/03/2023
Total duration:
Years: 0 Months: 11 Days: 7

A71-1. Is this study?

◉ Single centre
◯ Multicentre

A71-2. Where will the research take place? *(Tick as appropriate)*

☑ England
☐ Scotland
☐ Wales
☐ Northern Ireland
☐ Other countries in European Economic Area

Total UK sites in study 1

Does this trial involve countries outside the EU?
◯ Yes ◉ No

A72. Which organisations in the UK will host the research? *Please indicate the type of organisation by ticking the box and give approximate numbers if known:*

☑ NHS organisations in England	1
☐ NHS organisations in Wales	
☐ NHS organisations in Scotland	
☐ HSC organisations in Northern Ireland	
☐ GP practices in England	
☐ GP practices in Wales	
☐ GP practices in Scotland	
☐ GP practices in Northern Ireland	
☐ Joint health and social care agencies (eg community mental health teams)	
☐ Local authorities	
☐ Phase 1 trial units	
☐ Prison establishments	
☐ Probation areas	
☐ Independent (private or voluntary sector) organisations	
☐ Educational establishments	
☐ Independent research units	
☐ Other (give details)	
Total UK sites in study:	1

A73-1. Will potential participants be identified through any organisations other than the research sites listed above?

○ Yes ◉ No

A74. What arrangements are in place for monitoring and auditing the conduct of the research?

The researcher and the research supervisors will meet regularly to audit the conduct of the research and engage in regular supervision. Supervisors will also complete draft reads of various research components.

A76. Insurance/ indemnity to meet potential legal liabilities

Note: in this question to NHS indemnity schemes include equivalent schemes provided by Health and Social Care (HSC) in Northern Ireland

A76-1. What arrangements will be made for insurance and/or indemnity to meet the potential legal liability of the sponsor(s) for harm to participants arising from the management of the research? *Please tick box(es) as applicable.*

Note: Where a NHS organisation has agreed to act as sponsor or co-sponsor, indemnity is provided through NHS schemes. Indicate if this applies (there is no need to provide documentary evidence). For all other sponsors, please describe the arrangements and provide evidence.

☐ NHS indemnity scheme will apply (NHS sponsors only)

☑ Other insurance or indemnity arrangements will apply (give details below)

Lancaster University legal liability cover will apply.

Please enclose a copy of relevant documents.

A76-2. What arrangements will be made for insurance and/ or indemnity to meet the potential legal liability of the sponsor(s) or employer(s) for harm to participants arising from the design of the research? *Please tick box(es) as applicable.*

Note: Where researchers with substantive NHS employment contracts have designed the research, indemnity is provided through NHS schemes. Indicate if this applies (there is no need to provide documentary evidence). For other protocol authors (e.g. company employees, university members), please describe the arrangements and provide evidence.

☐ NHS indemnity scheme will apply (protocol authors with NHS contracts only)

☑ Other insurance or indemnity arrangements will apply (give details below)

Lancaster University legal liability cover will apply.

Please enclose a copy of relevant documents.

A76-3. What arrangements will be made for insurance and/ or indemnity to meet the potential legal liability of investigators/collaborators arising from harm to participants in the conduct of the research?

Note: Where the participants are NHS patients, indemnity is provided through the NHS schemes or through professional indemnity. Indicate if this applies to the whole study (there is no need to provide documentary evidence). Where non-NHS sites are to be included in the research, including private practices, please describe the arrangements which will be made at these sites and provide evidence.

☑ NHS indemnity scheme or professional indemnity will apply (participants recruited at NHS sites only)

☐ Research includes non-NHS sites (give details of insurance/ indemnity arrangements for these sites below)

NHS Indemnity Scheme will apply as participants are NHS patients.

Please enclose a copy of relevant documents.

A78. Could the research lead to the development of a new product/process or the generation of intellectual property?

○ Yes ◉ No ○ Not sure

PART C: Overview of research sites

Please enter details of the host organisations (Local Authority, NHS or other) in the UK that will be responsible for the research sites. *For further information please refer to guidance.*

Investigator identifier	Research site		Investigator Name	
IN1	◉ NHS/HSC Site ○ Non-NHS/HSC Site		Forename Middle name Family name Email	Laura Walker l.walker10@lancaster.ac.uk
	Organisation name	LANCASHIRE CARE NMPS	Qualification (MD...)	BSc (hons), PGCert
	Address	SCEPTRE POINT SCEPTRE WAY BAMBER BRIDGE PRESTON	Country	United Kingdom

Post Code	PR5 6AW
Country	ENGLAND

Research Protocol

Research Protocol V6, 25/07/2022; IRAS ID: 307631

Title
Is self-concept clarity a mediating factor between experiences of adult trauma and level of trauma symptomology?

Researchers
Trainee
Laura Walker
l.walker10@lancaster.ac.uk
Lancaster University
Division of Health and Medicine

Research Supervisor
Bill Sellwood
b.sellwood@lancaster.ac.uk
Lancaster University
Division of Health and Medicine

Field Supervisor
Gail Farrell
[redacted]

Introduction

Self-concept clarity (SCC) is understood as "*the extent to which self-beliefs are clearly and confidently defined, internally consistent and stable*" (Campbell et al., 1996). People with higher SCC know more about who they are and have consistent viewpoints and values across varying situations, although self-concept may also vary across roles (Bigler, Neimeyer, & Brown, 2001), for example a caring parent can also be a strict manager at work. Findings suggest that SCC develops in adolescence, when individuals experience changing roles and when their sense of self is challenged by biological, social, education and cognitive changes (Crocetti, Rubini, Branje, Koot, & Meeus, 2016). SCC is considered generally stable but can vary in response to day-to-day happenings (Nezlek & Plesko, 2001) and significant life events.

Trauma can impact previously held beliefs about the self, as well as other constructs, and complex Post-Traumatic Stress Disorder (PTSD) in particular can disrupt an individual's sense of self (Resick et al., 2012). The

new ICD-11 diagnosis “complex PTSD” specifically incorporates disruption to the self as a criterion (World Health Organization, 2018), although not referring to SCC in direct terms (Brewin et al., 2017). With diagnostic criteria, such as that within the ICD-11, adapting to recognise the importance of ‘self’ in relation to trauma, now is an important time to study relationships between trauma experiences, SCC and mental health outcomes.

SCC is disrupted by traumatic experience, particularly childhood trauma (Evans, Reid, Preston, Palmier-Claus, & Sellwood, 2015; Hayward, Vartanian, Kwok, & Newby, 2020; Ice, 2019; Vartanian, 2009; Vartanian, Hayward, Smyth, Paxton, & Touyz, 2018; Wong, Dirghangi, & Hart, 2018). Childhood abuse, predominantly emotional neglect, could impact the development of a clear, consistent self-concept (Ice, 2019). However, the impact of significant negative life experiences in adulthood remains unclear. Traumatic experiences at any age are associated with higher rates of mental health difficulties including anxiety, substance misuse and personality disorders compared with individuals who have not experienced trauma (Zlotnick et al., 2008), making it important to explore whether the role of SCC remains the same following traumas throughout the lifespan. Furthermore, experiences of trauma during childhood are associated with the occurrence of trauma in adulthood (Banyard, Williams, & Siegel, 2001; Sanders & Moore, 1999).

Given the abundance of literature focusing on childhood trauma, questions are raised regarding the impact of adult trauma on SCC. Although thought to develop in adolescence (Crocetti et al., 2016), SCC is susceptible to fluctuations throughout life, for example as a result of significant events or role transitions. Further, individuals often have varying responses to trauma, for example experiencing common symptoms such as avoidance and fear, and for varying amounts of time, whereas some individuals do not develop trauma symptoms following an incident (NIMH, 2020). It would be interesting to explore whether SCC plays a mediating role in the development and severity of trauma symptoms following a traumatic event.

Some studies have focused on SCC in relation to specific experiences of trauma such as relationship breakdowns (Slotter, Gardner, & Finkel, 2010), bereavement (Boelen, Keijsers, & van den Hout, 2012), betrayal (Luchies, Finkel, McNulty, & Kumashiro, 2010), sexual assault (Keshet & Gilboa-Schechtman, 2017) and traumatic birth (Holt, Sellwood, & Slade, 2018). However, research is yet to focus on a wider spectrum of adult traumas.

SCC plays a mediating role in the relationship between childhood trauma and psychosis in adulthood (Evans et al., 2015) and between childhood trauma and poor mental health outcomes (Wong et al., 2018).

As well is its clear links with childhood trauma, SCC has been found to play a mediating role between other psychological phenomena, including the relationship between ‘suzhi,’ which is the steady, implicit mental quality that affects adaptive behaviour, and social anxiety (G. Liu et al., 2017), stress and subjective wellbeing (Ritchie, Sedikides, Wildschut, Arndt, & Gidron, 2011) and the relationship between the media influence and negative body image (Seo, Lee, & Wesbecher, 2020). Given its mediating role in various psychological phenomena, it would be interesting to explore SCC’s potential mediating role with adult trauma.

SCC is an important phenomenon to understand because greater SCC is associated with improved psychological wellbeing (Chiu, Chang, & Hui, 2017) whereas lower SCC is associated with poor mental health outcomes (Binsale, 2017) including anxiety, depression and neuroticism (Surdey, 2016) personality disorders (Cohen, Leibu, Tanis, Ardalan, & Galynker, 2016), paranoia (de Sousa, Sellwood, Spray, Fernyhough, & Bentall, 2016) and psychosis (Evans et al., 2015). Similarly trauma is associated with poor mental health (SAMHSA, 2014). It is important to know whether trauma affects SCC, which in turn, if reduced, may be a condition for poor mental health outcomes to occur.

Exploring the relationships between SCC and adult trauma is important because if a link is found, it could have meaningful implications for the interventions and pathways that trauma survivors are offered by services. SCC is important in promoting recovery in people with severe mental health difficulties (Hasson-Ohayon et al., 2014; Hasson-Ohayon, Mashiach–Eizenberg, Lysaker, & Roe, 2016), so clinicians may be able to suggest preventative actions to support individuals who are vulnerable to poor mental health outcomes due to low SCC. Interventions can be adapted or supplemented to focus on increasing SCC in trauma survivors, for example through social support (Wong et al., 2018), narrative and values writing (Surdey, 2016), exercise (M. Liu, Wu, & Ming, 2015) and interventions that promote development of a clear, consistent sense of self.

In summary, the literature provides evidence that significant life events, including childhood trauma and some specific traumas in adulthood, are associated with reduced SCC. However, a gap in the research remains whereby the relationships between adult trauma, SCC and outcomes remain unexplored. The present study aims to explore the impact of general adult trauma, not specific to a singular theme, on trauma outcomes and whether SCC mediates these relationships. Findings from this research could help identify mechanisms that contribute to the development and duration of trauma symptomology, which could be used to inform future interventions.

The current study aims to answer the following: Is SCC a mediating factor between experiences of adult trauma and level of trauma symptomology? Symptomology of trauma considers a set of thoughts, feelings and experiences that are associated with trauma, for example flashbacks, distressing images and physical sensations such as trembling or nausea (NHS, 2018).

Aims

To identify whether SCC plays a mediating role between trauma experiences in adulthood and trauma symptomology.

To identify and consider confounding variables, such as whether childhood trauma has also been experienced as well as adult trauma, impact the relationships between variables.

To examine whether the type of trauma, as identified within the Trauma History Questionnaire, impacts results.

Hypotheses

Experiences of trauma will be associated with reduced self-concept clarity.

Experiences of trauma will predict trauma symptomology.

The relationship between trauma experiences and trauma symptoms will be accounted for when self-concept clarity acts as a mediator.

There will be a relationship between adult trauma and self-concept clarity independent of childhood trauma.

Research question

Is SCC a mediating factor between experiences of adult trauma and level of trauma symptomology?

Method

Participants

A clinical sample of participants will be recruited from [IAPT Service] services, which are Improving Access to Psychological Therapies (IAPT) teams. An online questionnaire will be shared with all individuals within a database who have previously consented to be contacted for research purposes, including those who have not experienced a trauma in their lifetime, and those who have experienced childhood trauma, which may act as a confounding variable (see below).

During analysis participants will be categorised into four groups:

Group 1 – Participants who have experienced trauma only during adult life

Group 2 – Participants who have experienced only childhood trauma

Group 3 – Participants who have experienced trauma both during childhood and adulthood

Group 4 – Participants who have never experienced a traumatic event

Design

This is a quantitative study with a between subjects cross-sectional design. To explore the mediating role of SCC between trauma and level of trauma symptomatology, a bias-corrected bootstrap test has the highest power (Fritz & MacKinnon, 2007). For 0.8 power to be achieved within a bias-corrected bootstrap test where the effects of the independent variable (trauma experience) and mediating factor (SCC) and the effects of the mediating factor (SCC) and the dependent variable (trauma symptoms) are 0.39 (a medium effect size), an estimated minimum sample size of 71 is recommended (Fritz & MacKinnon, 2007). A medium effect size has been chosen because previous research citing relationships between specific adult traumas and self-concept clarity have found moderate sized relationships between variables. For example, Keshet and Gilboa-Schechtman (2017) cite a moderate effect size between self-concept clarity and post-traumatic distress in women who had experienced sexual assault. Furthermore studies investigating relationships between childhood trauma and self-concept clarity cite small-medium effect sizes (Evans et al., 2015; Wong et al., 2018).

There may be imbalance in group sizes, and therefore, so as to ensure that each group has enough participants, the required number will be monitored in this regard throughout the data collection period.

Materials

Online questionnaires will be used to increase accessibility to the study. All participants will receive an information sheet and consent form prior to the questionnaires (see appendices). Those who consent to take part will be asked to complete questionnaires about demographic, Self-Concept Clarity (Campbell et al., 1996), experiences of trauma (Green, 1996) and symptoms of trauma (Weathers et al., 2013).

The demographic questionnaire will elicit information about age, sex, ethnicity, sexual orientation, education, marital status, employment status and reason for the referral to IAPT.

The Self-Concept Clarity Scale (SCCS; Campbell et al., 1996). The SCCS aims to measure a person's Self-Concept Clarity through questions focusing on certainty, temporal stability and consistency of self-beliefs. In a sample of 471 participants, the Self-Concept Clarity Scale was shown to be high in internal consistency (0.86) and demonstrated high levels of test-retest reliability (0.79) when re-administered after a 5-month interval (Campbell et al., 1996). It has been used in numerous clinical studies (Binsale, 2017). It is estimated that it takes approximately 5 minutes to complete the SCCS (Binsale, 2017).

The Trauma History Questionnaire (Green, 1996). Experiences of trauma in adulthood and childhood will be measured using the Trauma History Questionnaire, which is a widely used instrument with good test-retest reliability and evidence of validity (Hooper, Stockton, Krupnick, & Green, 2011; Norris & Hamblen, 2004). It is efficient, straightforward to use and reliably captures experiences of trauma from a variety of populations. The Trauma History Questionnaire also groups events into 'themes,' which leaves scope for the impact of these individual themes on SCC and outcomes to be explored. This questionnaire requires respondents to state an age at which the trauma occurred, allowing researchers to distinguish between adult and childhood traumas. The cut-off point between adult and childhood trauma is 18 years. It also requests respondents to specify approximately how many times the trauma occurred. It takes approximately 10-15 minutes to complete (Hooper et al., 2011).

PTSD Checklist 5 (PCL 5; Weathers et al., 2013). Trauma symptomology will be measured using the PCL 5. This was found to be a 'psychometrically sound' measure of PTSD symptoms with consistently good reliability (Blevins, Weathers, Davis, Witte, & Domino, 2015). It takes approximately 5-10 minutes to complete (Weathers et al., 2013).

Procedure

Data will be collected through a clinical sample of IAPT service users. The NHS IAPT programme aims to support individuals to manage mental health difficulties such as anxiety and depression within primary care.

Service users referred to [IAPT Service] are routinely asked if they consent to be contacted for research purposes. Individuals who consent are saved into a database. All individuals within this database who have received an initial assessment will be invited to participate in the study by completing a series of questionnaires which will elicit information about the participant's demographic, SCC, experience of trauma and symptoms of trauma. A connection in [IAPT Service] who has agreed to facilitate researcher's access to participants through this database has confirmed that there are approximately 1683 people who have received an initial assessment and

currently have open referrals within the service. However, based on the inclusion and exclusion criteria, some of those individuals may not be eligible to take part.

To be eligible to participate in this study, participants must be aged 18 or over with an open referral to [IAPT Service]. They must have already completed an initial assessment. Participants must have sufficient understanding of the English language, as translated study materials are not available.

Exclusion criteria include individuals who have been deemed ‘high risk’ by the service, as confirmed by their clinical team and identified using database labels. Individuals who have begun treatment will be excluded from the study to ensure that treatment engagement does not act as a confounding variable.

Labels can be used within the database to identify which individuals meet the inclusion criteria. Those who are eligible will receive an email, which will be written by the researchers but emailed via the services administration team (see Appendix E).

Participants will be given information about the nature of the study through an information sheet and consent form, which will include a sample questions so that they understand the nature of questions being asked and can assess whether or not they wish to continue. Following questionnaire completion, participants will receive a debrief which includes resources they can access should the study cause distress.

Participants will have engaged in an initial assessment with [IAPT Service], meaning a risk assessment will have been completed prior to engagement with the study. Therefore both the service and participant are aware of potential individual risks and support available. This will also be reiterated in the study materials, including the participant information sheet, consent form and study adverts.

The use of online questionnaires enables easier access to participants and can reduce the impact of demand characteristics compared to interviews.

Furthermore, all participants will be awaiting treatment for their mental health difficulties, meaning that if study participation prompts a deterioration in symptoms, support will be easier to access compared to members of the population who are not actively engaging with services. Nonetheless, all participants will be advised of the potential distress that could be caused by taking part in the study and will be provided with resources or services that they can access should they require further support, such as their GP, Samaritans and NHS 111 as recommended by [IAPT Service].

Unlike some previous studies (Wong et al., 2018), this study will be able to differentiate between traumatic events that people have experienced using the Trauma History Questionnaire (Green, 1996). This can help identify whether specific traumas have stronger links with SCC and outcomes than others, although analysis of this depth may be ambitious for this project and would depend on sufficient participant numbers.

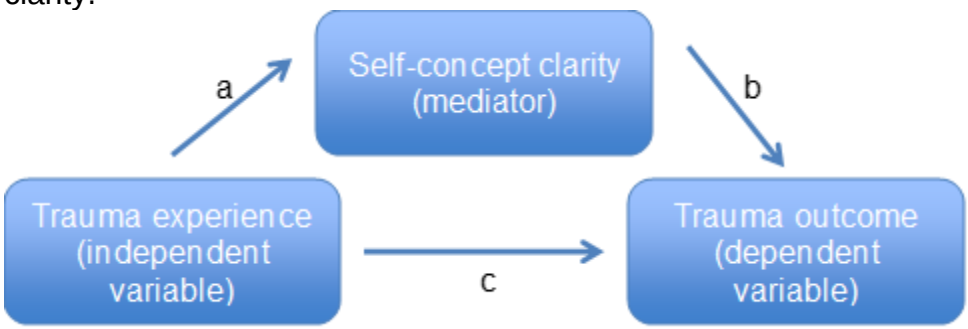
Furthermore, previous research examining the relationship between adult trauma and SCC focus on specific events, such childbirth (Holt et al., 2018) and sexual assault (Keshet & Gilboa-Schechtman, 2017), despite the scope of trauma covering a wide spectrum. Therefore inviting participants with

a wide range of trauma experiences, including both single events and multiple traumas, will allow relationships between SCC and adult trauma in general.

The THQ allows respondents to specify the age at which the trauma occurred, allowing researchers to distinguish between childhood trauma and adult trauma. This is important because experiences of childhood trauma are linked with the occurrence of trauma in adulthood (Banyard et al., 2001; Sanders & Moore, 1999). Researchers will keep in mind that the passage of time since the trauma occurred may also act as a confounding variable.

Proposed Analysis

Univariate analyses will be used to examine the associations between salient variables. Multiple regression will look at whether or not trauma experiences throughout life predict trauma outcomes through self-concept clarity.



According to Baron and Kenny (1986), to test for meditational links, the following regressions should be undertaken:

1. Regressing self-concept clarity on trauma experience
2. Regressing trauma outcome on trauma experience
3. Regressing trauma outcome on both trauma experience and self-concept clarity

To establish correlation, trauma experience must be associated with self-concept clarity, trauma experience must be associated with trauma outcome and self-concept clarity must be associated with trauma outcomes. If these conditions are met, the effect of trauma experience on trauma outcome must be less in the third regression.

If one of these regression analyses is non-significant, a mediation effect is unlikely.

Childhood trauma will be controlled for in analyses, which will allow consideration of its role as a potential confounding variable. Furthermore the Trauma History Questionnaire categories traumatic events into themes including crime-related events, general disaster and physical and sexual

experiences, so there is scope to examine whether or not the nature of the trauma influences outcomes if participant numbers are substantial enough.

The Trauma History Questionnaire asks participants to provide the age at which trauma occurred, so that the potential effects of childhood trauma as a confounding variable can be explored, although adult trauma will be the primary focus of analysis. This is important because the experience of childhood trauma is associated with the occurrence of trauma in adulthood (Banyard et al., 2001; Sanders & Moore, 1999).

Practical issues

The current design of the study depends on support from a representative from IAPT, who has agreed to facilitate the identification of potential participants. It is hoped that the study will not have a significant impact on the workloads the IAPT workforce. However, there is a small chance that service users may seek additional support following engagement with the study. Therefore the service and researchers will liaise to ensure that a robust and accessible package of support is signposted to the participant through the information sheet and debrief. Liaison with IAPT colleagues during regular team meetings will allow information about the study to be shared with those who will support its distribution.

The research will recruit from a clinical sample of participants, with all those invited to take part having ‘open’ referrals to the IAPT service. Because potential participants are currently experiencing challenges with their mental health, their motivation or ability to take part may be reduced. Participants with a range of mental health presentations and backgrounds will be invited to participate, which should promote uptake and increase the possibility of accessing individuals with trauma experiences, even if that is not their main reason for referral.

Ethical concerns

People who have experienced traumas might be reminded of such events by taking part in the study. The information sheet and debrief will highlight support systems, for example online resources, the participant’s GP or access to third party services such as Samaritans. The information sheet will also include sample questions from the questionnaires so people have an idea of what to expect from the study. Participants will be offered the email address of the researcher so that they can ask questions about the study.

Participants will be advised that they can withdraw from the study at any time, which will not impact the support their receive from services. The debrief will be made accessible to participants whether they choose to partake in the full study or not.

Although the flexible nature of an online research study might be more accessible to some, it might be difficult to recruit due to the sensitive nature of the questions being asked of participants.

Timescale

July 2021 – thesis proposal will be reviewed
November 2021 – submit ethical proposal
January 2022 – obtain ethical approval for study

April - September 2022 – data collection and analysis begins
November 2022 – complete analysis of data and draft results
January 2023 – draft critical appraisal and compete drafts and formatting
March 2023 – submit thesis

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Appendix A

Participant Information Sheet

Participant Information Sheet

Participant Information Sheet V2, 25/3/2022; IRAS ID: 307631

The impact of trauma on the individual

My name is Laura Walker and I am conducting this research as a student in the Doctorate in Clinical Psychology programme at Lancaster University, Lancaster, United Kingdom. Before you decide whether or not to participate, it is important for you to understand why the research is being conducted and what it will involve for you. Please take time to read the following information carefully and feel free to get in touch if you are uncertain of anything or would like more information. Participation is voluntary and you should only participate if you want to. Thank you for reading.

What is the study about?
The purpose of this study is to understand whether the way individuals see themselves is associated with traumatic events that they may have experienced and how this may be connected to symptoms. We need to compare people who have experienced trauma in childhood, adulthood, both or not at all.

Why have I been approached?
You have been approached because the study requires information from people who are aged 18+ and have been referred to [IAPT Service]. You have been invited because you have previously consented to being contacted for research purposes.

Do I have to take part?
No - it's completely up to you to decide whether or not you take part. You can withdraw at any time, without impacting your care in any way. You don't have to give a reason for withdrawing.

What will I be asked to do if I take part?
If you decide you would like to take part, you will be asked to fill in three questionnaires online. It should take around 35 minutes, but some people find it takes more or less time. You will be asked to provide some information about you, including age, sex, ethnicity, sexual orientation, education, marital status, employment status and reason for your referral to [IAPT Service]. You will then be asked to complete questionnaires including one about trauma experiences and symptoms of trauma. You won't be asked to disclose in-depth details about your experiences. Sample questions from the questionnaires are shown below, so you have an idea of what to expect.

-

The Self-Concept Clarity Scale looks at beliefs about yourself

Sample question: my beliefs about myself often conflict with one another. (Strongly Agree) 1 – 2 – 3 – 4 – 5 (Strongly Disagree)

-

The Trauma History Questionnaire looks at different traumatic life events that may or may not have happened to you. It asks about the age at which it happened and how many times. It covers a range of experiences including crime experiences, general disasters and physical and sexual trauma.

Sample question: Has anyone ever tried to take something directly from you by using force or the threat of force, such as a stick-up or mugging?
Circle one: yes / no
Number of times: __
Approximate age(s): __

-

The PTSD Checklist 5 (PCL 5) looks at different problems that people sometimes notice following a very stressful event.

Sample question: In the last month, how much were you bothered by repeated, disturbing, and unwanted memories of the stressful experience?
Not at all – A little bit – Moderately – Quite a bit – Extremely

-

Will my data be identifiable?
Your data will be collected anonymously through an online survey platform called Qualtrics. The data collected will be stored using University approved secure cloud storage and only the researchers conducting this study will have access to this data. The files on the computer will be encrypted (no-one other than the researcher will be able to access them) and the computer itself password protected. At the end of the study, electronic data will be securely transferred to the Research Coordinator. In line with University guidance, data will be stored for 10 years and then destroyed. All reasonable steps will be taken to protect your anonymity. Although you will be asked to share you demographic data, such as age and gender, you will not be asked for your name or given an identifier. If you wish to receive a summary of the findings, you will be asked to share your name and email address, which is voluntary. This personal data will be confidential and will be kept separately from your questionnaire responses. You can stop being part of a research study at any time, without giving a reason, and request to withdraw your data. However, because the data is not identifiable to you, it may not be possible to withdraw your data after you have completed the questionnaires.

Lancaster University will be the data controller for any personal information collected as part of this study. Under the GDPR you have certain rights when personal data is collected about you. You have the right to access any

personal data held about you, to object to the processing of your personal information, to rectify personal data if it is inaccurate, the right to have data about you erased and, depending on the circumstances, the right to data portability. Please be aware that many of these rights are not absolute and only apply in certain circumstances. If you would like to know more about your rights in relation to your personal data, please speak to the researcher on your particular study.

For further information about how Lancaster University processes personal data for research purposes and your data rights please visit our webpage: www.lancaster.ac.uk/research/data-protection

What will happen to the results?
The results will be summarised and reported in a thesis and may be submitted for publication in an academic or professional journal.

Are there any risks?
There are no risks anticipated with participating in this study. You won't be asked about your experiences in great detail. However, you might find it upsetting to recall distressing experiences. You do not have to answer any questions you don't want to and you are free to leave the study at any time if you do not wish to take part any more, by abandoning the web page and not continuing to complete and submit the surveys. After this point you can contact the researcher and every effort will be made to withdraw the response, however this is not always possible. If you experience any distress following participation you are encouraged to inform the researcher, your clinician at [IAPT Service] and contact the resources provided at the end of this sheet.

Are there any benefits to taking part?
Although you may find participating interesting, there are no direct benefits in taking part. By sharing your experiences, you will help to enhance understanding of the development of trauma symptoms following stressful life events.

Who has reviewed the project?
This study has been reviewed and approved by the Faculty of Health and Medicine Research Ethics Committee at Lancaster University and the NHS Health Research Authority. Lancaster University is the sponsor for this project. This study has also undergone a review by NHSREC.

Where can I obtain further information about the study if I need it?
If you have any questions about the study, please contact Laura Walker (Trainee Clinical Psychologist) on l.walker10@lancaster.ac.uk or Bill Sellwood (Programme Director DClinPsy at Lancaster University) on b.sellwood@lancaster.ac.uk.

Complaints

If you wish to make a complaint or raise concerns about any aspect of this study and do not want to speak to the researcher, you can contact:

Ian Smith (Research Director)
Landline *+44 1524 592282*
Mobile: +44 7507 857069
Email: i.smith@lancaster.ac.uk
Division of Health Research
Lancaster University
Lancaster
LA1 4YW

If you wish to speak to someone outside of the Clinical Psychology Doctorate Programme, you may also contact:

Dr Laura Machin Tel: +44 (0)1524 594973
Chair of FHM REC Email: l.machin@lancaster.ac.uk
Faculty of Health and Medicine
(Lancaster Medical School)
Lancaster University
Lancaster
LA1 4YG

Thank you for taking the time to read this information sheet.

Resources in the event of distress
If any of the questions raise concerns, you are advised to contact your GP or other clinician for support. Should you feel distressed either as a result of taking part, or in the future, the following resources may be of assistance.

Every Mind Matters
www.nhs.uk/every-mind-matters
Provides information, expert advice and practical tips on looking after your mental health

Samaritans
116 123
Provides a 24-hour listening service

Mental Health Crisis Line
0800 953 0110
Provides assessment and signposting in times of crisis

Wellbeing Helpline
0800 915 4640
Monday to Friday 7pm – 11pm and Saturday to Sunday 12pm – Midnight
A phoneline to offer emotional support

Wellbeing Texting Service
Text 'Hello' to 07860 022846

Monday to Friday 7pm – 11pm and Saturday to Sunday 12pm – Midnight
A texting service for emotional support

Specialist Treatment Assessment Referral Team
01253 955944
Provides a triage, assessment, signposting and treatment service

Appendix B

Consent Form

Consent Form

Consent Form V4, 12/7/2022; IRAS ID: 307631

The impact of trauma on the individual

We are asking if you would like to take part in a research project, which looks at the whether the way individuals see themselves is associated with traumatic events that they may have experienced and how this may be connected to symptoms.

Before you consent to participating in the study, we ask that you read the Participant Information Sheet (insert most recent PIS number here) and mark each box if you agree. If you have any questions or queries before signing the consent form, please speak to the principal investigator, Laura Walker (l.walker10@lancaster.ac.uk).

1. I confirm that I have read the Participant Information Sheet (most recent PIS number here) and fully understand what is expected of me within the study

2. I confirm that I have had the opportunity to ask any questions and to have them answered

3. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected

4. I understand that once my data have been submitted and anonymised, it might not be possible for it to be withdrawn, though every attempt will be made to extract my data up to the point of publication.

5. I understand that the information will be pooled with other participants' responses, anonymised and may be published. All reasonable steps will be taken to protect the anonymity of the participants involved in this project

6. I understand that the researcher will discuss data with their supervisor as needed

7. I consent to Lancaster University keeping the data submitted on university approved secure cloud storage servers for 10 years after the study has finished

By clicking the ‘next; button, you consent to taking part in the current study.

Appendix C

Debrief Sheet

Debrief Sheet

Debrief Sheer V3 17/06/2022; IRAS ID: 307631

The impact of trauma on the individual

Thank you for taking part in this study.

This study aims to measure self-concept clarity, which is the extent to which our self-beliefs and values are consistent and stable. Sometimes people have high self-concept clarity and feel sure of themselves, whereas people with lower self-concept clarity might be more uncertain. When self-concept clarity is lower, it could have a negative impact on our mental wellbeing.

This study hopes to explore the relationships between traumatic experiences that take place in adulthood and the development and severity of symptoms of trauma. Sometimes following a traumatic event, people experience shock, withdrawal from others, sadness or other unpleasant feelings. Sometimes people notice these experiences in different ways and some people don't notice them at all. This study will look at how self-concept clarity might play a part in how these symptoms happen in different people.

We will be collecting responses from people until January 2023. After this time, the study will close and data will be analysed. If you would like to receive a summary of the findings once the study is complete, please use the next page to leave your name and email address. This is completely voluntary and your data will be kept separate from your questionnaire responses.

If you have any questions about the study, please contact the main researcher Laura Walker on l.walker10@lancaster.ac.uk. The research supervisor for this study is Bill Sellwood on b.sellwood@lancaster.ac.uk.

Please see below a reminder of resources you can access if you feel distressed.

Thank you again for taking part in this research.

Every Mind Matters
www.nhs.uk/every-mind-matters
Provides information, expert advice and practical tips on looking after your mental health

Samaritans
116 123
Provides a 24-hour listening service

Mental Health Crisis Line
0800 953 0110
Provides assessment and signposting in times of crisis

Wellbeing Helpline
0800 915 4640
Monday to Friday 7pm – 11pm and Saturday to Sunday 12pm – Midnight
A phoneline to offer emotional support

Wellbeing Texting Service
Text 'Hello' to 07860 022846
Monday to Friday 7pm – 11pm and Saturday to Sunday 12pm – Midnight
A texting service for emotional support

Specialist Treatment Assessment Referral Team
01253 955944
Provides a triage, assessment, signposting and treatment service

Appendix D

Demographic Questionnaire

Demographic Questionnaire

Demographic Questionnaire V2, 8/5/2022; IRAS ID: 307631

What is your age in years?
_____

What is your gender?
Male
Female
Non-binary
Other (please specify) _____

What is your ethnicity?
Afro-Caribbean
Asian
Black African
Black Other
Dual Heritage
Middle-Eastern
White – Caucasian
Other (please specify) _____

What is your sexual orientation?
Asexual
Bisexual
Heterosexual
Homosexual
Other (please specify) _____

What level of education did you obtain? (Achieved or currently studying)
I didn't finish school
GCSE's / O-Levels
A-Levels
Undergraduate Degree
Postgraduate Degree
Doctoral Degree

What is your marital status?
Married or co-habiting
Widow(er)
Divorced or separated
Single

Are you currently working or studying at the moment?

Employed (part-time or full-time)
Full-time homemaker or carer
Retired
Unemployed
Unpaid volunteer
Student

What's the main reason you are accessing [IAPT Service]?
Agoraphobia
Depression
Health Anxiety
Generalised Anxiety
OCD
Post-Traumatic Stress Disorder (PTSD)
Social Anxiety
Something else
Unsure

Appendix E

The Self-Concept Clarity Scale

Self-Concept Clarity Scale

from Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavallee, L. F., & Lehman, D. R. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology, 70*(1), 141-156.

Scale ranges from 1 *(strongly disagree)* to 5 *(strongly agree).*

_____1. My beliefs about myself often conflict with one another.

_____2. On one day I might have one opinion of myself and on another day I might have a different opinion.

_____3. I spend a lot of time wondering about what kind of person I really am.

_____4. Sometimes I feel that I am not really the person that I appear to be.

_____5. When I think about the kind of person I have been in the past, I'm not sure what I was really like.

_____6. I seldom experience conflict between the different aspects of my personality.

_____7. Sometimes I think I know other people better than I know myself.

_____8. My beliefs about myself seem to change very frequently.

_____9. If I were asked to describe my personality, my description might end up being different from one day to another day.

_____10. Even if I wanted to, I don't think I could tell someone what I'm really like.

_____11. In general, I have a clear sense of who I am and what I am.

_____12. It is often hard for me to make up my mind about things because I don't really know what I want.

Appendix F

The Trauma History Questionnaire

TRAUMA HISTORY QUESTIONNAIRE

The following is a series of questions about serious or traumatic life events. These types of events actually occur with some regularity, although we would like to believe they are rare, and they affect how people feel about, react to, and/or think about things subsequently. Knowing about the occurrence of such events, and reactions to them, will help us to develop programs for prevention, education, and other services. The questionnaire is divided into questions covering crime experiences, general disaster and trauma questions, and questions about physical and sexual experiences.

For each event, please indicate (circle) whether it happened and, if it did, the number of times and your approximate age when it happened (give your best guess if you are not sure). Also note the nature of your relationship to the person involved and the specific nature of the event, if appropriate.

Crime-Related Events		**Circle one**		***If you circled yes, please indicate***	
				Number of times	**Approximate age(s)**
1	Has anyone ever tried to take something directly from you by using force or the threat of force, such as a stick-up or mugging?	No	Yes		
2	Has anyone ever attempted to rob you or actually robbed you (i.e., stolen your personal belongings)?	No	Yes		
3	Has anyone ever attempted to or succeeded in breaking into your home when you were <u>not</u> there?	No	Yes		
4	Has anyone ever attempted to or succeed in breaking into your home while you <u>were</u> there?	No	Yes		
General Disaster and Trauma		**Circle one**		***If you circled yes, please indicate***	
				Number of times	**Approximate age(s)**
5	Have you ever had a serious accident at work, in a car, or somewhere else? (**<u>If yes</u>**, please specify below) _____	No	Yes		
6	Have you ever experienced a natural disaster such as a tornado, hurricane, flood or major earthquake, etc., where you felt you or your loved ones were in danger of death or injury? (**<u>If yes</u>**, please specify below) _____	No	Yes		

7	Have you ever experienced a "man-made" disaster such as a train crash, building collapse, bank robbery, fire, etc., where you felt you or your loved ones were in danger of death or injury? (**If yes**, please specify below) _____	No	Yes		
8	Have you ever been exposed to dangerous chemicals or radioactivity that might threaten your health?	No	Yes		
9	Have you ever been in any other situation in which you were seriously injured? (**If yes**, please specify below) _____	No	Yes		
10	Have you ever been in any other situation in which you feared you might be killed or seriously injured? (**If yes**, please specify below) _____	No	Yes		
11	Have you ever seen someone seriously injured or killed? (**If yes**, please specify who below) _____	No	Yes		
12	Have you ever seen dead bodies (other than at a funeral) or had to handle dead bodies for any reason? (**If yes**, please specify below) _____	No	Yes		
13	Have you ever had a close friend or family member murdered, or killed by a drunk driver? (**If yes**, please specify relationship [e.g., mother, grandson, etc.] below) _____	No	Yes		
14	Have you ever had a spouse, romantic partner, or child die? (**If yes**, please specify relationship below) _____	No	Yes		
15	Have you ever had a serious or life-threatening illness? (**If yes**, please specify below) _____	No	Yes		
16	Have you ever received news of a serious injury, life-threatening illness, or unexpected death of someone close to you? (**If yes**, please indicate below) _____	No	Yes		

17	Have you ever had to engage in combat while in military service in an official or unofficial war zone? (**If yes**, please indicate where below) _____	No	Yes		
Physical and Sexual Experiences		**Circle one**		***If you circled yes, please indicate***	
				Repeated?	**Approximate age(s) and frequency**
18	Has anyone ever made you have intercourse or oral or anal sex against your will? (**If yes**, please indicate nature of relationship with person [e.g., stranger, friend, relative, parent, sibling] below) _____	No	Yes		
19	Has anyone ever touched private parts of your body, or made you touch theirs, under force or threat? (**If yes**, please indicate nature of relationship with person [e.g., stranger, friend, relative, parent, sibling] below) _____	No	Yes		
20	Other than incidents mentioned in Questions 18 and 19, have there been any other situations in which another person tried to force you to have an unwanted sexual contact?	No	Yes		
21	Has anyone, including family members or friends, ever attacked you with a gun, knife, or some other weapon?	No	Yes		
22	Has anyone, including family members or friends, ever attacked you without a weapon and seriously injured you?	No	Yes		
23	Has anyone in your family ever beaten, spanked, or pushed you hard enough to cause injury?	No	Yes		
24	Have you experienced any other extraordinarily stressful situation or event that is not covered above? (**If yes**, please specify below) _____	No	Yes		

Citation:

Hooper, L. M., Stockton, P., Krupnick, J., & Green, B. L. (2011). The development, use, and psychometric properties of the Trauma History Questionnaire. *Journal of Loss and Trauma, 16,* 258-283.

Appendix G

The PTSD Checklist-5

PCL-5

Instructions: Below is a list of problems that people sometimes have in response to a very stressful experience. Please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

In the past month, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing, and unwanted memories of the stressful experience?	0	1	2	3	4
2. Repeated, disturbing dreams of the stressful experience?	0	1	2	3	4
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?	0	1	2	3	4
4. Feeling very upset when something reminded you of the stressful experience?	0	1	2	3	4
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?	0	1	2	3	4
6. Avoiding memories, thoughts, or feelings related to the stressful experience?	0	1	2	3	4
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?	0	1	2	3	4
8. Trouble remembering important parts of the stressful experience?	0	1	2	3	4
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?	0	1	2	3	4
10. Blaming yourself or someone else for the stressful experience or what happened after it?	0	1	2	3	4
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0	1	2	3	4
12. Loss of interest in activities that you used to enjoy?	0	1	2	3	4
13. Feeling distant or cut off from other people?	0	1	2	3	4
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?	0	1	2	3	4
15. Irritable behavior, angry outbursts, or acting aggressively?	0	1	2	3	4
16. Taking too many risks or doing things that could cause you harm?	0	1	2	3	4
17. Being "superalert" or watchful or on guard?	0	1	2	3	4
18. Feeling jumpy or easily startled?	0	1	2	3	4
19. Having difficulty concentrating?	0	1	2	3	4
20. Trouble falling or staying asleep?	0	1	2	3	4

Appendix H

IRAS Approval Letter

NHS
Health Research Authority

West Midlands - Black Country Research Ethics Committee
The Old Chapel
Royal Standard Place
Nottingham
NG1 6FS

Please note: This is the favourable opinion of the REC only and does not allow you to start your study at NHS sites in England until you receive HRA Approval

13 July 2022

Professor Bill Sellwood
Division of Health Research, Health Innovation One
Sir John Fisher Drive
Lancaster University
LA1 4AT

Dear Professor Sellwood

Study title:	**Is self-concept clarity a mediating factor between experiences of adult trauma and level of trauma symptomology?**
REC reference:	**22/WM/0118**
IRAS project ID:	**307631**

Thank you for your letter of 29th June 2022, responding to the Research Ethics Committee's (REC) request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Good practice principles and responsibilities

The UK Policy Framework for Health and Social Care Research sets out principles of good practice in the management and conduct of health and social care research. It also outlines the responsibilities of individuals and organisations, including those related to the four elements of research transparency:

1. registering research studies
2. reporting results
3. informing participants
4. sharing study data and tissue

Conditions of the favourable opinion

The REC favourable opinion is subject to the following conditions being met prior to the start of the study.

Confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or NHS management permission (in Scotland) should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements. Each NHS organisation must confirm through the signing of agreements and/or other documents that it has given permission for the research to proceed (except where explicitly specified otherwise).

Guidance on applying for HRA and HCRW Approval (England and Wales)/ NHS permission for research is available in the Integrated Research Application System.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of management permissions from host organisations

Registration of Clinical Trials

All research should be registered in a publicly accessible database and we expect all researchers, research sponsors and others to meet this fundamental best practice standard.

It is a condition of the REC favourable opinion that **all clinical trials are registered** on a publicly accessible database within six weeks of recruiting the first research participant. For this purpose, 'clinical trials' are defined as:

- clinical trial of an investigational medicinal product
- clinical investigation or other study of a medical device
- combined trial of an investigational medicinal product and an investigational medical device
- other clinical trial to study a novel intervention or randomised clinical trial to compare interventions in clinical practice.

Failure to register a clinical trial is a breach of these approval conditions, unless a deferral has been agreed by the HRA (for more information on registration and requesting a deferral see: Research registration and research project identifiers).

If you have not already included registration details in your IRAS application form you should notify the REC of the registration details as soon as possible.

Publication of Your Research Summary

We will publish your research summary for the above study on the research summaries section of our website, together with your contact details, no earlier than three months from the date of this favourable opinion letter.

Should you wish to provide a substitute contact point, make a request to defer, or require further information, please visit:
https://www.hra.nhs.uk/planning-and-improving-research/application-summaries/research-summaries/

N.B. If your study is related to COVID-19 we will aim to publish your research summary within 3 days rather than three months.

During this public health emergency, it is vital that everyone can promptly identify all relevant research related to COVID-19 that is taking place globally. If you haven't already done so, please register your study on a public registry as soon as possible and provide the REC with the registration detail, which will be posted alongside other information relating to your project. We are also asking sponsors not to request deferral of publication of research summary for any projects relating to COVID-19. In addition, to facilitate finding and extracting studies related to COVID-19 from public databases, please enter the WHO official acronym for the coronavirus disease (COVID-19) in the full title of your study. Approved COVID-19 studies can be found at: https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

After ethical review: Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study, including early termination of the study
- Final report
- Reporting results

The latest guidance on these topics can be found at https://www.hra.nhs.uk/approvals-amendments/managing-your-approval/.

Ethical review of research sites

NHS/HSC sites

The favourable opinion applies to all NHS/HSC sites taking part in the study, subject to confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or management permission (in Scotland) being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Non-NHS/HSC sites

I am pleased to confirm that the favourable opinion applies to any non-NHS/HSC sites listed in the application, subject to site management permission being obtained prior to the start of the study at the site.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Insurance]		
IRAS Application Form [IRAS_Form_29042022]		29 April 2022
Letter from sponsor [Sponsorship Letter]		
Letters of invitation to participant [Invitation Email_LW]	3	14 June 2022

Non-validated questionnaire [Demographic Questionnaire]	3	17 June 2022
Other [Further information requested by Research Ethics Committee]	1	29 June 2022
Participant consent form [Consent Form_LW]	4	12 July 2022
Participant information sheet (PIS) [Debrief Information Sheet]	3	17 June 2022
Participant information sheet (PIS) [Participant Information Sheet_LW]	4	12 July 2022
Research protocol or project proposal [Protocol_LW]	5	25 March 2022
Summary CV for Chief Investigator (CI) [CV_Bill Sellwood]	1	02 April 2022
Summary CV for student [LW_CV]		02 April 2022
Validated questionnaire [PLC5 Questionnaire]		
Validated questionnaire [SCCS Questionnaire]		
Validated questionnaire [THQ Questionnaire]		

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website:
http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/

HRA Learning

We are pleased to welcome researchers and research staff to our HRA Learning Events and online learning opportunities– see details at:
https://www.hra.nhs.uk/planning-and-improving-research/learning/

IRAS project ID: 307631 Please quote this number on all correspondence

With the Committee's best wishes for the success of this project.

Yours sincerely
pp
[redacted]
Chair

Email: blackcountry.rec@hra.nhs.uk

Enclosures: "After ethical review – guidance for researchers"

Copy to: Ms Becky Gordon; *Lancaster University*

Lead Nation - England: approvals@hra.nhs.uk

Appendix I

Confirmation of PIC Capacity and Capability at NHS Trust Supporting this Project

Dear *Professor Sellwood and Miss Walker*,

RE: IRAS 307631. Confirmation of PIC Capacity and Capability at [REDACTED] NHS Foundation Trust

Full Study Title*: **Is self-concept clarity a mediating factor between experiences of adult trauma and level of trauma symptomology?***

This email confirms that [**REDACTED**] NHS Foundation Trust has the capacity and capability **to be a Participant Identification Centre (PIC) site for** the above referenced study.

We agree to start this study on Monday 1st August 2022, as previously discussed.

In addition to the conditions set out in the HRA approval letter, we ask you to review the attached appendix as part of conducting research in [**REDACTED**] NHS Foundation Trust.

If you wish to discuss further, please do not hesitate to contact me.

Kind regards

[REDACTED]
Senior Research Facilitator
Research & Development
[**REDACTED**] NHS Foundation Trust
T: [**REDACTED**]
E: [**REDACTED**]
W: [**REDACTED**]
P: [**REDACTED**]