Investigating Emotion Regulation and Shame in a Self-Injuring Population

A thesis submitted to the University of Manchester for the degree of Doctor of Clinical Psychology (ClinPsyD) in the Faculty of Biology, Medicine and Health

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List of Contents

List of Tables 7

List of Figures 7

Thesis Abstract 8

Declaration 9

Copyright Statement 10

Acknowledgements 12

Paper 1: A Systematic Review of the Relationship between Momentary Emotional States and Nonsuicidal Self-Injurious Thoughts and Behaviours 13

Abstract 14

Introduction 16

Method 18

SEARCH STRATEGY 18

SCREENING AND DATA EXTRACTION 20

RISK OF BIAS ASSESSMENT 20

Results 21

OVERVIEW OF STUDIES 21

RISK OF BIAS 23

NONSUICIDAL SELF-INJURIOUS THOUGHTS (NSSIT) 31

Correlates and predictors of NSSIT *31*

Non-linear changes in affect around episodes of NSSIT *32*

NONSUICIDAL SELF-INJURIOUS BEHAVIOURS (NSSI) 32

Correlates and predictors of NSSI *32*

Non-linear changes in affect around episodes of NSSI *34*

Discussion 36

References 43

Paper 2: “Cover up your arms, you’re triggering people”: A Mixed-Methods Investigation of Shame in those who Self-Injure (MISSI) 54

Abstract 55

Introduction 57

Method 61

DESIGN 61

PARTICIPANTS 61

MEASURES 62

Baseline Measures *62*

ESM diaries *64*

Qualitative Interview *65*

Procedure *66*

Data Analytic Strategy *68*

Results 69

PARTICIPANT CHARACTERISTICS 69

DESCRIPTIVE STATISTICS FOR BASELINE QUESTIONNAIRES 71

EXPERIENCE SAMPLING DESCRIPTIVE STATISTICS 72

THEMATIC ANALYSIS 74

Being trapped in shame *75*

Failure *77*

Hidden vs. Exposed *78*

Phenomenology of shame *80*

Feeling dangerous to others *83*

Controlling and combating shame *84*

Discussion 86

References 91

Paper Three: Critical Appraisal 100

Introduction 101

Paper 1: Systematic Review 101

TOPIC SELECTION 101

SEARCH TERMS 102

INCLUSION AND EXCLUSION CRITERIA 103

QUALITY ANALYSIS 104

FUTURE DIRECTIONS 105

Paper 2: Empirical Paper 105

RATIONALE FOR TOPICS OF SHAME AND NSSI 105

RATIONALE FOR METHODOLOGY 106

INCLUSION AND EXCLUSION CRITERIA 107

PATIENT AND PUBLIC INVOLVEMENT (PPI) 108

RISK 109

RECRUITMENT 112
MEASURES....113
THEMATIC ANALYSIS 115
FUTURE DIRECTIONS AND CONSIDERATIONS 117
Overall Reflections on the Research Process....119
Dissemination....122
References....123
Appendix A: Author Guidelines for The Journal of Affective Disorders....129
Appendix B: Risk of Bias Tool....144
Appendix C: Author Guidelines for The Journal of Abnormal Psychology....148
Appendix D: MISSI Study Poster....160
Appendix E: Telephone Screen....161
Appendix F: Risk Protocol....166
Appendix G: Experience of Shame Scale 172
Appendix H: The Test of Self-Conscious Affect-3 (short-form)....174
Appendix I: Patient Health Questionnaire-9 180
Appendix J: Self-Injurious Thoughts and Behaviour Interview (short-form) 181
Appendix K: Ecological Sampling Methodology Questions....183
Appendix L: Generic Interview Template 185
Appendix M: Confirmation of Favourable Ethical Opinion....187
Appendix N: Health Research Authority England & Wales Approval....191

Appendix O: Participant Information Sheet.....196

Appendix P: Consent-to-Contact Form.....202

Appendix Q: Consent Form 203

Appendix R: Electronic Sampling Methodology Instructions 205

Appendix S: A Sample of Anonymised Electronical Sampling Methodology Data

.....206

Appendix T: Sample of an Anonymised Interview Transcript 208

Appendix U: Signposting Information Sheet.....209

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List of Tables

Table 1. Study Characteristics.....25

Table 2. Risk of Bias Assessment.....29

Table 3. Participant Characteristics.....70

Table 4. Scores for the ESS, TOSCA and PHQ-9. 73

List of Figures

Figure 1: Full Search Process.....21

Figure 2: Proposed Shame Framework.....60

Thesis Abstract

The aim of this thesis was to examine emotion regulation and experiences of shame in individuals who engage in nonsuicidal self-injury (NSSI). The thesis is presented as three separate papers. Paper One is a systematic review of Experience Sampling Methodology (ESM) studies examining associations between NSSI and nonsuicidal self-injurious thoughts (NSSIT) and momentary emotional states. The results indicated that negative affect generally increases prior to, and reduces following, NSSI. Fewer studies were available regarding positive affect, specific emotional states and NSSIT.

Paper Two presents a mixed-methods empirical investigation of shame in individuals who self-injure. Participants completed baseline measures, followed by two weeks of ESM diary entries. Personalised qualitative interviews were then conducted to discuss their experiences of shame recorded in their diaries. Thematic analysis suggested that shame is experienced as a social and relational emotion, this finding was present across all themes. Themes included shame being associated with feelings of failure, being trapped, dangerous or contaminated, and hidden or exposed. The phenomenology of shame and coping with shame also emerged as themes. The results indicated that although NSSI could occur as a response to shame, shame was more often triggered by others' response to NSSI.

Finally, Paper Three presents a critical appraisal of Papers One and Two and the research process overall. Further detail on the methodology used and decision-making processes that occurred during the research process is provided, and strengths and limitations are discussed. The researcher's overall reflections on the project are included at the end of this paper.

Declaration

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

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Paper 1: A Systematic Review of the Relationship between Momentary Emotional States and Nonsuicidal Self-Injurious Thoughts and Behaviours

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Abstract

Background: Nonsuicidal self-injury (NSSI) is a prevalent mental health difficulty, associated with high levels of distress, co-morbid mental health issues, and elevated risk of suicide. Previous literature indicates that emotion regulation is the most endorsed function of NSSI. Experience Sampling Methodology (ESM) provides a powerful tool for investigating the moment-to-moment associations between emotional states and NSSI thoughts and behaviours. The aim of the current study was to systematically review and evaluate ESM research concerning the relationship between momentary emotional states and NSSI thoughts and behaviours.

Methods: A systematic search of electronic databases (PsycINFO, MEDLINE, CINAHL and Web of Science) from date of inception to 13th October 2019 was conducted. This was supplemented through backwards citation tracking. A risk of bias assessment was completed prior to data synthesis.

Results: Fifteen eligible studies were identified for inclusion in the review. Heightened negative affect was found to typically precede instances of NSSI thoughts and behaviour. Results were less consistent for positive affective states. Small samples and non-validated assessments were common methodological issues.

Limitations: Sample sizes across studies were often small, meaningful effect sizes were not always reported, and non-validated measures of NSSI thoughts and behaviours were used during ESM assessments.

Conclusions: The results support affect regulation models of NSSI, and demonstrate the value of ESM studies, specifically those sampling more than once per day, in plotting the temporal, "in-the-moment" characteristics of these processes.

Key Words: Experience Sampling Methodology, Momentary Emotional States, Nonsuicidal Self-Injury, Systematic Review

Introduction

Non-suicidal self-injury (NSSI) is defined as the intentional, direct injuring of body tissue for a purpose that is not socially sanctioned (for example, tattoos or piercings), without suicidal intent (Klonsky, 2007; Muehlenkamp, 2005). NSSI may include cutting, burning, biting, scratching, preventing wound healing, or banging and hitting various body parts (Klonsky, 2007). Whilst NSSI refers to a behaviour this is typically a response to emotional distress or psychological difficulty (e.g., Taylor et al., 2018), and within the context of the current review, is conceptualised as a mental health difficulty in line with the definition and diagnosis of NSSI Disorder given by the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-V; American Psychiatric Association, 2013). This conceptualisation has parallels with how disordered eating behaviour is likewise treated as a mental health difficulty. This conceptualisation also reflects how NSSI is often assessed and treated within mental health services in the UK.

NSSI is a prevalent mental health issue, with the 2014 Adult Psychiatric Morbidity Survey (APMS; McManus et al., 2016) reporting that the self-reported lifetime prevalence of NSSI in those aged 16-74 in England in 2014 was 6.4%, an increase from 3.8% in 2007. A meta-analysis by Swannell et al. (2014) stated that pooled global lifetime prevalence of NSSI was 17.2% amongst adolescents, 13.4% among young adults, and 5.5% among adults.

Previous studies indicate that NSSI is associated with a variety of mental health difficulties (Cipriano et al., 2017), emotional dysregulation (Wolff et al., 2019), social wellbeing and interpersonal issues (Muehlenkamp et al., 2013), and distress- for both those who engage in NSSI, and those around them (Arbuthnott & Lewis, 2015; Klonsky, 2007). Those who engage in self-injurious behaviour and

experience self-injurious thoughts are at increased risk of later suicide attempts and death by suicide whether purposefully or accidentally (Lofthouse & Yager-Schweller, 2009; Ribiero et al., 2016). NSSI thoughts and urges (abbreviated as NSSIT for this paper) can be experienced by individuals who do and do not go on to engage in NSSI, however they have received less research attention compared to NSSI behaviour (Martin et al., 2011).

NSSI can have various functions such as communication of needs, self-punishment, sensation seeking, anti-dissociation, interpersonal functions and as a method of suicide prevention, amongst others (Klonsky, 2007; McManus et al., 2016; Taylor et al., 2018). The most commonly endorsed function is emotion regulation, for example to alleviate negative emotions such as anger or shame. Theoretical models of NSSI often identify the experience of distressing emotions, and difficulties in regulating these, as a causal factor in NSSI, for example, the Four Function Model of NSSI (Bentley et al., 2014; Nock & Prinstein, 2004) and the Emotional Cascade Model (Hasking et al., 2018; Selby & Joiner, 2009). Investigating the relationship between emotional experiences and NSSI can help to improve our understanding of these difficulties, and validate the current models of NSSI.

Longitudinal studies into NSSI and emotional states can provide information about temporal patterns of association occurring across broad periods of time, but are less able to capture finer, moment-by-moment patterns in how emotional states and NSSI interact. Examining moment-to-moment data could potentially provide a stronger insight into what may be triggering or maintaining NSSI. Ecological momentary assessment (EMA), also known as Ecological Sampling Methodology (ESM), involves the use of multiple daily assessments to track phenomena on a day-

to-day and moment-to-moment basis. ESM has been widely adopted to further our understanding of NSSI and related phenomena (Pratt & Taylor, 2019).

The current paper aims to provide a systematic review of current ESM literature that examines relationships between momentary emotional states both prior to and following NSSI and NSSIT. For the purpose of this review, NSSIT will encompass both NSSI thoughts and urges. The temporal characteristics regarding the relationship between NSSI, NSSIT and emotional states will be considered. Although a recent review (Rodríguez-Blanco et al., 2018) examined the use of ESM in NSSI studies, and although there is overlap between included papers in that review and the current paper, the focus of the current review is solely emotional states and NSSI/NSSIT, whereas Rodríguez-Blanco et al.'s (2018) review had a broader focus (i.e. focusing on ESM NSSI studies as a whole, including those not focused on emotion, and different methods of ESM used). Furthermore, the current review only included studies with more than one ESM prompt per day, in line with definitions of ESM in the literature, and utilised different databases to the previous paper. The current review includes six studies not included in Rodríguez-Blanco et al.'s (2018) review, with three of these studies being published following the search date for their review. It is hoped that the information generated by this review will provide further insight to support knowledge of and interventions for NSSI and NSSIT.

Method

Search Strategy

This review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA; Moher et al., 2015) guidelines. A review protocol

was pre-registered (PROSPERO ID CRD42019137093). Electronic databases PSYCINFO, MEDLINE, CINAHL and Web of Science were systematically searched from date of inception to 13th October 2019 using the following search terms and Boolean operators: (self-injur* OR self-injurious OR NSSI OR self-harm* OR DSH OR self-mutilat* OR overdos* OR self-poison* OR self-cut* OR suicid*) AND (emotion* OR feeling* OR affect*) AND (ESM OR EMA OR experience sampl* OR diar* OR momentary). The reference lists of included studies (backwards tracking), and articles that cited included studies (forwards tracking), were examined to identify any potentially eligible papers not identified in the original database search. Authors of included studies were also contacted by the researcher (where contact details were available) in order to request any unpublished data or studies that may be relevant to the review.

Eligibility criteria for inclusion were as follows: studies a) employed ESM, defined here as completing more than one assessment or sampling per day outside of a laboratory; b) measured emotional states or experiences as part of the ESM assessments; c) measured NSSI and/or NSSIT either at momentary or person-level; d) included an analysis of the association between emotional states or experiences and NSSI and/or NSSIT (or this was obtained from study authors); e) were written in English; and f) included adolescent and/or adult populations. Studies were not included if they used a solely qualitative methodology. Studies that aggregated assessments of suicidal and non-suicidal phenomena, or where this was unclear, were excluded.

Screening and Data Extraction

Following removal of duplicate papers, articles were screened for eligibility at the title and abstract level, and the full text of potentially relevant papers were then screened for eligibility. Fifty percent of papers at the title and abstract screening and 100% of papers at the full-text screening were also screened by a second reviewer (TDB) independent to the research team. Any discrepancies were discussed with a third author (PJT) to make a final decision on inclusion.

Data extraction was completed by the first author (ACB) using an extraction spreadsheet, and this was then reviewed by the wider research team (PJT). Information extracted included basic information (e.g. year published, country of origin, source, study design, sampling method), participant characteristics (e.g. sample size, demographic information, specific populations), method of and measures used for ESM, measures of emotion and NSSI/NSSIT during ESM, and whether further information, such as clarification or unpublished data, had been sought from authors.

Given the expected broad range of different emotional states being studied, the variation in ESM designs, and how data analysis was approached, a meta-analysis was not planned. Instead, a narrative synthesis of included studies was undertaken.

Risk of bias assessment

Risk of bias was assessed using a tool adapted from the Agency for Healthcare Research and Quality (Williams et al., 2010; see Appendix B for the adapted version used in this review). This tool can be used for observational studies and adapted for the context of specific reviews, and it has been used for previous

reviews on the topic of NSSI (Taylor et al., 2015; Taylor et al., 2018). This tool assesses potential risk of bias across various methodological domains. In this review, the researchers adapted these domains to the context of the review by removing three domains that were not relevant to the current review, and by creating three additional domains focusing on aspects of ESM design: time-stamped ESM responses (i.e. assessments were completed via a method that ensures time of completion is recorded), pseudo-random prompts (i.e. prompts were delivered at random points within set time intervals), and timepoints completed within 15 minutes of prompts.

Each study was rated by the first author and a reviewer independent to the research team. Domains were rated as being met (low risk of bias), not met (high risk), partially met, or being unclear. The two reviewers assessed all included articles and discussed and resolved any discrepancies. The initial level of agreement between the two reviewers after reviewing all papers was 70.5%; however following discussion and clarification of item criteria, this was resolved to 100% agreement.

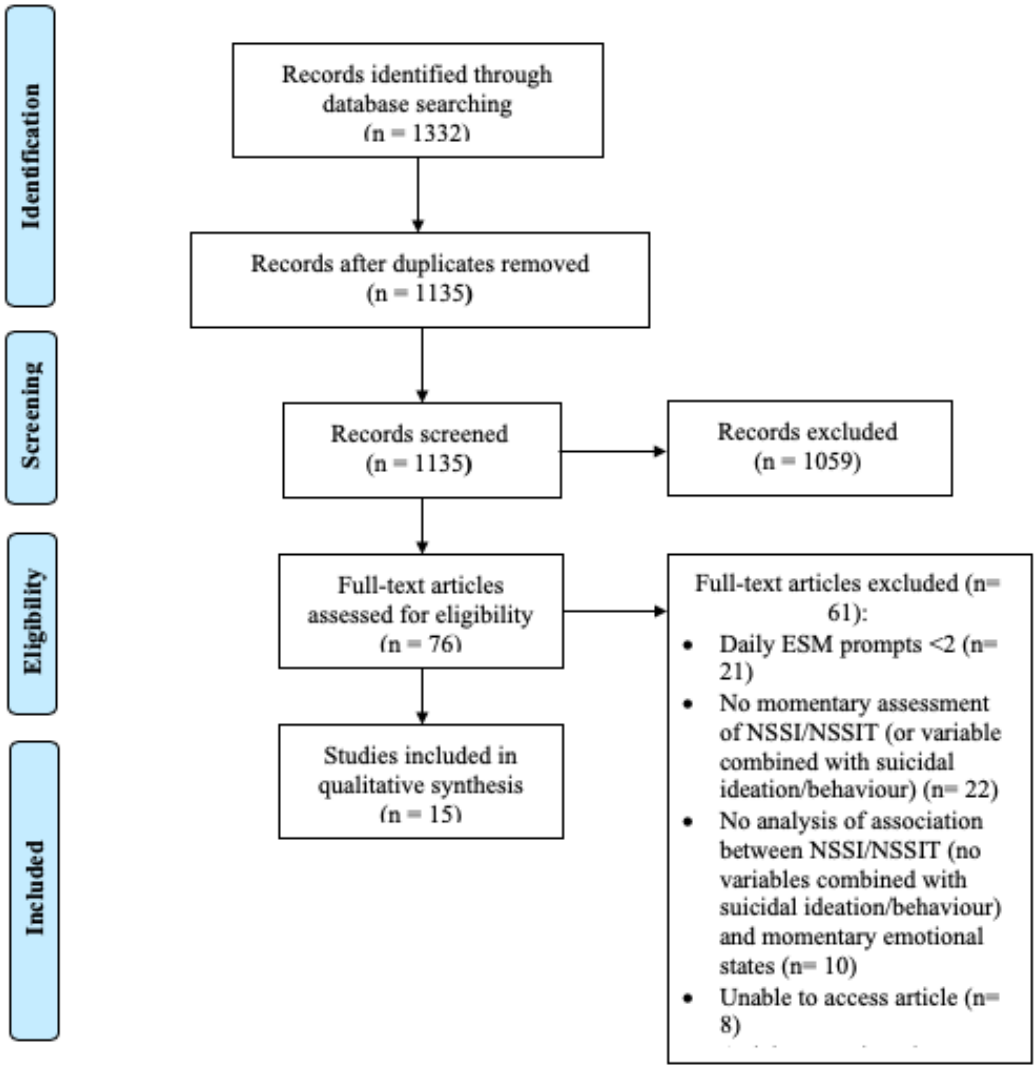
Results

Overview of studies

The full search process, conducted in line with PRISMA guidelines, can be seen in Figure 1 (adapted from Moher et al., 2009).

Figure 1.

Flow chart of literature search process



The researcher was unable to access eight articles that may have been relevant to this review. Steps taken to access these articles included electronic searches of three separate Higher Educational Institute libraries, searching Google Scholar and Open Access journals, and contacting authors directly. Some of these articles were conference abstracts rather than full papers.

Fifteen eligible papers were identified for inclusion in this review. Characteristics of these studies are summarised in Table 1. Studies most commonly took place in the USA (k = 11), but also in Australia (k = 2) and Belgium (k = 2). Generally, the majority of samples were predominantly Caucasian, with the remainder of participants identifying as African-American, Hispanic/Latino, Asian,

Multi-Racial, Indigenous Australian or "other." There was a mixture of clinical (individuals with a diagnosis of borderline personality disorder (BPD), avoidant personality disorder (APD), bulimia nervosa (BN) or depressive disorders, and community and inpatient mental health patients) and non-clinical samples (students and members of the community) included in the studies. Five studies examined both NSSI and NSSIT, eight studies examined NSSI only and one study examined NSSIT only. Two pairs of studies used the same or an overlapping sample (Andrewes et al., 2017a and Andrewes et al., 2017b; Houben et al., 2017 and Vansteelandt et al., 2017, respectively). It is unclear whether there is overlap in sample between Kranzler (2016) and Kranzler et al. (2018); the samples were very similar, though Kranzler et al. (2018) had a larger sample size than Kranzler (2016). The author was contacted for clarification but did not respond.

Risk of bias

Table 2 shows the results of the risk of bias assessment. No studies justified sample size, and 10 studies reported small sample sizes ($n < 100$), with some studies also undertaking analyses on small subsamples of their data, increasing the risk of possible Type II errors. The criteria for unbiased selection of the cohort was often not fully met, for example sampling methods were used that could lead to self-selection bias. Furthermore, some papers did not adequately describe how they identified and recruited their samples. Therefore, it was often difficult to judge the likelihood or extent of potential selection bias. However, some studies did recruit from a wider range of sites and sources to limit this impact. Another recurrent issue was the lack of validated assessment methods used during ESM, especially for NSSI. This could be due to ESM being a relatively new methodology, though valid and

reliable measurement of NSSI does seem to be an issue in the wider literature more generally (see Robinson & Wilson, 2020).

A majority of papers had missing data exceeding 70% (k = 5), or this was unclear (k = 6). Many of the papers did acknowledge missing data and often incorporated this into their analytical method. However, while statistical models used can often reduce any bias where data is Missing at Random (MAR; Carter & Emsley, 2019), there is still information loss in these circumstances, and bias may still be introduced if missing data is not MAR. All studies met the criteria for pseudorandom ESM prompts, and the majority of papers also met the criteria for the use of validated methods in ascertaining clinical status or participant group. Papers often employed multi-level regression, which is an appropriate analytic method for nested ESM data. However two papers examining lagged effects controlled for previous ratings, including this as a covariate, which violates the assumption that covariates in the models are independent of random effects (Carter & Emsley, 2019). Six papers did not control for potential confounding variables in their analyses. All papers used electronic diary methods that ensure a timestamp, such as smartphone applications or palm pilots, except one study that used telephone calls. It was sometimes unclear whether ESM entries outside of a 15-minute response window were removed from analyses, as is recommended so that responses reflect “in the moment” experience (Palmier-Claus et al., 2011).

Table 1. Study Characteristics

Author, Year & Country	Sample characteristics	ESM design (*n.* scheduled prompts)	Emotional state (measure)	NSSI/NSSIT (measure)
Ammerman et al. (2017), USA	Diagnosis of BPD or depressive disorder (*n*= 51), 74.5% female, mean age= 28.82 (*SD*= 9.77), 51% African American, 33% White, 10% Asian, 6% "other"	Phone calls 4 x daily for 7 days (28)	Negative affect (Positive and Negative Affect Schedule (PANAS), negative affect scale only; Watson et al., 1988)	Non-validated measure of NSSI occurrence
Andrewes et al. (2017a), Australia	15-25 year olds with first presentation BPD (*n*= 107), 82.3% female and mean age= 18.1 (*SD*= 2.7), ethnicity data not reported	Study-issued mobile phone, 6 prompts per day for 6 days (36)	Negative and positive affect (PANAS-SF short-form; Kercher, 1992)	Non-validated measure of NSSI occurrence
Andrewes et al. (2017b), Australia	15-25 year olds with first presentation BPD (*n*= 107), 82.3% female and mean age= 18.1 (*SD*= 2.7), 91% Caucasian, 2.8% Indigenous Australian, remainder not reported	Study-issued mobile phone, 6 prompts per day for 6 days (36)	Negative affect (PANAS-SF)	Non-validated measure of NSSI occurrence
Anestis et al. (2012), USA	Female patients with BN (BN; *n*= 127), mean age= 25.34 (*SD*= 7.71), 96.9% Caucasian, 1.5% Native American, 0.8% Asian, 0.8% "other"	Palm-top computer, 3 prompts per day for 14 days (42)	Negative affect (PANAS, negative affect scale only)	Non-validated measure of NSSI occurrence based on various validated measures (e.g. Rossotto et al., 1998)
Armey et al. (2011), USA	Students with a history of NSSI (*n*= 36), 75% female, mean age= 18.70 (*SD*= 0.79), ethnicity data unavailable but states "predominantly Caucasian"	Palm-top computer, 6 prompts per day for 7 days (42)	Negative affect, specific emotions of guilt, anger and loathing also reported (PANAS; guilt and hostility subscales from PANAS-X expanded form; Waston & Clark, 1994)	Non-validated measure of NSSI occurrence

Author, Year & Country	Sample characteristics	ESM design (*n.* scheduled prompts)	Emotional state (measure)	NSSI/NSSIT (measure)
Houben et al. (2017), Belgium	Inpatients with diagnosis of BPD (*n*= 30), 87% female, mean age= 29.03 (*SD*= 1.60), ethnicity data not reported	Palm-top computer, 10 prompts per day for 8 days (80)	Negative and positive affect (no validated measures)	Non-validated measure of NSSI occurrence
Hughes et al. (2019), USA	Adolescents and young adults who reported self-injuring during previous 2 weeks (*n*= 47), 68% female, mean age= 19.1 (*SD*= 1.77), 38% White, 15% Black/African American, 19% Asian, 17% Hispanic/Latino, 11% Multi-Racial	Study-issued or personal smartphone, 5 prompts per day for 14 days (70)	Negative affect (no validated measures)	Non-validated measure of frequency of NSSI/NSSIT
Kranzler (2016), USA	15-21 year olds who reported self-injuring at least twice in the previous two weeks (*n*= 24), 66.7% female, mean age= 19.29 (*SD*= 1.76), 45.8% White, 8.3% African American, 20.8% Asian, 12.5% Hispanic/Latino, 12.5% Multi-Racial	Study-issued or personal smartphone, 5 prompts per day for 14 days (70), spontaneous entries allowed	Negative and positive affect, specific emotions reported include angry, hurt/rejected, frustrated, anxious/afraid, overwhelmed, empty/numb, embarrassed, sadness, loneliness, ashamed, happy, content, proud, relieved, calm, satisfied, experiencing a rush or a high and excited (no validated measures)	Non-validated measure of frequency of NSSI; non-validated measure of intensity of NSSIT
Kranzler et al. (2018), USA	Adolescents and young adults who reported self-injuring at least twice over the previous two weeks (*n*= 47), 68.1% female, mean age= 19.1 (*SD*= 1.77), 38.3% White, 14.9% African American, 19.1% Asian, 17% Hispanic/Latino, 10.6% Multi-Racial	Study-issued or personal smartphone, 5 prompts per day for 14 days (70)	Negative and positive affect, specific emotions reported are same as study above, however "guilt" replaces "ashamed" (no validated measures)	Non-validated measure of frequency of NSSI; non-validated measure of intensity of NSSIT

Author, Year & Country	Sample characteristics	ESM design (*n.* scheduled prompts)	Emotional state reported (measure)	NSSI/NSSIT (measure)
Muehlenkamp et al. (2009), USA	Females with diagnosis of BN (*n*= 131), mean age= 25.3 (*SD*= 7.6), 96.9% Caucasian, remainder not reported	Palmtop computer, 6 prompts per day for 14 days (84), NSSI-related event-contingent entries also included in analysis	Negative and positive affect (subset of items from PANAS)	Non-validated measure of NSSI occurrence based on various validated measures (e.g. Rossotto et al., 1998)
Selby et al. (2013), USA	Undergraduate students and adults in the community reporting at least 4 dysregulated behaviours over previous 2 weeks (*n*= 47), 66% female, mean age unclear, 19% African American, 6% Asian American, 2% Native American, 9% Hispanic, remainder not reported	Palm-top computer, 5 prompts per day for 14 days (70)	Negative affect (subset of items from PANAS)	Frequency of NSSI (no validated measures)
Snir et al. (2015), USA	Adults with a diagnosis of APD (*n*= 43, 53.5% female, mean age= 32.9, *SD*= 11.4) or BPD (*n*=56, 80.4% female, mean age= 30.9, *SD*= 10.1), and healthy controls (*n*= 53, 71.7% female, mean age= 35.08, *SD*= 11.9), 7.1% Asian, 19.6% Black/African, 60.7% White, 14.2% "other"	Palm-top computer, 5 prompts per day for 21 days (105)	Negative affect (no validated measures)	Occurrence of NSSI and NSSIT (no validated measures)
Vansteelandt et al. (2017), Belgium	Adults diagnosed with BPD (*n*= 32), 84% female, mean age= 28 (*SD*= 9), ethnicity data not reported	Palm-top computer, 10 prompts per day for 8 days (80)	Emotional valence and activation (no validated measures)	Frequency of NSSI (no validated measures)

Author, Year & Country	Sample characteristics	ESM design (total number of scheduled prompts)	Emotional state reported (measure)	NSSI/NSSIT (measure)
Victor et al. (2019), USA	Female participants taking part in Pittsburgh Girls Study who endorsed self-injurious thoughts in previous month (*n*= 62), mean age= 22 (*SD*= 1.55), 69% African American, 24% non-Hispanic Caucasian, 2% Hispanic African American, 5% Multiracial/biracial	Study-issued smartphones, 6 prompts per day (including NSSIT) for 21 days (147)	Negative affect (no validated measures)	Non-validated measure of NSSIT occurrence
Zaki et al. (2013), USA	Adults with BPD diagnosis and history of NSSI (*n*= 38, 84% female, mean age= 29.89, *SD*= 10.60) and healthy controls (*n*= 42, 83% female, mean age= 32.50, *SD*= 7.53), 61% White, 18% Black/African, 8% Asian, 18% Hispanic, 5% "other"	Electronic technology- not specified, 5 prompts per day for 21 days (105)	Negative affect (no validated measures)	Non-validated measure of NSSI and NSSIT frequency (no validated measures)

Abbreviations: Borderline personality disorder (BPD), bulimia nervosa (BN), avoidant personality disorder (APD).

Table 2. Risk of Bias Assessment

Study	Unbiased selection of the cohort	Sample size calculated	Adequate description of the cohort	Validated method for ascertaining clinical status or participant group	Validated methods for assessing emotion	Validated methods for assessing NSSI/T	Missing data minimal	Analysis controls for confounding variables	Analytic methods appropriate	Time-stamped response	Pseudo-random prompts	Included timepoints completed within 15 minutes
Ammerman et al. (2017)	Unclear	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	Unclear
Andrewes et al. (2017a)	Partial	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes
Andrewes et al. (2017b)	Partial	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes
Anestis et al. (2012)	Partial	No	Partial	Yes	Yes	Partial	Unclear	Yes	Yes	Yes	Yes	Unclear
Armey et al. (2011)	Unclear	No	Partial	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes
Houben et al. (2017)	No	No	Partial	Yes	No	No	Partial	No	Partial	Yes	Yes	Unclear
Hughes et al. (2019)	No	No	Yes	Yes	No	No	Yes	Yes	Partial	Yes	Yes	Unclear
Kranzler (2016)	Unclear	No	Yes	Unclear	No	No	Unclear	Yes	Yes	Yes	Yes	No
Kranzler et al. (2018)	Yes	No	Yes	Yes	No	No	Unclear	Yes	Yes	Yes	Yes	No

Study	Unbiased selection of the cohort	Sample size calculated	Adequate description of the cohort	Validated method for ascertaining clinical status or participant group	Validated methods for assessing emotion	Validated methods for assessing NSSI/T	Missing data minimal	Analysis controls for confounding variables	Analytic methods appropriate	Time-stamped response	Pseudo-random prompts	Included timepoints completed within 15 minutes
Muehlenkamp et al. (2009)	Unclear	No	Yes	Yes	Yes	Partial	Unclear	No	Yes	Yes	Yes	Unclear
Selby et al. (2013)	Yes	No	Yes	No	Partial	No	Yes	Yes	Yes	Yes	Yes	Unclear
Snir et al. (2015)	Yes	No	Yes	Yes	No	No	Unclear	No	Yes	Yes	Yes	Unclear
Vansteelandt et al. (2017)	Unclear	No	Partial	Yes	No	No	No	Yes	Yes	Yes	Yes	Unclear
Victor et al. (2019)	Yes	No	Yes	Yes	Partial	No	Yes	Yes	Yes	Yes	Yes	No
Zaki et al. (2013)	No	No	Partial	Yes	No	No	Unclear	Yes	Yes	Yes	Yes	Unclear

Nonsuicidal Self-Injurious Thoughts (NSSIT)

Correlates and predictors of NSSIT

Four studies examined lagged effects of negative emotion and NSSIT, whereby negative affect at one time-point predicted NSSIT at a subsequent time point. Across these studies, greater negative affect was positively, significantly associated with the presence and/or intensity of NSSIT at a subsequent assessment point. These associations were found in young adults and adolescents reporting a history of NSSIT. The reported *RR* values for three of these studies (Hughes et al., 2019; Kranzler, 2016; Kranzler et al., 2018) were small, ranging from 1.01-1.02 (with affect measured on 0-10 Likert scales). One of these studies distinguished between internalising and externalising forms of negative affect, reporting that only internalizing negative affect was a predictor of later NSSI urges, at the within-person level (standardised $\beta = 0.24$; Victor et al., 2019). Internalising negative affect includes fear, shame and sadness, whereas externalising negative affect refers to hostility, anger and irritability. Another of these four papers reported that the specific emotions of anxiety and feeling overwhelmed predicted greater NSSI thought intensity at the subsequent assessment (*RR* = 1.05 for both emotions; Hughes et al., 2019). Across all of these studies, sample sizes were small (*n* = 24-62).

Only two studies investigated positive affect and NSSIT, finding that greater positive emotion significantly predicted lower intensity of NSSIT at the subsequent assessment point (Kranzler, 2016; Kranzler et al., 2018; *RR* = 0.98 and 0.99 respectively).

One study, with a sample of 38 individuals with a diagnosis of BPD, reported that lower negative emotion differentiation scores were concurrently associated with the occurrence of NSSI urges (Zaki et al., 2013). In this study, negative emotion

differentiation refers to the ability to differentiate broad, negative emotional experience into more nuanced emotional categories. Furthermore, a significant interaction between rumination and negative emotion differentiation was reported, where a combination of high levels of rumination and low differentiation of negative emotion was associated with significantly increased frequency of NSSI urges. In contrast, general negative affect was not associated with NSSI urges in this study. It is important to note that this study aggregated NSSI acts and urges into one variable for analysis, and is therefore included again in the NSSI behaviour section of this review.

Non-linear changes in affect around episodes of NSSIT

One study modelled the change in affect occurring over time around instances of NSSIT (Snir et al., 2015). They found that in adults with a diagnosis of BPD, a non-linear pattern fitted the data whereby negative affect increased prior to and immediately following the NSSI urge, peaked between 2-5 hours following the urge, and then decreased quite sharply.

Nonsuicidal Self-Injurious Behaviours (NSSI)

Correlates and predictors of NSSI

Five studies analysed concurrent associations between negative affect and NSSI. Two studies reported no significant association between general negative affect and frequency and/or occurrence of NSSI (Ammerman et al., 2017; Zaki et al., 2013). However, one of these studies reported that lower negative emotion differentiation scores were associated with greater risk of NSSI in individuals with a diagnosis of BPD (Zaki et al., 2013). Furthermore, a significant interaction between

rumination and negative emotion differentiation was reported, where a combination of high levels of rumination and low differentiation of negative emotion was associated with significantly increased frequency of NSSI in those with a diagnosis of BPD. This study used an aggregate variable for NSSI behaviour and urges in their analyses.

Three of the five studies focused specifically on levels of instability in affect, creating aggregated indices of instability in affect over time, and investigating the association this had with NSSI within the ESM period. One of these studies (Vansteelandt et al., 2017) reported a significant positive association between higher levels of instability in negative emotion and the occurrence or frequency of NSSI. This study further reported a reduction in within-subject instability of negative emotion following NSSI (when compared with those without NSSI), potentially providing further support for the affect stabilization functions of NSSI (i.e. that affect may become more stable following NSSI). A further study (Selby et al., 2013) reported a significant interaction whereby the positive association between negative affect instability and NSSI daily frequency was increased in those with stable rumination. When specific emotions were examined, a combination of greater instability in sadness and rumination was associated with the highest frequency of daily NSSI. In contrast, the third study (Anestis et al., 2012) reported no significant predictive effect of state affective instability on the occurrence of NSSI.

Four studies examined lagged effects of negative affect and NSSI, consistently reporting that higher levels of negative affect at one time-point predicted a higher probability or frequency of NSSI occurring at the subsequent assessment point (*RR* = 1.01-1.03). This finding was apparent across varied samples including adolescents and young adults reporting a history of NSSI, and adults with a diagnosis

of BPD, though sample sizes were small (n = 24-47). One of these studies (Hughes et al., 2019) further reported that higher levels of the emotions "anxiety" and "overwhelmed" were predictive of greater NSSI behaviour frequency at the next assessment (RR = 1.08 and 1.09, respectively).

One study (Houben et al., 2017) examined the "reverse effect" of the studies above, analysing changes in negative emotion following acts of NSSI, and found that NSSI predicted an increase in negative emotion occurring within the same time interval and subsequent time interval. This result is inconsistent with other studies (see below) that demonstrate a decline in negative affect following NSSI. The authors acknowledged the potential limitations of their small sample size, and the possibility that their study design may not have been able to capture some initial emotional relief on a very short timescale (i.e. seconds and minutes) following NSSI.

Three studies stated that there were no significant predictive effects of positive emotion on the probability of engaging in NSSI in the next time interval. However, sample sizes were small (n = 24-47). One of these studies (Houben et al., 2017) found that engaging in NSSI predicted a subsequent decrease in positive emotion in the same time interval, however, this effect did not carry over to the next time interval, in contrast with negative emotion.

Non-linear changes in affect around episodes of NSSI

Seven studies examined changes in negative affect occurring over time around episodes of NSSI. Five of these studies examined changes in general negative affect occurring over time around episodes of NSSI. Three studies, two with larger samples (n > 100, though not all reported engaging in NSSI during ESM) found that these changes fit to a quadratic pattern whereby negative affect increased prior to

and decreased following NSSI episodes. This pattern was observed for the number of negative emotions experienced (Andrewes et al., 2017b) and for specific emotional states, including guilt and anger Armey et al., 2011). In one study, changes in negative affect occurred a median of 15.18 hours before engaging in NSSI (Andrewes et al., 2017a). These patterns were found in samples of adolescents and young adults with first presentation BPD and students with a history of NSSI. In contrast, another study (Snir et al., 2015) reported that there was no significant change in general negative affect surrounding NSSI acts in samples of adults with a diagnosis of APD or BPD (*n* = 99, analysis conducted on a smaller subset of participants). A further paper (Muehlenkamp et al., 2009) stated that although there was a significant increase in negative affect prior to NSSI in a sample of females with a diagnosis of BN, negative affect remained unchanged following NSSI acts. These inconsistent findings may potentially suggest that any relief from negative affect following NSSI is brief, or that potential increases in positive affect clouds relief from negative affect. Interestingly, these two studies sampled over a longer period of time (*n* days = 14 and 21) compared to the three studies that found significant effects (*n* days = 6, 6 and 7), this could mean they had more instances of NSSI to analyse and less chance of Type II errors occurring.

Two studies focused on specific negative emotion in samples of adolescents and young adults with a history of self-injury. They reported that feeling angry, hurt/rejected, frustrated, anxious/afraid and overwhelmed decreased following NSSI, whereas there was no change in feelings of guilt, shame, feeling empty/numb or embarrassed. There were some differences in findings between the two studies; one found that the feelings of sadness and loneliness did significantly decrease following an episode of NSSI (Kranzler et al., 2018) whereas the other found that they did not

(Kranzler, 2016). Effect sizes were moderate to large (*d* = -0.88- 0.66), however sample sizes for the two studies were small (*n* = 24-47).

Five studies examined changes in positive affect around episodes of NSSI. Two studies (*n* = 107-131 but analyses conducted on small subsets) reported that positive affect decreased prior to and increased following (non-linear estimate = -0.031) NSSI, fitting a quadratic pattern. In one of these studies, with a sample of adolescents and young adults with first presentation of BPD, (Andrewes et al., 2017a), changes in positive affect occurred a median of 10.04 hours before engaging in NSSI. One study (Armey et al., 2011), in a small sample of students with a history of NSSI (*n* = 36), observed a slightly different temporal pattern whereby positive affect actually increased prior to NSSI and continued to increase following NSSI. This might reflect how just considering or planning NSSI resulted in an initial increase in positive affect, but given this is the only study to identify such a pattern, this suggestion is speculative. Two further studies (Kranzler, 2016; Kranzler et al., 2018) in small samples of adolescents and young adults with history of NSSI (*n* = 24-47) examined changes in specific positive emotions following NSSI, finding that whilst some emotions increased after NSSI (happy, content, proud, relieved, calm, and satisfied), others did not ("experiencing a rush or a high", feeling excited). Effect sizes for the significant findings were large (*d* = -1.47- 1.51).

Discussion

The aim of the current review was to summarise and critically evaluate existing ESM research regarding momentary emotional states and NSSIT and/or NSSI. Negative affect was generally found to be associated with both NSSIT and

NSSI. The data supports a pattern whereby negative affect is higher prior to NSSI-related behaviour and thoughts, and decreases following engagement in NSSIT and NSSI. This was apparent for general negative affect but also for a number of specific emotional states (e.g., anxiety, feeling overwhelmed, anger, hurt/rejected, frustrated) although evidence of this pattern was inconsistent or lacking for other emotional states (e.g., sadness, loneliness, embarrassed, ashamed, guilt). Results for positive affect were less consistent than for negative affect, possibly due to the smaller number of studies available. There was some evidence that positive affect decreased prior to and increased following episodes of NSSI, but other studies failed to find significant lagged associations between positive emotion on engagement in NSSI at the next time interval. With regards to NSSIT, greater positive emotion was found to be a significant predictor of lower intensity of NSSIT at the subsequent assessment point. There was evidence from two studies that some specific emotions increased following NSSI (e.g. happiness, content, proud, relieved, calm and satisfied). Two studies suggested that affect may interact with other processes like rumination in predicting NSSI, and these patterns were consistent, though the small number of studies means these results are preliminary. Results regarding instability in affect were also mixed, with one study finding no significant association between state affective lability and number of NSSI episodes, but two others reporting that higher instability was predictive of NSSI, either as a main effect, or when moderated by instability in rumination.

Overall, the results are consistent with research highlighting that affect regulation, in particular the regulation of aversive emotional states, is a primary function of NSSI (Klonsky et al., 2014; Taylor et al., 2018). This is consistent with theoretical models of NSSI, such as the Four Function Model of NSSI (Nock &

Prinstein, 2004), which emphasises that the regulation or avoidance of distressing emotional states is an important function that underlies NSSI. This functional, transdiagnostic approach proposes that engaging in NSSI provides automatic (i.e. intrapersonal) negative and positive reinforcement, in that negative affective states decrease and feeling generation increases following NSSI.

The results of this review are also consistent with the Emotional Cascade Model (Selby & Joiner, 2009), which proposes that NSSI serves to break a vicious cycle of emotion (emotional cascades) through distraction away from the initial negative stimuli, and the subsequent reduction in negative emotion negatively reinforces NSSI as a behaviour. This model also posits that rumination exacerbates negative affect, and it is the continued rumination that can lead to the emotional cascades whereby negative affect is amplified, and the probability of engaging in NSSI is increased. Some cross-sectional studies based on this model have reported that rumination was not a significant moderator of the affect-NSSI relationship (Hasking et al., 2018). Within the current review, there was preliminary evidence that the association of negative affect with NSSI may be moderated by rumination (or the stability of rumination), though further confirmation of these effects is needed.

Mixed results regarding the associations between affect instability and NSSI are somewhat in contrast with previous studies, which suggest affective instability is an important correlate or predictor of NSSI (e.g. Peters et al., 2016; Santangelo et al., 2017). This could be due to the small sample size and potential low power of the study that did not report a significant effect. There was also inconsistency in the approach taken to creating a measure of affect instability and in how NSSI was

modelled (e.g. as an in-the-moment experience, or a daily aggregate), which potentially contributed to inconsistency.

There were limitations within this literature. Many of the included articles used a small sample size, and no articles justified their sample size, which may have led to decreased power to detect effects and consequently Type II errors (false negatives). Despite this, however, studies often found significant effects which, given the small samples and lower power, could be indicative of publication bias within the field. Standardised effect sizes were inconsistently reported, which increased the difficulty of synthesising the data. Included studies did have a mix of clinical, non-clinical and mixed samples, however the sampling procedures used mean that results may not be a true representation of the sample, due to the potential for self-selection bias, and may not generalise to the wider populations of interest. Furthermore, participant samples in the included studies were predominantly Caucasian, which means that these results may not be generalisable across individuals of different ethnicities. A lack of a validated measure for assessing NSSI during ESM was a consistent feature of study design, this seems to be an issue across non-ESM NSSI literature also (Robinson & Wilson, 2020). Analyses of missing data may not have sufficiently minimised the impact of the missing data on the effects found.

There were only a small number of studies examining NSSIT and affective states, and investigating associations between positive emotion and NSSI and NSSIT, which is consistent with observations made by previous researchers (Hasking et al., 2018; Jenkins & Schmitz, 2012; Martin et al., 2011). Therefore, it is difficult to draw firm conclusions regarding specific emotions prior to and following

NSSI and NSSIT. Better understanding the role of positive emotion could help develop more targeted clinical interventions for NSSIT and NSSI.

Limitations also exist within the current review. Meta-analysis could not be performed due to the heterogeneity of the included studies, which often utilised different analytic methods and approaches. All but one of the articles included in this paper were sourced from peer-review journals (with one being a dissertation), and although the researcher contacted authors for any unpublished data, other eligible research in the grey literature may not have been included in this review. In addition, the search terms did not include "burn," which is a common method of NSSI, therefore some relevant studies may not have been identified by the searches, potentially leading to missing data. Furthermore, this review only included papers that were written in English, leading to a similar issue of otherwise eligible research being excluded, however only one paper was excluded at the full-text stage on this basis so this impact may not be substantial. The researcher was unable to access eight articles that may have been relevant to the review, which is a relatively large number. These missing papers may have been eligible and could have altered the conclusions of this review.

Studies with larger sample sizes and broader sampling methods are needed to reduce the risk of Type II errors. Pooling of results could also be beneficial for this reason, and to provide more reliable and precise results. Studies should be pre-registered to reduce publication and reporting bias. When designing research, it may be useful to remember that the 16-24 age group has been reported as the group most affected by NSSI, but also that methods of NSSI may vary across age groups (McManus et al., 2016). In addition, a validated measure of NSSIT and/or NSSI for use during ESM would benefit future research, and consistent reporting of

standardised effect sizes would help to develop firmer conclusions within this literature. Missing data is often an issue within ESM studies due to the nature of the methodology (Carter & Emsley, 2019), therefore it is important to keep in mind whether data is Missing at Random or non-Missing at Random when conducting analysis. This could also be improved by reflecting on ways to increase engagement and compliance with the methodology (for example ensuring that participants are adequately reimbursed for their commitment, and considering the duration and amount of sampling), and also by allowing event-contingent entries. Future studies could also consider combining ESM with qualitative methodology in order to broaden information gleaned from in-the-moment sampling.

Overall, the results are largely consistent with the idea that NSSI may be a response to changes in negative affect, and may operate to regulate or reduce these emotions. These results support the use of therapies that target emotion regulation difficulties, such as dialectical behaviour therapy (DBT), which has been found to be effective for emotion regulation and NSSI (Gibson et al., 2014; Linehan et al., 2009; Mehlum et al., 2014; Mehlum et al., 2016; Mehlum et al., 2019). ESM approaches could be used to better understand the mechanism underlying these therapies by investigating whether therapy is related to changes in the moment-to-moment experience of affect (see Eddington et al., 2017 for an example of assessing psychotherapy for major depressive disorder using ESM). ESM could also be used as part of therapy, as opposed to traditional pen and paper tracking diaries, as this could provide in-the-moment information surrounding NSSI and emotional states, which could then lead to clearer formulation and more targeted therapy (see Piasecki et al., 2007, for a summary of using electronic diaries in clinical settings).

In conclusion, the current review indicates that increased negative affect often precedes episodes of NSSI thoughts and behaviour, and a decrease typically occurs following these episodes. There were fewer studies available regarding positive affect and NSSI thoughts and behaviour, therefore firm conclusions about the potential associations cannot be drawn from this review.

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Paper 2: "Cover up your arms, you're triggering people": A Mixed-Methods Investigation of Shame in those who Self-Injure (MISSI)

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Abstract

Background: Shame can be a powerfully aversive emotion that is associated with a wide variety of mental health difficulties including Nonsuicidal Self-Injury (NSSI). This study used a novel mixed-methods design (Qualitative Experiential Sequence Tracking ; QUEST) to investigate how experiences of shame were processed and coped with in a sample of individuals who self-injure.

Methods: Six participants received prompts to complete brief online diaries three times per day over a period of two weeks (Experience Sampling Methodology). These diaries captured information about the experience of negative emotions, especially shame. Participants then underwent an individualised qualitative interview about their experiences over the previous two weeks.

Results: Thematic analysis suggested that participants experienced shame as a social and relational emotion, this was a cross-cutting theme. Further themes included shame being associated with feelings of failure, being trapped, dangerous or contaminated, and hidden or exposed. The phenomenology of shame and coping with shame also emerged as themes. NSSI could occur as a response to shame, but often shame was triggered or exacerbated by others' response to NSSI.

Conclusions: Consistent with previous research, shame was described as an aversive emotion occurring within interpersonal and broader societal contexts and involving a negative self-focus. A lack of compassion or understanding from others, or anticipation of others' negative responses, around NSSI often triggered more intense

shame than the NSSI itself. Future studies could use QUEST methodology with more diverse samples or different populations to examine similar, different or novel themes that emerge.

Keywords: Shame, NSSI, ESM, Qualitative, Mixed-Methods

Introduction

Non-suicidal self-injury (NSSI) is defined as intentionally and directly injuring one's own body tissue, without suicidal intent, for purposes that are not socially sanctioned (e.g. cutting, burning, scratching, biting; Klonsky, 2007; Muehlenkamp, 2005). NSSI represents a major clinical problem due to its association with later risk of suicide as well as accidental death (Lofthouse & Yager-Schweller, 2009; Ribiero et al., 2016). Moreover, NSSI is generally indicative of a high level of distress for individuals and their families and friends (Arbuthnott & Lewis, 2015; Klonsky, 2007; Richmond et al., 2015). Research suggests that there are a number of reasons why an individual may self-injure, such as self-punishment or to prevent suicide (for further detail see Klonsky, 2007), however the most commonly endorsed function of NSSI is emotion regulation, particularly to reduce negative affect and arousal (Taylor et al., 2018). Global prevalence of NSSI is estimated to be 17.2% amongst adolescents, 13.4% among young adults, and 5.5% among adults (Swannell et al., 2014). In England this figure is approximately 6.4% for those aged 16-74 (Adult Psychiatric Morbidity Survey (APMS); McManus et al., 2016).

Recent research has explored the emotion of shame and how it relates to mental health difficulties. Shame is a negative emotion that occurs when an individual experiences or perceives failure in relation to personal or social standards. It is a cognitive,-affective construct characterised by feeling responsible for the failures, and holding the belief that the failures reflect inadequacy within themselves or reflect negatively on their character (Chou et al., 2018; Sheehy et al., 2019).

Shame and guilt are self-conscious emotions, triggered by self-evaluation following perceived or actual failures or transgressions. Shame often involves focusing on the self, (i.e. “I am a bad person”), whereas guilt involves focusing on a specific behaviour falling below an expected standard (i.e. “I did a bad thing”; Tangney et al., 2007; Tangney et al., 2014). Though they are distinct emotions, they can overlap and occur together, and be hard for individuals to parse. Guilt seems to drive reparative behaviour and repair, such as apologising, and is associated with feelings of tension and regret. In contrast, shame tends to be associated with feelings of worthlessness and feeling diminished or exposed, and drives withdrawal (in the form of escape or hiding), and potentially blaming others for their own perceived failures and shortcomings (Tangney et al., 2014).

It has been hypothesised that shame evolved as a protective mechanism, as it motivates us to prevent damage to and repair our social relationships and maintains our place in a social group necessary for survival (Gilbert, 2007; Sznycer et al., 2016). In fact, the absence of shame in an individual when such feelings are expected may be viewed negatively (i.e. a person being “shameless” or having “no shame”). However, research has demonstrated that shame is also associated with a range of mental health difficulties (Cândea & Szentágotai-Tătar, 2013), including depression (Kim et al., 2011), psychosis (Carden et al., 2020), and eating disorders (Blythin et al., 2020).

Research suggests that experiences of shame may be particularly important in the context of self-injury. A recent review and meta-analysis by Sheehy et al. (2019) found that elevated levels of shame have been reported by those with a history of NSSI ($d = 0.47$) and a positive correlation has been demonstrated between shame and the frequency of NSSI ($r = 0.24$). However, whilst the extant quantitative

research provides data regarding shame as a correlate or predictor of NSSI, this research tells us less about how shame is experienced and responded to on an individual basis, amongst those who self-injure. Qualitative research may provide better understanding of the individual experiences and processing of shame (e.g. Chapple et al., 2004; Rørtveit et al., 2010). However, qualitative interviews alone may be limited where a person is being asked about emotional experiences that have occurred in the past, and may not effectively capture psychological processes that occur "in-the-moment."

Experience Sampling Methodology (ESM) is a quantitative method that aims to capture "in-the-moment" experiences through the use of multiple daily assessments (Palmier-Claus et al., 2019). Previous ESM research has helped to demonstrate how NSSI may occur as a response to distressing emotional states (see Rodríguez-Blanco et al., 2018, for a review).

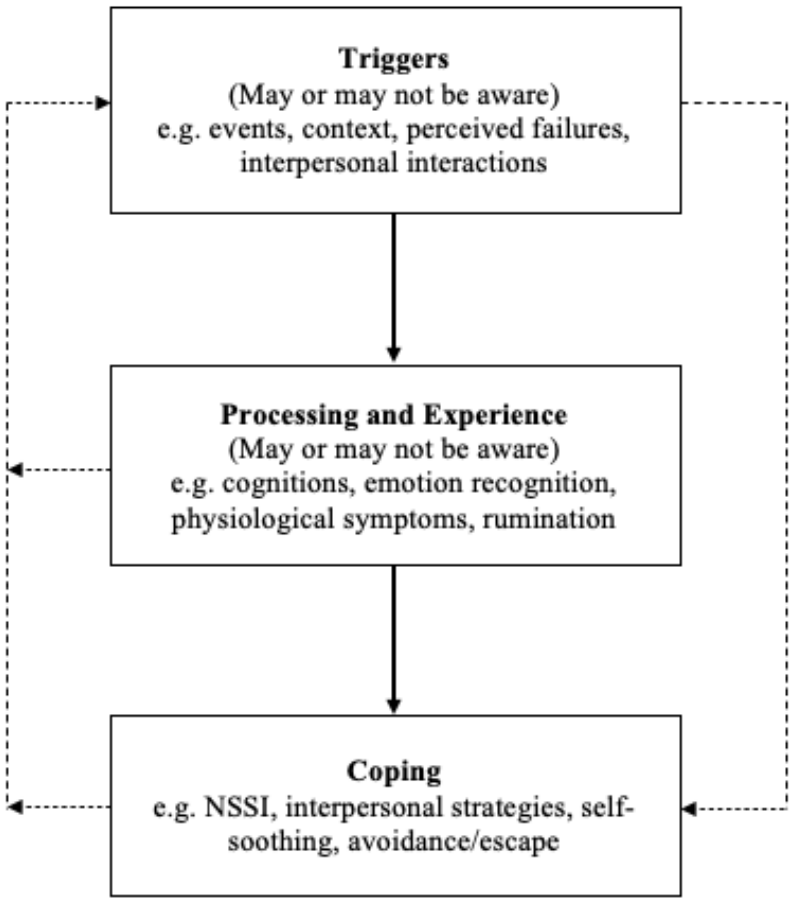
Considering the potential benefits of both qualitative interviews and ESM, the current study used a novel mixed-methods approach that combines qualitative interviewing with "in-the-moment" remote assessment (Qualitative Experiential Sequence Tracking; QUEST). This approach involved using remote assessments to capture momentary experiences of difficult emotions within the context of a person's daily life. Qualitative interviews were then conducted to explore in greater depth the moments of emotional experience captured within the remote assessment.

This study aimed to investigate the psychological processes that are associated with the emergence, processing and maintenance of shame in those who engage in NSSI. The study also aimed to generate an understanding of shame using diary and interview data, and to contrast these across participants to assess commonalities and differences across individuals. Specifically, the study focused on

three aspects of shame experience, how these feelings were triggered, how they were processed (e.g. made sense of, experienced) by the individual, and how the person responded or attempted to cope with these feelings. These three aspects of shame were hypothesised as interlinked processes (see Figure 2). The study aimed to elaborate participants' experience across these three aspects of shame to better understand the psychological processing of this emotion and its ties to self-injury.

Figure 2.

Proposed Shame Framework



Method

Design

The current study employed a novel, mixed methods design (QUEST) that combined qualitative interviewing with ESM. Similar approaches have been used elsewhere in the social sciences (Mort et al., 2005; Spillane et al., 2010). A strength of ESM is that it captures experiences "in-the-moment," limiting the impact of retrospective recall bias and affording responses greater ecological validity (Palmier-Claus et al., 2019). QUEST drew on these strengths but placed them in a qualitative context. The ESM component of this design helped to capture specific experience within the moment, and then interviews further dissected these experiences. The diary data provided a focal point for the interview, and a way of supporting participants in discussing shame, which can be a challenging topic to discuss. The protocol was pre-registered on the Open Science Framework (osf.io/sd5gk).

Participants

Inclusion criteria were individuals aged 16-25 years who owned a smartphone, had no difficulties understanding the English language, and who had engaged in NSSI on five or more days in the past year. This number was based on the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-V; American Psychiatric Association, 2013) criteria for NSSI diagnosis. Individuals aged 16-25 were selected as research suggests this is the age group most likely to engage in NSSI (McManus et al., 2016). Exclusion criteria were again based on the DSM-V, and stated that the NSSI could not occur exclusively during psychotic episodes, delirium, substance intoxication or substance withdrawal. This was determined during a semi-structured telephone screen between the researcher and

participants. Furthermore, in individuals with a diagnosis of a neurodevelopmental disorder (e.g. autism spectrum condition), the NSSI could not be part of a pattern or repetitive stereotypies. Finally, the NSSI could not be better explained by another diagnosable mental disorder, intellectual disability, Lesch-Nyhan syndrome, stereotyped movement disorder with self-injury, trichotillomania and excoriation. For the purpose of this study, Eating Disorder behaviour such as purging were not considered forms of NSSI, reflecting the DSM-V criteria for NSSI disorder and definitions used in various papers (e.g. Klonsky, 2007). Generally, participants reflected that although this could be a form of self-injury for them, their intentions behind this as compared to cutting were different. Participants were recruited from NHS Mental Health Services in the North West of England via referrals from Mental Health Clinicians. Participants also self-referred into the study through poster advertisements (Appendix D), and through University of Manchester School of Health Sciences email bulletins.

Although not an exclusion criteria, individuals who felt they were currently at high risk of suicide were encouraged to reflect on whether they felt safe to complete the study both during the initial telephone screen (see Appendix E for a copy of this) and further contacts with the researcher (see Appendix F for a copy of the study risk protocol). Both the telephone screen and risk protocol were developed in collaboration with an expert-by-experience and the wider research team.

Measures

Baseline Measures

Validated measures were completed at baseline. The Experience of Shame Scale (ESS; Andrews et al., 2002; Appendix G) was used to assess specific areas of

shame related to self and performance. This scale has 25 items (and two supplementary items where required, however these were not used in the current study) and responses are scored on a Likert scale format from one (not at all) to four (very much). The minimum and maximum scores are 25 and 100, respectively, with higher scores indicating greater levels of shame. This scale has good construct and discriminant validity, high internal consistency (Cronbach's $\alpha = 0.92$) and a test-retest reliability score of r (88) = 0.83 (Andrews et al., 2002).

The Test of Self-Conscious Affect Version 3- short form (TOSCA-3S; Tangney et al., 2000; Appendix H) was used to assesses general levels of shame- and guilt-proneness, and externalisation. The current study used the norms given for female participants as the majority of participants identified as female. Participants answered eleven items each with three sub-questions that address shame self-talk, guilt self-talk and "blaming others." Participants are asked to rate each sub-statement on a 1-5 Likert scale in response to a given scenario, where one indicates "not likely" and five indicates "very likely." The minimum possible score for each subscale is eleven and the maximum possible score for each subscale is 55. This measure is widely used and has demonstrated adequate reliability and acceptable to good internal consistency, though its internal consistency may be lower than expected as the tool uses a scenario-based design (for an overview, see Broerman, 2018).

The Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001; Appendix I) was used to assess mood, as previous research has indicated that shame is positively, moderately correlated with depression (Kim et al., 2011). This questionnaire was also included for potential risk management purposes. Participants

are asked to answer nine questions about their mood using a Likert scale with a 0-3 range, with zero indicating "not at all" and three indicating "nearly every day." The minimum possible score is 0 and the maximum possible score is 27. This measure has excellent internal reliability (Cronbach's α = 0.86-0.89) and good criterion and construct validity (Kroenke et al., 2001).

An adapted version of The Self-Injurious Thoughts and Behaviours Inventory short-form (SITBI; Nock et al., 2007; Appendix J) was used to gather information regarding history, frequency, methods, and severity of NSSI. Only items related to NSSI (n = 11) were utilised as this was more in line with the focus of the study, and prevented participants from completing more questionnaires than necessary. Questions surrounding frequency of NSSI (e.g., "How many times in the past year have you purposefully hurt yourself without wanting to die?") were adapted to give a Likert-type response format to avoid extreme guesses. This measure has good construct and concurrent validity, and strong inter-relater and test-retest reliability (Nock et al., 2007). Response formats and scales were variable.

ESM diaries

The ESM questions were guided by the framework in Figure 1. Question one asked participants: "Since the last text, have you felt bad about yourself or something you did?" Further questions were asked around physiological symptoms, coping strategies, and potential triggers and processes. A free text box was also provided for participants to record anything that was not already asked about, or that they would like to elaborate on. Participants were informed that if they answered "no" to question one that they did not have to complete the remainder of the questions for that assessment. For the full list of ESM questions, see Appendix K.

Qualitative Interview

A generic interview template (see Appendix L for an example) was tailored for each participant based on their ESM entries using a method of diary-elicitation (Carter & Mankoff, 2005) whereby data from the electronic diaries was used to guide the interview. The interview generation process followed the process below:

1) The researcher would identify two ESM entries as the focal points for each participant's interview. The entries selected were those that appeared consistent with feelings of shame (e.g. negative feelings about the self as flawed or inadequate), and that were rated as the most intense across the two-week ESM period.

2) The researcher would then adapt the generic interview template to incorporate the two focal ESM entries, by adapting existing questions or adding new ones relevant to the entries, with the majority of questions being guided by the framework in Figure 1. For example, if the ESM entry referred to a particular consequence of feeling shame (e.g. hiding self away), the interview would be adapted to ask specifically about this, rather than ask a more generic question. The researcher would include any particular wording or descriptions used by the participants in questions that may lead to further elaboration, discussions or more questions. In line with the qualitative nature of the study, this was a fluid process guided by the researcher's own perceptions and interpretation of the data.

3) Some questions were added in the moment during interviews in response to something said by the participants in situ (as is standard practice in qualitative interviewing). Though interviews were designed as semi-structured, participants could also discuss other incidents not focused on by

the researcher, and discuss their general feelings regarding shame and self-injury. Participants were also asked about NSSI specifically and if and how emotions identified in the diary entries differed from each other. Participants received a copy of their ESM entries at the start of the interview to help focus the discussion. Participants could keep this copy for discussion with their mental health team or for personal reflection, participants fed back that they found this useful to have.

Procedure

Favourable ethical opinion for the study was issued by a local NHS Research Ethics Committee (Appendix M), and Health and Care Research Wales approval was obtained (Appendix N). Research and Development departments within participating NHS Trusts gave approval for the study be conducted within their organisations.

Potential participants who had read the Participant Information Sheet (PIS; Appendix O) and completed consent-to-contact forms (Appendix P) underwent an initial telephone screening call with the researcher, lasting for approximately 30 minutes. The purpose of this screen was to determine eligibility for the study and to assess potential risk to participant and researcher. Following this, the participants met individually with the researcher either at The University of Manchester or at community mental health services in order to give written informed consent to participate (Appendix Q) and receive instructions on completion of the ESM diaries (based on Palmier-Claus et al.'s best practice guidelines, 2011; see Appendix R). Participants were reassured that they were not expected to complete every scheduled ESM entry, that they did not need to complete diary entries if it would negatively impact on their mental health, and that they could stop the ESM prompts at any time.

They then underwent a “practice session” for the ESM diaries. Finally, participants were informed that the researcher would not access the diary data in real time, and that it would only be accessed at the end of the 14-day period. This decision was made following discussion with the wider research team, including an expert-by-experience, as the research team was not set up to manage risk occurring in real-time (i.e. the ESM entries could not be monitored 24/7).

Participants then received prompts at three pseudorandom times per day for 14 days, via text messages providing them with a link to log on to the online survey platform using their smartphone. The decision to send three prompts per day, rather than a higher number, was made a priori. Factors influencing this decision included that this number was felt to be the minimum needed to produce adequate data, the participants were being asked to give large amounts of data per prompt (more than is usual for ESM studies), and based on discussions with individuals with lived experience of NSSI and shame in terms of finding the balance between having sufficient data and the potential impact on participants. Participants had one hour to start the assessment before the link was deactivated. The researcher telephoned the participants on day two of the ESM diaries to troubleshoot any technical issues and to discuss any potential negative and/or positive impact that completing the diaries were having on participants. Following completion of the diaries, the participants completed the qualitative interview, which was audio recorded using an encrypted Dictaphone, and received a £30 love2shop voucher as reimbursement. Five out of six qualitative interviews were conducted face-to-face, however one interview was conducted via telephone due to the emergence of the COVID-19 pandemic.

Data Analytic Strategy

Thematic analysis was used to analyse qualitative data from the interviews and ESM entries. Thematic analysis was conducted in line with Braun and Clark's (2006) six-phased process: 1) Identify items of potential interest; 2) generate initial codes; 3) search for themes; 4) review potential themes; 5) define and name themes; and 6) produce a report. An inductive method was used to code the data and to generate themes. A critical realist epistemological stance was taken during analysis and interpretation as this was most consistent with the goals of the study. This stance assumes that psychological phenomena do have some external basis in reality outside of any single individual's interpretation, but that these phenomena are fuzzy and bounded by culture and context that also requires consideration (Kempster & Parry, 2011).

It is important to take culture and context into account for the participants and their data, but it is also important to consider these for the researcher analysing this data. The researcher who primarily analysed the data was a 29 year-old Caucasian, Atheist, heterosexual cisgender female. They were originally from and currently based in the North West of England. They were educated to a Doctoral level in Clinical Psychology and had worked primarily in NHS mental health services since 2015. The researcher reflected that they possessed different social privileges, which likely influenced their experiences and expectations of the world, and their interpretations of it. They also reflected that their training as a Clinical Psychologist within the NHS could also influence how they interpret discussions and data regarding shame and NSSI. This includes the view of NSSI as a difficulty emerging from no one singular cause, but an interaction of social and psychological factors.

Results

Participant Characteristics

Table 3 gives the pseudonyms allocated to participants and their demographic characteristics. Participants were six individuals aged 17-23 years, with a mean age of 20.67 (*SD* = 3.01). Five participants identified as female and one participant identified as gender non-binary. Fifty percent (*n* = 3) of participants identified as White British, 33.3% (*n* = 2) identified as Asian British (Pakistani), and 16.7% (*n* = 1) identified as any other Mixed background. 66.7% (*n* = 4) of participants identified as heterosexual, 16.7% (*n* = 1) identified as bisexual and 16.7% (*n* = 1) identified as asexual. A further individual completed the initial meeting, however was unable to continue with the study due to the COVID-19 pandemic. Other difficulties reported by participants included either a current or previous diagnosis of, or currently undiagnosed but perceived, borderline personality disorder (BPD; *n* = 2), autism spectrum condition (ASC; *n* = 2), psychosis (auditory hallucinations; *n* = 1), depression (*n* = 6), anxiety (*n* = 6) and eating disorders (*n* = 3). Those with ASC and psychosis stated they felt their NSSI did not fit the exclusion criteria, the researcher asked various questions regarding the NSSI and when it occurred, and was satisfied that these participants were eligible for inclusion.

Table 3. Participant Characteristics.

Pseudonym	Age	Gender	Ethnicity	Sexuality	Co-morbid diagnoses or difficulties aside from NSSI, depression and anxiety	Current mental health input
Katie	24	Female	White British	Heterosexual	Anorexia Nervosa, Body Dysmorphic Disorder, B&P, previous diagnosis of BPD and social phobia, query ASC but no diagnosis	Specialised Eating Disorder team
Charlotte	23	Female	White British	Heterosexual	ASC, psychosis (voice hearing), reported B&P but no diagnosis	Community mental health team
Emily	23	Non-binary	White British	Asexual	Current diagnosis of BPD	Community mental health team, supported living
Lucy	18	Female	Any other Mixed background	Heterosexual	Reported restricting, B&P but no diagnosis	Psychiatry only
Zara	17	Female	Asian British (Pakistani)	Heterosexual	No diagnoses	Psychiatry only
Yasmin	19	Female	Asian British (Pakistani)	Heterosexual	No diagnoses	No specialist input

NB. Abbreviations: BPD= borderline personality disorder, ASC= autism spectrum condition, B&P= bingeing and purging. All participants reported episodes of low mood and anxiety.

Descriptive Statistics for Baseline Questionnaires

Table 4 shows the participant scores for the ESS, TOSCA-3S, and PHQ-9. The results indicate that, overall, the participants scored within the "often" range for shame self-talk, the "seldom" range for guilt self-talk, the "seldom" range for "blaming others" (TOSCA-3S), and the moderately-severe range for depression (PHQ-9). Though the ESS does not provide "categories," on average participants scored 68.7/100, with a large standard deviation (18.6), indicating that this varied considerably between participants. These results are mostly consistent with information gathered from the ESM entries qualitative interviews, however participants often report feeling guilty during the study. This result could be due to a higher "cut-off" point to reach the "average" category on the guilt scale (43) compared to shame (27) and "blaming others" (21). For additional context, the mean score for the guilt scale was 42, out of a maximum possible score of 55.

The SITBI results indicated that the average age at which participants began engaging in NSSI was 12.7 years old (*SD* = 3.3), the minimum starting age given was 8 years old, the maximum starting age given was 17 years old. All participants indicated that they had previously engaged in, or were currently engaging in, cutting or carving their skin. In the past year, three participants engaged in NSSI between 11-30 times, one between 31-50 times, one between 6-10 times and one between 0-5 times. The duration between experiencing self-injurious urges and engaging in NSSI varied between participants, ranging from approximately one minute to a few days, this was consistent with what participants reported during the ESM entries and qualitative interviews. Four participants indicated that they had had to seek medical treatment for their NSSI in the past, and five participants said they were extremely likely to engage in NSSI in the future (including those who were intending to stop

this coping strategy). This could indicate a lack of confidence in their ability to cease this behaviour.

Experience Sampling Descriptive Statistics

Five participants completed the full 14 days of diary entries, one participant completed 11 days and then appropriately stopped these due to wider concerns about their mental health, though this participant still attended the qualitative interview. One participant reported engaging in NSSI during the study, and five reported NSSI thoughts and/or urges. Though not the focus of the project, 50% of participants reported engaging in bingeing and purging, and restriction was reported by 33.3% of the sample. The total number of ESM entries completed was 152, meaning that approximately 60% of the possible maximum number of total entries were completed. The maximum number of possible ESM entries per participant was 42. The mean number of total entries completed per participant was 25.33 (*SD* = 9.95), the lowest number of total ESM entries per participant was 14, and the highest was 38. Interviews were based on entries where participants had indicated "yes" to question 1 ("since the last beep, have you felt bad about yourself or something you did?"). There were 70 of these entries (M per participant = 11.67, *SD* = 5.79), accounting for approximately 46.10% of the total entries completed. Please see Appendix S for an anonymised sample of ESM data. All participants completed the qualitative interview, these lasted for an average of 46 minutes and 32 seconds. The shortest interview duration was 35 minutes and 58 seconds and the longest was 54 minutes and 28 seconds. Please see Appendix T for an anonymised sample of an interview transcript.

Table 4. Scores for the ESS, TOSCA and PHQ-9.

Participant	ESS	TOSCA-3S - shame self-talk (category)	TOSCA-3S guilt self-talk (category)	TOSCA-3S blaming others (category)	PHQ-9 (severity of reported depression)
Katie	64	35 (average)	31 (seldom)	26 (average)	18 (moderately severe)
Charlotte	45	34 (average)	40 (seldom)	16 (seldom)	13 (moderate)
Emily	86	38 (often)	47 (average)	21 (average)	7 (mild)
Lucy	91	44 (often)	46 (average)	21 (average)	23 (severe)
Zara	75	44 (often)	41 (seldom)	11 (seldom)	22 (severe)
Yasmin	51	40 (often)	47 (average)	16 (seldom)	10 (moderate)
Mean (*SD*)	68.7 (18.6)	40 (4.3; often)	42 (6.2; seldom)	18.5 (5.2; seldom)	15.5 (6.5; moderately severe)

Note: Ranges for TOSCA-3S categories are as follows- shame (seldom= 0-26, average= 27-35, often= 36-55); guilt (seldom= 0-42, average= 43-48, often= 49-55); "blaming others" (seldom= 0-20, average= 21-28, often= 29-55). Ranges for PHQ-9 are as follows: no depression= 0-4, mild= 5-9, moderate= 10-14, moderately severe= 15-19, severe= 20 or above.

Thematic Analysis

During thematic analysis of ESM and interview data, it became evident that shame almost exclusively occurred within a relational context, whether this was at a wider, societal level or through everyday interactions. Social context and interpersonal interactions were relevant in terms of triggers for, processing of, and coping with shame. Charlotte said "shame is a very social emotion… other [emotions] may be more isolated to me, whereas [shame is] very much in the context of everyone else." Feelings of shame were also seen as being dictated by societal values, "[society says]…you should be ashamed if you've done something wrong" (Katie) and "[when I said] something to somebody in an argument I shouldn't of… [I thought] there's no point in me being here 'cos I'm a bad person, I'm not a good contribution" (Lucy). Shame as a relational emotion cut across all other themes and therefore this is discussed within the themes presented below.

Although the themes are distinct from each other, there was some overlap between all themes. The 'phenomenology of shame' theme could be seen as providing a surface description or foreground of this emotion, beyond which the subsequent themes emerge. In contrast, shame as a social emotion intersected through all other themes (like words through a stick of rock), capturing the central essence of shame as an emotion that is about how one appears relative to others. Of the remaining themes, failure was probably the one that most "overlapped"- for example, when participants felt they were trapped in shame, this could lead to feelings of failure. It could be that participants felt they had to keep parts of themselves hidden due to feelings of failure and not wanting this exposed. Participants also experienced feelings of failure if they felt they "failed" to combat shame. Participants often talked about feelings of failure when reflecting they felt

they were harmful to others- they felt they had failed on a societal level, or as a daughter or a friend. Failure also fed back into phenomenology (i.e. feelings of failure were seen as part of the shame experience), and social and relational situations. The remaining themes did also overlap, with one example being that participants may have hidden parts of themselves in order to combat potential shame in a social situation.

Being trapped in shame

Participants described being stuck in cycles of shame, or feeling "trapped" in shame, either by internal factors (e.g. through rumination, comparing themselves to others, or maintained behaviours) or by others' expectations of and responses (actual, perceived or anticipated) to them. Katie described shame as feeling different to other emotions in this regard: "If you feel ashamed, what can you do?... it's not really [an emotion] that people teach you how to deal with, it's like, you can go online and say, like, how do you deal with anxiety, there are a hundred videos that will come up, erm, you try and say I feel ashamed of myself, what will come up is, you should love yourself, it's like, that's not very helpful."

Emily described feeling trapped in a cycle whereby she tried to decrease shame by accepting her scars and wearing short sleeves, only to then be denigrated by others for this ("[she said], everyone's embarrassed by you… you need to cover up [the scars on] your arms."), thereby further increasing shame and reverting to wearing long sleeves. Participants often reflected that others' actual or anticipated responses to NSSI triggered stronger shame than the behaviour alone, regardless of whether the behaviour was something they wanted to stop doing, and often kept them trapped in shame. Some participants would try speaking to others about their

shame to relieve it, but were often met with a lack of understanding or compassion, thereby exacerbating or re-triggering shame.

Rumination related to shame could reinforce the feeling of being trapped or "stuck." Emily said: "I just kept ruminating on it… it just kept going and going." Lucy and Zara described thoughts and feelings "piling up", and this exacerbating the intensity of emotion. Other people continued to feature in the rumination participants engaged in in relation to shame, for example, rumination encompassed statements made by others, or the participants' perceptions or anticipations of what others would think of them or their behaviour. Katie stated that she would ruminate on what other people would think about what she was saying to them, or that they might disclose what she was saying to others.

Breaking free of feelings of shame was difficult for participants. Lucy said: "I just can't bring myself to stop getting stuck in this cycle." Zara sometimes self-harmed in response to shame, but stated: "If I cut again I feel like a psycho, but if I don't cut, I still feel like a psycho, 'cos I want to cut." Attempts at reparative action through apology to others was described by some participants, and though this could relieve some guilt, it was often ineffective at reducing shame. Katie reflected on feeling stuck in shame with regards to self-relational behaviour: "normally, if you've done something wrong, you feel ashamed, you say "I'm really sorry," and the person goes "I forgive you, it's OK," and you're like, OK, we can move on, but if it's something you're doing to yourself it's quite hard to do that… there's nowhere for it to go."

Failure

A sense of failure was reported across participants, this could be present across multiple domains, including perceived social (Charlotte, talking about worrying her parents: "it makes me feel awful"), personal (Lucy: "I feel like I know what I shouldn't be doing and what I should be doing… [I feel bad about myself] 'cos I think I've just added to the problem [of self-harm]"), academic (various participants reported shame related to perceived academic difficulties or failures) or religious failures (Yasmin: "in our religion we're not meant to be like in a relationship before marriage and stuff… so I've always, erm, known [my relationship] was wrong … I probably deserve [to be struggling, as a punishment]"), or feeling as though they were unable to achieve a goal (Katie: "I feel like I had every advantage and yet I still fucked it up").

Participants often reported feeling as though they were disappointed in themselves, or had disappointed others, with a few participants lamenting "I've really messed up" or similar statements. Explicit feelings and thoughts of failure were present as part of processing, especially with regards to rumination, though these could also act as triggers for shame and could be experienced around coping strategies, for example if they felt they had not coped in a "good" way. For example, Charlotte said: "[purging amplified shame], erm, because it's like, now I can't cope… [I've coped] in a negative way… it's my fault that safe self-harm methods don't work because I've not practiced them enough." Although coping strategies could reduce shame if successful, unsuccessful strategies or negative judgements of the strategies by others could exacerbate, and potentially maintain, maladaptive coping behaviours. For example, Emily reflected: "Why do I try? I might as well do it again" when talking about others' responses to her NSSI and shame.

This sense of failure as part of shame often occurred when comparing self to others or thinking about social rank or hierarchy, for example Katie said: “I don’t wanna be at the bottom of the pile, and if I have to be at the bottom of the pile, I don’t wanna be alive.” Katie also reflected that although she sometimes felt pride in herself, this usually existed on the flip side of shame in that if something went wrong, she fell straight back into shame. Zara shared that she often compared herself negatively to others, feeling that others were loud and confident and she was quiet, and she wished she could be more like them.

Hidden vs. Exposed

For most participants, there was a conflict or tension between wanting to be acknowledged and accepted, but also feeling the need to hide a lot of themselves for this to happen. Participants could feel invisible or dismissed or, conversely, overexposed and vulnerable. Several participants described feeling they had to hide or change aspects of their personality or behaviour they felt ashamed of in order to be accepted and not feel alone. Zara said: “[my friends] know I’m quiet, but they don’t know how I feel ‘cos I haven’t told them… [I worry about] how they would see me.” Katie stated: “I want to be accepted, and I think, to be accepted I have to kind of fit into what other people deem to be acceptable… I just feel like if [others] knew what I was like they would hate me.” Charlotte often felt she should hide her distress so as to not worry others, reporting that because of this others often thought she was emotionally “OK” when she was not.

Feeling ashamed was often an isolating experience, and could both trigger and maintain feelings of isolation, loneliness, rejection and worthlessness. Emily said: “I got in bed, and no one came and checked on me all day, after I’d just sat

there and had a full meltdown, so I felt like everyone was just blanking me, because I'd messed up, so it just added to the shame really… in the back of my mind, I was hoping someone would come up to my flat and check on me, and sort of save me, and no one did. So yeah [laughs]."

Participants often reported hiding their NSSI scars with long sleeves, as these scars could serve as "visible" sources of shame. Bingeing and purging occurred in private, though binge eating could be socially sanctioned at Christmas time, for example. Lucy, who engaged in both of these coping strategies, felt more shame around food and body image than scars: "I can cover up, er, scars, but I feel like I can't really cover up my weight that well." Hiding behaviours could be due to shame around the act itself, for example Charlotte stated that "[self-harm is] a behaviour that I don't like," and Katie described purging as "disgusting." However, for several participants it was others' actual or anticipated responses to self-harm that led to hiding behaviours/scars and shame. Katie said: "[I would only be ashamed of self-harm] if someone made me feel ashamed. I don't say they made me feel ashamed as in it's their fault, but if their reaction kind of induced shame in me, whether that was their intention or not..." Non-judgemental responses from others, and acceptance of self-harm, could sometimes prevent shame, with Yasmin reporting positively that her family were "used" to her self-harming and that they wouldn't try to prevent her from engaging in this unless they thought it was life-threatening (for example if she became severely depressed).

In contrast, participants also reported feeling too visible or exposed, and some reported being looked at or stared at by others and feeling uncomfortable. Katie described an incident where she was fined for not paying the correct fare, and said "everyone was staring at me… I felt really, really, really ashamed." Emily gave

a statement that combined feeling exposed but also not acknowledged: “they were all just full on staring at me… every time I tried looking at them, they looked away.”

Katie had previously received a diagnosis of Borderline Personality Disorder (BPD), and she reflected that it seemed that mental health professionals may not have always seen her as a whole behind her BPD label, she was almost hidden by this. She sometimes felt she needed to hide things about herself for fear of judgement or these being ascribed to BPD. On the other side of this, when Katie did try to express herself she also felt this was linked to BPD by others and felt overexposed. The following are excerpts from Katie’s transcripts that are congruent with this theme: “the shame element [of NSSI] is really related to the whole, like, BPD link, and people know you feel ashamed because it’s like you’re an attention seeker, you’re doing it to manipulate us, and that just makes you feel like even more of a pariah, and I guess, that makes you feel more ashamed… if [mental health professionals] didn’t know that self-harm is so linked to [BPD], I probably wouldn’t feel that ashamed about it… [quoting a character from a television programme; BPD is] not something I have, it’s something I am… it’s like I’m a bad person… I hate the idea that I have a personality disorder, it just makes me wanna kill myself.”

Phenomenology of shame

The phenomenology of shame was experienced and reported differently by participants. Shame was generally reported as an intense emotion, however intensity could vary depending on the trigger and rumination (for some). Shame was not experienced as a physical sensation across participants, however some participants could feel shame related to feelings of being “full” or “fat.” Most participants reported that shame occurred alongside other emotions, including rejection,

embarrassment, loneliness, anxiety, low mood and anger. However, Yasmin felt that she usually did not experience more than one emotion at once. Guilt was often reported as a co-occurring emotion, and sometimes it was difficult to parse shame from guilt, though at other times these feelings were more distinct.

The amount of time taken for shame to build varied between participants. Some describing shame developing over a number of hours and others describing "instant shame" occurring following a trigger. Identification of shame also varied across participants, Katie stated: "I don't even really notice it. I think it's just like, if someone's asking me directly, I'm like … ok, I think it's shame… if I think about it objectively then yes I would think it was probably shame, but I don't really think of it in terms of, I feel ashamed… [if I think] "I hate myself," I know that's connected to shame, so I'm like, ok, it's shame rather than sadness."

Both Emily and Charlotte described shame as a linear cognitive process or path: "It's quite cognitive… I'm doing something, then it's like, oh, like, this is happening, and then it's, oh no this is happening because of this, or I need to do this to solve this… it follows quite a, like, path." (Charlotte). In contrast, Zara reported that the emotion and associated thoughts occurred simultaneously, and also that other emotions such as feeling lost and hopeless usually occurred at the same time, creating an overwhelming experience.

With regards to the duration of shame, this was also variable between participants, and sometimes depended on the efficacy of and others' response to a coping strategy. For some shame might last for days, irrespective of how they may try to cope with this feeling whereas others reported that shame occurs very intensely for a short period and then dissipates over time. However, many reported that

residual shame could be present, and that shame could be easily re-triggered, which could be experienced as shame lasting for a greater duration.

Shame also seemed to be present in the room during the interviews. Charlotte explicitly identified this by saying: “there’s still some residual [shame], like, I feel a little bit ashamed now, talking about it.” Participants sometimes avoided eye contact with the researcher when speaking about particularly intense instances of shame. Participants sometimes laughed following a statement describing their shame or something they felt bad about, this could have functioned as a protective strategy for either themselves or the researcher. Participants were frequently self-deprecating during the interviews, often with regards to the coping strategies used, or sometimes seemingly feeling that they should justify others’ shaming responses towards them because they felt this reflected negatively on them, or worried that the researcher would see this as a negative behaviour.

Participants spoke about their general experience of shame. Katie described shame overall as: “harder to define, harder to articulate, harder to share with other people and harder to get rid of” compared to other emotions. She also reported feeling like she wanted to “go into a hole and die” during experiences of shame. Others also reported feeling as though they wanted to hide, escape (this sometimes involved suicidal thoughts), or “curl up in a ball.” Lucy said: “ashamed is like, I don’t want people to know about this [behaviour].” Shame involved self-critique and a sense of discomfort, it was also described as being all consuming, pervasive, as an internal voice and a “mindset.” Shame could also be experienced as a punishment, and some participants reflected that they felt they “deserved” to feel ashamed.

Feeling dangerous to others

Participants often reported feeling ashamed if they thought they might cause distress to others, with some feeling that this made them dangerous or harmful in some way. There was also a sense of feeling "contaminated." Emily reported being told when wearing short sleeves: "put a jacket on, you're triggering people." Charlotte reported that she felt she needed to wear long sleeves to hide her NSSI scars when working with children ("it's not fair on them, erm, and they don't know what they're looking at, and it's not fair to introduce them to it, 'cos they're suggestible… I've got to be really careful… I can't put myself in a position where I could be that influence on a child"). Some participants reported feeling anger as a trigger for shame, reflecting that they felt they could not ever show anger to others (even if someone had done something to them that justified anger), as this was not socially acceptable and potentially destructive, and anger was often turned inward. Katie reflected on feelings (but no intent) of wanting to hurt others: "I feel really ashamed about that… what if I'm a psychopath, like, if I'm actually a psychopath, I should probably kill myself before I hurt someone else." Zara reported feeling like she was a "psycho" and that a fear of herself was part of experiencing shame. Participants reported feeling responsible for others' distress or negative emotions, for example Charlotte said she sometimes felt ashamed about the damage she was doing to herself with NSSI but that this shame was less than the shame caused by worrying others. However, both Lucy and Emily also reflected that feeling shame about causing their loved ones distress was a protective factor against suicide.

Controlling and combating shame

Two participants alluded to trying to combat shame or resist engaging in behaviours that would cause shame, describing this as being like a battle or a war. Control of a social situation or coping strategies also seemed to be an important protective factor against shame for some participants. Katie described feeling more in control over her shame when sharing it with someone she would not see again (i.e. the researcher), as opposed to sharing with someone she would see more regularly, as she would care what they thought of her and she would worry that what she had said would be passed on.

The participants' perception of their ability to cope, accessibility/availability of coping strategies and anticipating others' responses were also important for combating shame. Referring to her ability to cope, and wanting to self-harm in response to shame in one instance, Charlotte said: "I just felt incapable… like I couldn't control what was going on in my head, erm, and that's really difficult for me, like, control is a massive thing." Coping strategies reported by some participants included, but were not limited to, positive self-talk (Emily: "you battle it, and I'm like yeah, I can manage this today"), self-acceptance (Yasmin: "I've never felt ashamed of [NSSI] because… only I know how I feel in that situation, and I know that's something I had to do and there's nothing else I could have done. Erm, so I think when you have that fixed in your brain about yourself, like you, you just won't feel ashamed about it"), and distraction and self-soothing strategies. Furthermore, participants might try to focus on their achievements (Katie: "I haven't purged [for a while], which I'm quite pleased about… it's definitely an improvement, I [feel the] need to do it every day and so it's an improvement") and sense of determination

(Emily about NSSI and consequent feelings of shame: “I’m not self-harming in 2020, I’m not doing it”).

Two behaviours that were consistently cited with regards to shame, and combating shame, were NSSI (all participants) and purging (three participants). Though NSSI was sometimes used as a coping strategy for shame, more often than not shame was a consequence of NSSI, and could exacerbate/re-trigger the existing shame. Whether participants did or did not intend to cease their NSSI, participants agreed that others’ actual or anticipated responses to self-harm were the main triggers for shame. Four participants were contemplating or actively trying not to engage in NSSI, usually cutting, saying that this behaviour no longer gave relief for negative emotion (including shame) and could re-trigger or exacerbate shame. Lucy said: “I just don’t think [NSSI], it bothers me anymore, it’s not, ‘cos you sort, I feel like I want, like a rush to sort of snap me out of it, erm, like a rollercoaster, you go on it and like… you get it out and then … you get off, but, I’ve been on the rollercoaster that many times, it doesn’t bother me anymore,” she worried that this would mean she would now seek more dangerous coping strategies to get this rush or relief. One participant (Zara) was in two minds about ceasing NSSI, she often used cutting as a coping strategy for shame and this gave some relief, but was concerned about the number of scars she had. Yasmin had no current plans to cease NSSI, as it did not trigger shame for her and her family were accepting of this coping strategy. She reflected that she may have felt differently about NSSI if others had responded negatively to this. Purging was cited as relieving shame associated with physical sensations of being “full” or eating too much/bingeing, however purging could then cause further shame if participants were trying to cease this behaviour, or if they ruminated on what others would think of this behaviour.

Discussion

The overall aim of the current study was to investigate the psychological processes that are associated with the emergence, processing, and maintenance of shame in those who engage in NSSI. Shame was present for all participants but to varying degrees. Overall, the results of this study suggest that shame is an inherently social emotion, occurring within interpersonal and societal contexts. Interpersonal factors were present across shame triggers, processing, and coping. For example, even in situations where shame was experienced while alone, rumination often focused on what others would think of them or their behaviour. Participants therefore felt they often needed to hide behaviours and emotions. Others' responses to the coping strategies participants used to combat shame could trigger or exacerbate shame (regardless of whether participants viewed these strategies as positive or negative), leading to participants feeling "stuck" in cycles of shame. Shame could be a trigger for NSSI, however shame around NSSI was often more strongly linked to others' responses to this behaviour than the behaviour itself, though participants also frequently felt shame around scars.

The current results are consistent with the idea that shame is an aversive emotion triggered by perceived or actual failure in relation to personal or social standards, and is associated with a negative self-focus and feelings of inadequacy (Chou et al., 2018; Sheehy et al., 2019). Furthermore, these results are congruent with previous research indicating that shame is associated with feelings of worthlessness and overexposure, and wanting to withdraw, hide or escape (Tangney et al., 2014; Van Vliet, 2008). It has previously been suggested that shame can drive individuals to blame their perceived shortcomings or failures on others (Tangney et al., 2014), however this was not reflected in the results of the baseline questionnaires

or thematic analysis. In fact, during discussions of instances of shame triggered by others, participants would often self-deprecate and either tentatively or definitively blame themselves (e.g. “it was probably my fault”). Furthermore, it seemed that participants often felt they should try to justify others’ shaming behaviours towards them to the researcher, even if there was no justifiable reason for these behaviours and/or these behaviours were judgemental and lacking in compassion and empathy. Given that various participants felt that they should not express anger as it could be deemed by themselves or society as “unacceptable,” potentially leading to further shame, it could be speculated that this may have influenced how participants discussed shame triggered by others. With regards to previous research around shame and NSSI specifically, a review by Sheehy et al. (2019) demonstrated links between NSSI and self-harm and posited that, in line with emotional regulation models of NSSI, NSSI may occur in order to regulate shame amongst other emotions. The current findings do support this to an extent, as participants did sometimes engage in NSSI in response to shame, however as previously stated the majority of shame seemed to be triggered around others’ actual or anticipated responses to the NSSI.

There were limitations to the current study. Critical realism suggests that it is important to take considerations of culture and context into account when interpreting data, however the current sample was not particularly diverse and therefore the experiences and realities of shame particular to certain populations may not have been captured. The relatively low number of ESM prompts per day may have been a limitation, as further valuable information and shame experiences could have been missed. The average compliance rate for ESM entries was low (approximately 60%) compared to compliance rates reported in some other studies

(e.g. average rate over 90% in Selby et al., 2013), however this number was also higher than the rate reported some other studies (e.g. 38% in Armey et al., 2011). Though all participants reported some shame across the course of their ESM entries, this was not always their the main focus (i.e. sometimes different or co-occurring negative emotions were focused on), which meant there were not always large amounts of shame-related ESM data to analyse and incorporate into the interviews. Furthermore, spontaneous responses were not available as an option due to the electronic platform used, which could have provided additional experiences of shame being captured. One interview had to be conducted via the telephone due to the COVID-19 pandemic, and it was sometimes difficult to hear and transcribe what was being said, plus the researcher also felt that some benefits of face-to-face interviews could have been lost (Opdenakker, 2006). Finally, shame occurring in the room during interviews was not systematically recorded or coded, though it was clearly present in various ways, for example laughter, avoiding eye contact and changes in body posture. Therefore some of the nuance of "in-the-moment" shame may have been lost in the thematic analysis.

With regards to future research, it could be beneficial to repeat this study across diverse populations (i.e. ethnicity, sexuality, gender, age, socioeconomic status, disability and clinical groups) to examine whether similar, different or additional themes emerge. Given that shame by nature can be difficult to speak about, participants could be primed to speak about both shame that occurred during ESM entries, but also shame that arises during interviews. It seemed that shame was sometimes difficult to verbalise, therefore it could also be useful for researchers to systematically measure and code non-verbal expressions of shame occurring during interviews, in addition to verbal expressions (including laughter). The research team

feel that QUEST (combining ESM and interviews) made a contribution over and above each approach alone. The diaries provided a focal point for semi-structured discussion during interviews, but it could be argued that there were still naturalistic elements to this given interviews were structured around data that was generated by the participants. The diaries also acted as memory aids and prompts for participants at times, especially around the more cognitive-focused questions. Finally, participants fed back that it was useful for them to receive their own copy of their ESM data. It would be beneficial to make further use of QUEST in the study of self-injury (and in clinical psychology more broadly), especially when momentary processes are of interest.

In terms of possible implications for clinical practice, this study illustrates how shame can be difficult for individuals to think about, focus on, and talk about. Given the relational nature of the emotion, shame may be present during both individual and group therapy, and also potentially in the therapist, and clinicians should give thought to how they discuss topics that may elicit shame, and explicitly shame itself if appropriate (Dearing & Tangney, 2011). Shame is potentially an important emotion to identify as it seems to have a powerful impact on clients' mental health. Psychotherapies that could be useful in combating shame include compassion focused therapy (CFT), which directly targets shame (Gilbert, 2009; Judge et al., 2012; Leaviss & Uttley, 2015) and has been used to treat eating disorders (Goss & Allan, 2014; Steindl et al., 2017). Relational therapies, for example cognitive analytic therapy (CAT), could be considered given the relational nature of shame, and the need for exits from shame (DeYoung, 2015, Jameson, 2014; Ryle & Kerr, 2020). It has been suggested that CFT and relational approaches could also be beneficial for those who self-injure (Taylor et al., 2020; Van Vliet &

Kalnins, 2011), however research evaluating such approaches for NSSI is limited. Furthermore, systemic interventions around NSSI and eating disorders could be beneficial, as actual or anticipated responses from others (including mental health professionals) that were lacking in compassion and understanding could further exacerbate or maintain shame, and participants often reported feeling alone with their shame and unable to articulate this to others.

The results of the current study indicate that shame occurs within a social or relational context, at intrapersonal, intrapersonal and broader, societal levels. Participants often reported feeling more intense shame in response to others' negative reactions to NSSI, rather than the act itself. Future studies could repeat this methodology with more diverse, larger populations, and mental health services may wish to consider explicitly targeting or reflecting on shame within therapy.

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Paper Three: Critical Appraisal

Word Count: Complete text (6842), main text excluding references (5968)

This paper is a reflective piece and not intended for publication.

Introduction

This paper presents a critical appraisal of the research conducted as part of the current thesis. This appraisal will include a critical review of the planning, implementation and analysis of the systematic review and empirical studies. The strengths and limitations of these projects will be discussed. The paper will close with reflections on the overall research process.

Paper 1: Systematic Review

Topic Selection

The topic for Paper 2 was agreed first. Therefore, it was decided that Paper 1 would also focus on nonsuicidal self-injury (NSSI) for theoretical alignment. Initially, in 2017, it was agreed that the review would focus more broadly on Experience Sampling Methodology (ESM) and nonsuicidal self-injurious thoughts (NSSIT) and behaviours, however the review could not be started when planned due to long-term sickness absence of the researcher. When the researcher returned to work, a similar review had been published by Rodríguez-Blanco et al. (2018). Therefore, it was agreed to change the focus of the review to ESM studies with an analysis of the relationship between NSSI and momentary emotional states. The rationale for this was that this review could identify newly published papers, had different selection criteria, and focused solely on NSSIT/NSSI and emotional states rather than the broader focus of Rodríguez-Blanco et al. (2018).

It was initially agreed that the topic should also include suicidal thoughts and behaviours. However, many studies retrieved focused solely or mainly on NSSI, giving an adequate number of these papers for a systematic review. Furthermore,

some studies including both sometimes used aggregate variables, so it was not always possible to parse out more definite conclusions. In addition, the topic for Paper 2 was NSSI, not suicidal behaviour.

It was decided to include both NSSI and NSSIT as the research team felt this would give a more holistic view of the phenomena. Furthermore, the researcher had seen suggestions in the literature that studies on NSSIT were not as prevalent as NSSI (Martin et al., 2011), and felt it would be useful to confirm or refute this to inform future research. NSSIT (cognitions about NSSI) and urges (reflecting desire/impulse/affective aspects) were combined for the purposes of Paper 1, as the two were often grouped together in the literature. However, future research could separate the two and examine whether overall conclusions change.

It was decided that a meta-analysis would not be appropriate, as although sufficient papers were available, the methods used and outcomes/effect sizes reported were felt to be too heterogenous. For example, studies varied in outcome, methodology, and type of affect studied. ESM data is often complex and involves many parameters, therefore a meta-analysis (typically examining bivariate associations) could have been difficult.

Search Terms

Search terms were developed through a number of steps. First, the researcher and supervisor generated potential search terms based on their knowledge of the topics. Second, synonyms were generated for these terms. Next, search terms used in previous reviews were examined. Suggested search terms generated by the included databases were also searched. Finally, potential different spellings or forms of the terms were considered (e.g. suicid* could cover suicidal, suicidality and suicide).

Discussions within the wider research team were ongoing throughout the process. Though databases were checked for suggested search terms, the researcher did not select MeSH terms when conducting the initial searches, as they did not generate novel search terms.

Inclusion and Exclusion Criteria

It was decided to only include studies with more than one ESM prompt per day, in line with the definition of ESM used for the project (Palmier-Claus et al., 2019). Quite a few papers were retrieved during screening and reported using ESM, for it to then transpire that only one ESM prompt was scheduled per day. It could be argued that only one scheduled prompt per day potentially would miss a large amount of "in-the-moment" data (Palmier-Claus et al., 2019), however compliance rates for some studies using more than one ESM prompt per day are low (e.g. 38% in Armey et al., 2011), suggesting that sometimes participants may not complete more than one prompt per day regardless. It is possible that by excluding such papers, further important results may not have been integrated into the review's conclusions.

Further studies were excluded if they aggregated NSSIT/NSSI with suicidal ideation or behaviours, or if this was unclear, for example referring to "urges to hurt [oneself]." The research team assessed available questions used during the ESM assessments for these papers to try and ascertain whether they were asking solely about NSSI. This was often unclear, and these papers were excluded. Therefore, this could mean that the review was missing information.

Some studies stated that they measured NSSI, negative and/or positive affect and/or specific emotional states but would then either not report these outcomes, or report them as an aggregate variable (e.g. "risky/maladaptive behaviour"). Authors

were contacted for further information, however the researcher either did not receive a response or this information was unavailable, therefore these articles were excluded and important information could have been lost. Some articles identified as part of the search process could not be accessed by the researcher. Finally, authors of included full-text articles were contacted to request any relevant published or unpublished data. Some authors did respond, however none were able to provide relevant unpublished data at its current stage of analysis.

Quality Analysis

An assessment tool adapted from the Agency for Healthcare Research and Quality (AHRQ; Williams et al., 2010) was chosen by the research team as it was felt that it was appropriate for the study: the tool 1) could be adapted to fit the purposes of the review; 2) had been used previously in other reviews on NSSI (e.g. Taylor et al., 2018); and 3) could be used for observational studies. Other tools could have been considered for use, such as the Risk of Bias in Non-randomized Studies of Exposures (ROBINS-E; Morgan et al., 2019). The ROBINS-E contains many similar assessment domains to the tool used for the current review, however this tool remains under development and further research is required regarding its use. It was originally agreed that two reviewers independent of the research team, plus the primary researcher, would partake in quality analysis in parallel, with the primary researcher assessing 100% of full-text articles for risk of bias and the independent reviewers assessing 50% each. However, the researcher and first independent reviewer (TDB) both assessed 100% of full-text articles for risk of bias in parallel. Therefore, it was decided that the inclusion of an additional independent reviewer would not be necessary.

Future Directions

The results of the review suggested that negative affect generally increased prior to and decreased following NSSI. There was a lack of available papers around associations between positive affect and specific emotional states, which could have important clinical implications. Furthermore, many studies were heterogeneous in design, methodology and measures used (these were often non-validated). Some studies had a small starting sample size ($n < 100$). Even those with larger sample sizes could sometimes only conduct analyses on a small sub-set of the sample, for example if few participants reported engaging in NSSIT/NSSI during the study. Therefore, future studies should recruit larger sample sizes, use or develop validated ESM measures of NSSIT/NSSI and emotional states and be more consistent in design and implementation. Paper 2 was largely conducted before completion of Paper 1, the researcher reflected that the methodology used in Paper 2 sometimes did not meet the Risk of Bias criteria used, and shared some of the same methodological issues highlighted, in Paper 1.

Paper 2: Empirical Paper

Rationale for Topics of Shame and NSSI

At The University of Manchester, Trainees choose from a range of projects presented by supervisors. The projects are usually presented with a topic already chosen, however the Trainees are expected to develop these ideas and make the projects "their own." The researcher chose to join the project focusing on shame as they found this to be an interesting, pertinent topic that they had encountered both in clinical and personal settings, however they reflected that it was not often talked

about explicitly. During the research team's initial meeting, it was agreed that the current thesis would include a study of shame, however the population examined had not yet been decided. Initially, the researcher considered conducting the empirical study with individuals with eating disorders (ED), as research suggests that those with ED can experience elevated levels of shame (Blythin et al., 2020). Furthermore, the researcher was on placement with an ED service at the time, and the service had indicated they would be happy to participate in research. However, following further discussion within the research team, it was agreed that NSSI would be the focus of the shame study, as research also suggests that individuals who self-injure experience elevated levels of shame (Sheehy et al., 2019). In addition, NSSI was one supervisor's expert topic, therefore it was felt that they could provide superior supervision around this topic.

Rationale for Methodology

It was decided to use a mixed-methods approach, specifically a combination of validated questionnaires, ESM and qualitative interviews, as it was felt that the combination of methodologies could generate more meaningful data than any method alone (Pluye & Nha Hong, 2014). The methodology used (QUEST) was novel, therefore a large number of discussions took place during the early stages of research supervision to generate and reflect on potential ideas for how this could work best. The research team reflected that this process felt different to initial conversations around projects involving solely quantitative or "pre-packaged" qualitative methodologies, for example IPA or grounded theory. The same epistemological standpoint (critical realism) was applied throughout the quantitative and qualitative aspects of the project, in line with recommendations by Harper

(2011). It was agreed that a maximum of 10 people would be recruited, as it was expected that the methodology would generate a large amount of data for each participant, and that a smaller sample was needed to allow more in-depth analysis of such data within the scope and time constraints of a doctoral project. Recruitment was closed once it was felt that data saturation had been achieved. Data saturation refers to the point at which no new themes or "codes" emerge from the data being analysed (Braun & Clark, 2019a). Some researchers have tried to provide operationalisation and guidance for data saturation (i.e. making judgements around "how many" data items are needed), however it has been argued that this is inconsistent with the values and assumptions of reflexive thematic analysis (TA; Braun & Clark, 2019a). Therefore, the researcher ceased defining further themes when they felt this was not adding anything substantial (or "extra") to the analysis, in line with Braun & Clark (2006).

Inclusion and Exclusion Criteria

It was decided that individuals aged 16-24 years would be recruited for this study as research suggests they are the age group most likely to engage in NSSI (McManus et al., 2016). It was also thought that this population were likely to own smartphones (Ofcom, 2015), another inclusion criteria for participation. However, the researcher did receive some requests to participate from individuals older than 24 years old. The inclusion criteria of owning a smartphone and/or needing to access the internet from the phone could have been a barrier to participation, as those belonging to a lower socioeconomic status may be less likely to own a smartphone or have an adequate data plan, in addition to being less likely to have internet/wi-fi access at home (Ofcom, 2018). Furthermore, though the included age group were

most likely to own a smartphone, some individuals under the age of 18 may not have access to a data plan due to parental wishes. One participant could only answer the ESM prompts when they had access to wi-fi. Finally, the researcher could only recruit individuals with a good understanding of English, as the budget allocated for the project would not be likely to cover costs for hiring interpreters. These inclusion criteria may have contributed to a lack of diversity in the sample and experiences captured.

Patient and Public Involvement (PPI)

One relative strength of the empirical study was the level of Patient and Public Involvement (PPI) sought and incorporated into the study design. National guidance highlights the importance of PPI, especially during the early stages of research design (Centre for Research in Public Health and Community Care [CRIPACC], 2018; National Institute for Health Research [NIHR], 2014). During the project's development, the researcher sought advice from the Community Liaison Group (CLG) at The University of Manchester. The researcher valued their feedback, and this was discussed during research meetings and incorporated into the study design. Furthermore, Cameron Latham, an Expert-by-Experience and Mental Health Consultant, gave numerous consultations to the research team, made substantial contributions to the project's development, and will be included as a co-author for publication. He was especially involved in developing the risk protocol document and shared invaluable advice and reflections around risk and boundaries for the project, and how to discuss these collaboratively with participants.

Risk

The potential for risk to participants was considered carefully during discussions with the research team, Cameron, the CLG, participating services and the Greater Manchester West REC panel during the project's development. Certain risk-related documents used for the study were standardised, for example The University of Manchester's lone working policy. Although the researcher did not meet participants at home as they preferred to meet in a public place (i.e. The University of Manchester or their community mental health service), this policy was still followed during one-to-one meetings. The study risk assessment and telephone screen were adapted from University of Manchester policies and documents used in previous doctoral studies.

Cameron and the research team spent a significant amount of time developing a bespoke risk protocol, which was also incorporated into the telephone screen and has been since used in several other University of Manchester trainee projects. The research team and Cameron strongly felt that the protocol should stress collaboration around discussions about risk, rather than "doing to" as much as possible, though obviously it was essential to make clear when confidentiality would need to be breached. The researcher and Cameron discussed the concept that there needed to be some level of trust between researcher and participant whereby the researcher should be expected to only break confidentiality if absolutely necessary, and the participant should follow their safety plan (if available) and share with the researcher if they were struggling so that this could be discussed and the study halted if necessary.

The researcher reflected that two participants did share with them that they did not complete ESM entries on days where it could have distressed them, as

emphasised during the initial meeting, they engaged in self-care where necessary during the study. One participant ceased diary entries a few days early as they started to experience active suicidal intent and take steps towards a suicide attempt- it should be noted that they sought immediate support for this from their mental health team. During a collaborative discussion, the participant shared that although they felt that completing the diaries was not the reason for developing suicidal intent, they felt they should focus on improving their mood and end the ESM entries early. The researcher provided reassurance that they had made the right decision, and that they would still receive their £30 voucher regardless of whether they completed the interview, however the participant still wanted to attend, which they did.

After downloading another participant's completed ESM entries, it became apparent that they were experiencing regular suicidal thoughts and therefore the researcher contacted them to check in. The participant stated that they had no active suicidal intent, and that these thoughts were a long-standing occurrence and were not exacerbated by the study. However, they had not disclosed these thoughts to anyone else, and initially did not want this shared with their mental health team. The researcher and participant engaged in a collaborative discussion around this, and the participant then agreed it was important that their mental health team be made aware of these thoughts, and that the researcher could inform them. The situation was resolved to the satisfaction and safety of all parties, and the participant attended their qualitative interview. The researcher received supervisory input around risk issues from a qualified Clinical Psychologist (PJT), and kept a record of relevant conversations and communications.

Cameron emphasised the importance of boundaries for this project, for the safety of the participants and the researcher. As a result of these discussions, it was

agreed that it would be made clear to participants that the study-related email address could not be used for crisis support (participants were provided with contact details for crisis support; Appendix U), as crisis support was not the role of the researcher for this study (this was one reason why a named clinician was required to participate). Also, diaries could not be monitored 24/7, which could pose a safety threat to participants should they email requesting crisis support and the research team not see this email until much later. It was also agreed that the researcher would not look at ESM entries until the end of the 14 days, and this was communicated to the participants. One reason for this decision was that this could pose a safety risk to the participants if they were to use these entries to communicate their intent to engage in life-threatening self-harm or suicide and request support, if they thought the entries were being monitored. On the other hand, it was also felt that if participants knew diaries were being monitored day-to-day that they may not feel able to express themselves fully for fear that the researcher would "overreact" and potentially break confidentiality even if this was not warranted. Both of these reasons were discussed with participants during the screening call and initial meeting, and participants often stated during these calls that they agreed with these decisions. Various participants also reflected that they would sometimes experience suicidal thoughts without having active intent, and that expressing these thoughts sometimes helped to reduce their distress. Therefore, they were reassured that they could express these thoughts freely in the diaries without worrying that the researcher would take unnecessary action (e.g. calling an ambulance).

Recruitment

Although various community mental health services agreed to act as recruitment sites, and were supportive of the study even though they had many competing demands, participants were mainly recruited through self-referrals via University of Manchester e-bulletins, study posters, and recommendation from another associated study, which could have increased the risk of sampling/selection bias (Marks, 2004; Riffenburgh, 2012). Potential reasons for this include difficulties recruiting to the project given its demands on participants, and the difficult topic of the project. Furthermore, community mental health services are often under considerable strain and recruiting for many research projects at once. Therefore, some sites felt more able to display posters in their waiting rooms rather than discussing the Participant Information Sheet (PIS) and completing the Consent-to-Contact forms with participants during sessions. Some clinicians reported they only asked participants who they thought would want to take part, rather than anyone who was eligible, however this may have increased the risk of selection bias.

In addition, some clinicians raised concerns around risk due to the nature of the topic. Some clinicians worried that participants could experience worsening mood or suicidal thoughts while focusing on shame so often, with one clinician stating: "[individuals who engage in NSSI] already feel shame a lot of the time, they do not need to be told to focus more on this" and feeling they may not have the coping strategies to do so safely. However, a review by Alexander et al. (2018) reported that though there is the potential for distress to occur, there is little evidence of harm to participants who take part in research focusing on sensitive topics. Lloyd-Richardson et al. (2015) also state that NSSI-related research does not seem to elevate risk of increased NSSI/NSSIT, and that this mirrors findings for suicide

research. Both papers state that taking part in research on these topics can be beneficial for participants. The researcher engaged in collaborative, reflective discussions with relevant clinicians to address any concerns, however a small number of clinicians remained reluctant for their services to participate. Alexander et al. (2018) argue that although "gatekeeping" of vulnerable populations can be well-meaning, it can result in denying these populations the benefits of participating in research relevant to their needs. On reflection, the researcher would try to build relationships with mental health clinicians at an earlier stage in the project, and provide further on-site support and contact around the project.

Measures

It was decided that baseline measures would be collected as the research team felt it would be useful to determine whether the results equated with ESM and interview data, or if there were discrepancies. The results were generally consistent, however there were some differences (e.g. one participant who said they always carried guilt with them scored within the "average" range for guilt self-talk on the TOSCA-3S; Tangney et al., 2000). Though the TOSCA-3S is widely used, some concerns have been raised about its validity, reliability and utility in some clinical samples (Broerman, 2018). Though this measure was only a small part of the study, it is a potential limitation.

Measures were undertaken during a face-to-face session rather than via post as research suggests that posting measures is likely to reduce item response rates and increase missing data (Marks, 2004). It was also felt participants would benefit from an in-person practice session for the ESM entries. Interviews were conducted in person rather than via telephone (except for one) as previous research indicates that

telephone interviews can make greater cognitive demands than face-to-face interviews (Bowling, 2005). However, it could be argued that shame could be easier for some individuals to discuss over the telephone, as some research has suggested participants sometimes find it less threatening or awkward to discuss uncomfortable or sensitive topics via telephone rather than face-to-face (for an overview, see Oltmann, 2016).

The ESM diaries were developed through discussions within the wider research team. The finalised, included items were based on the framework seen in Figure 2 and the study aims. The most appropriate formats for answers were considered, for example free text boxes, Likert scales, or yes/no answers. These specific items have not been validated within the wider literature, however Varese et al.'s (2019) recommendations for developing ESM items were considered. Paper 1 demonstrated that many ESM measures used in the literature are non-validated.

The methodology involved personalising each qualitative interview to each individual's specific ESM data, which is a novel approach. Interviews were developed with a focus on two specific instances described in the participants' diaries, either two instances of shame, or if shame was not labelled, then the two most emotionally intense experiences or entries with multiple ESM items completed. It was also decided to give participants the choice of whether they wanted to discuss these instances or other ones depending on how comfortable they felt or how well they remembered these instances, and also to give them the choice of talking about shame more generally or anything else they felt was relevant, giving further options for personalising the interviews. NSSI was sometimes discussed as part of a shame instance if behaviours or thoughts/urges were present, or discussed more generally if it was not reported, with a focus on each individual's experiences of NSSI.

The researcher felt that this approach worked well in practice, generating rich, detailed information around the participants' experiences. Participants also reflected that it was useful to have the diary as a focal point or memory aid, and that it also reminded them of further instances of shame and/or NSSI thoughts, urges and/or behaviours that they then discussed. Participants also reflected that it was useful to have the option of talking about instances other than the ones picked by the researcher, and sometimes did so (for example, if they had difficulty remembering exact specifics if they hadn't gone into detail during the entry, or if they personally felt that another instance of shame was stronger).

One challenge of this approach was that if participants chose another scenario or spoke about shame more generally, the researcher then needed to adapt or generate questions on-the-spot, and some of the in-the-moment specifics potentially became less of a focus.

The data from these interviews were then combined with the information gathered from the ESM entries for TA, this made it more likely that qualitative information given in these entries outside of the two instances used for the interview would not be lost, and indeed this data did enrich the themes.

Thematic Analysis

The overarching aim of the study was to gain an understanding of the psychological processes that are associated with the emergence, processing, and maintenance of shame across individuals who self-injure, and the research team felt that reflexive TA (Braun & Clark, 2006) was the most appropriate methodology for this goal. The research team reflected that TA would provide a systematic but flexible approach, which could be important given the novel design of the project,

whereas methodologies such as grounded theory or IPA may be more prescriptive (Braun & Clark, 2019b). Furthermore, the research team felt that TA would be a more appropriate method for generating broader, overarching themes and inferences, rather than an approach like IPA that focuses more deeply on one person's experience (Braun & Clark, 2019b). In addition, it has been suggested that TA is a "method" that can include different frameworks and epistemological viewpoints, whereas IPA and grounded theory are "methodologies" that require strict adherence to the procedure, theories and assumptions of these models (Braun & Clark, 2019b). Inductive coding was used as this approach generates a rich description of the data overall, and the team felt this was more reflective of the overarching aim of the study than theory-driven coding, which gives a more detailed analysis of some aspect of the data (Braun & Clark, 2006).

The research team decided to take a critical realist epistemological standpoint when analysing and interpreting the ESM and interview data. Critical realism is the view that psychological phenomena do have some external basis in reality outside of any one individual's interpretation, but that these phenomena are fuzzy and bounded by culture and context that also requires consideration (Kempster & Parry, 2011). This approach was chosen because it was more in line with the goals of the study compared with other epistemologies (i.e. to investigate a putative psychological process that is common across individuals). Though some have suggested using critical realism could allow researchers to "sit on the fence" with regards to taking an epistemological standpoint (Taylor et al., 2018), it could also be argued that by acknowledging both the person-level experiences of individuals and factors that might impact their experiences at a broader level, interpretations that take into account more complex and holistic factors can be made.

Future Directions and Considerations

Although participants were recruited from a diverse city in terms of LGBTQ+ and ethnic minority populations (Elahi, 2017; Government Equalities Office, 2018), the recruited sample did not necessarily reflect this, and therefore it is possible that the current study was not able to capture important shame experiences in certain populations. Furthermore, the sample was primarily young females, and the absence of males or other self-identified genders in the sample may also reduce the generalisability of these results. For a recent paper discussing the need for more diverse and representative sampling in Psychology, see Nielsen et al. (2017). Furthermore, the study only focused on those who self-injure, however research suggests that shame occurs across a number of psychopathologies (Cândea & Szentágotai-Tătar, 2013) and indeed participants sometimes discussed difficulties other than NSSI. The lack of diversity in the sample and population is somewhat in contrast with the standpoint of critical realism, which posits that culture and context should be taken into account when interpreting phenomena (Kempster & Parry, 2011). Future studies could repeat this methodology but across more diverse populations to gauge whether themes are similar, different or whether additional themes emerge.

During the interviews, there were several instances of participants laughing, avoiding eye contact, or changing their body posture (i.e. head down, shoulders hunched) when talking about shame. The researcher hypothesised that this could be a protective mechanism, both for the participants and the researcher (Gilbert, 2007). It could be speculated that participants felt that laughter might prevent the conversation from becoming "awkward" or "contaminated," in line with the "danger" theme. They could have also wanted to protect the researcher from their shame, in line with

the aforementioned theme, or protect themselves from the researcher's perceptions of them if they felt overexposed. However, this is speculative. Future studies should consider systematically measuring shame "in-the-room", including verbal and physical expressions of shame, to include as part of qualitative analysis.

The researcher feels that there is more to be understood about the interpersonal nature and manifestations of shame, and also how this manifests during qualitative interviews or psychotherapy (though Dearing & Tangney (2011) have written on this topic). The researcher has reflected on how this could be captured in future projects, and still feels that qualitative methods would be appropriate to uncover more of this two-person dynamic. However, the qualitative approach or framework applied could be varied, for example using a psychoanalytic approach such as latent analysis to "read between the lines" of what is said if shame is difficult to talk about directly (Holloway & Jefferson, 2012). The researcher did prime and prepare participants that they would likely be discussing their experiences of shame during the interview and would receive prompts from the researcher, however future researchers could potentially spend further time preparing participants for this and give further detail about what this might involve.

Future studies could use QUEST methodology but with varied diary formats, structures and questions. For the current study, it was decided that 14 days would be a preferable duration for the ESM portion of the study, as it could ease the pressure on participants to answer every prompt if they knew the study was only for a short period of time. However, there were a small number of instances where participants felt more confident discussing the more recent shame/NSSI instance as compared to instances that occurred at the beginning of the ESM portion. This was also impacted by there being a few days to a week between completing the ESM and the interview

taking place so the researcher had time to generate the interviews, meaning there was sometimes up to three weeks between their first reported instance of shame and their interview. Future researchers could reduce this time period by reducing the ESM portion of the study. Researchers could also use different qualitative methodologies to gain further information at the theory or participant level.

Overall Reflections on the Research Process

This project was the researcher's first experience of conducting a systematic review. The researcher found the systematic review challenging, partly due to the difficulty of the task but also due to their perception of their lack of competence and experience around this task. For example, the researcher would sometimes be hesitant to exclude studies in case they had misunderstood something in the paper, or missed something. The researcher reflected on this with their supervisor, and gained confidence over time through supervision and practice.

This project was also the researcher's first experience of conducting qualitative interviews and TA. The researcher looked forward to this experience, and hearing in-depth accounts from participants around their experiences; they found this experience to be a positive and thought-provoking one. However, the researcher also had difficulties with this process. During the interviews, the researcher wanted to provide reassurance to the participants when they were self-deprecating, for example around feeling they had not given enough detail or had given "wrong" statements, and found it hard not to do so. Furthermore, the researcher found they sometimes avoided talking about shame that was happening "in-the-moment" during the interviews. The researcher reflected on this in supervision, and considered that they

found this difficult because they found shame to be a tricky topic to discuss and did not want to further trigger or exacerbate participants' shame. However, avoiding these discussions meant that important information regarding in-the-moment shame could have been lost. Dearing and Tangney (2011) provide further insights into discussions of shame. Additionally, the researcher reflected that they found conducting the one telephone interview very difficult, as they felt that some of the reassurance they tried to provide during face-to-face interviews where appropriate (e.g. facial expressions, gestures, eye contact) could not be given, and therefore the participant may not have felt as comfortable during the interview.

After the qualitative interviews, the researcher reflected that they felt uncomfortable having these very personal conversations with participants who had spoken openly and bravely about difficult experiences, and then not providing an ongoing therapeutic relationship or further support to the participants.

During the early stages of TA, the researcher was initially too "concrete" and restricted in their inductive coding, trying to find overarching themes for the codes. The researcher sought supervision, and following this was able to code at a more abstract level, which deepened the analysis. The researcher felt overwhelmed when starting axial coding given the sheer number of open codes generated, and started to group themes based on more concrete categories (e.g. triggers, processes and coping), however in doing so lost overarching themes that cut across all these categories. Therefore, the researcher tried to generate themes that were present across multiple topics or subjects, and this broadened and enriched the themes. The researcher found TA difficult because they wanted to include everything that was said by participants, in order to "do justice" to the powerful reflections offered by

participants. The researcher reflected on this in supervision, and accepted that unfortunately one cannot include everything.

Conducting this research around NSSI and shame gave the researcher space to reflect on how these findings could apply to their own clinical practice, both past and future, and how this experience could help the researcher to become a better clinician. Additionally, the researcher did find conducting the project interesting and enjoyable, despite its demands, and has therefore made a commitment to continue to develop, implement and disseminate research following qualification.

There were two major situations that had significant impacts on the current thesis. One was the emergence of the COVID-19 pandemic, which impacted data collection and method of interviews, and caused significant time delays with regards to audio files being securely shared for transcription and analysis. There was also a delay in the researcher gaining access to baseline questionnaires for scoring and interpretation. The researcher also found it difficult to be as productive as possible at times due to wider anxiety around the COVID-19 pandemic and its impact (e.g. the researcher belonged to the "vulnerable" group, their specialist medical appointments were postponed, their own mental health and that of loved ones being affected by the circumstances, etc.). The second situation that significantly impacted on the project was the researcher developing and being diagnosed with multiple physical health difficulties at different times, eventually being absent for a total of eight months spanned across 2018-2019, needing to attend a large number of medical appointments during allocated research time, and needing to engage in constant management of these health conditions, which meant that the project was delayed at different points and a number of extensions were granted. The researcher used supervision to reflect on the impact of these obstacles to the project.

Dissemination

The researcher plans to submit Paper 1 to The Journal of Affective Disorders. Paper 2 will be submitted to The Journal of Abnormal Psychology. Participants consented to receive a copy of the results of Paper 2 to their email addresses, and involved services will also receive a copy.

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Appendix A: Author Guidelines for The Journal of Affective Disorders

JOURNAL OF AFFECTIVE DISORDERS
Official Journal of the International Society for Affective Disorders
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AUTHOR INFORMATION PACK

TABLE OF CONTENTS

- Description p.1
- Audience p.1
- Impact Factor p.1
- Abstracting and Indexing p.1
- Editorial Board p.2
- Guide for Authors p.4

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The Journal of Affective Disorders publishes papers concerned with affective disorders in the widest sense: depression, mania, mood spectrum, emotions and personality, anxiety and stress. It is interdisciplinary and aims to bring together different approaches for a diverse readership. Top quality papers will be accepted dealing with any aspect of affective disorders, including neuroimaging, cognitive neurosciences, genetics, molecular biology, experimental and clinical neurosciences, pharmacology, neuroimmunoendocrinology, intervention and treatment trials.

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eg, We thank Mr A, who kindly provided the data necessary for our analysis, and Miss B, who assisted with the preparation and proof-reading of the manuscript.

The submitting author is also required to make a brief statement concerning each named author's contributions to the paper under the heading Contributors. This statement is for editorial purposes only and will not be published with the article.

eg, Author X designed the study and wrote the protocol. Author Y managed the literature searches and analyses. Authors X and Z undertook the statistical analysis, and author W wrote the first draft of the manuscript. All authors contributed to and have approved the final manuscript.

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Appendix B: Risk of Bias Tool

Risk of Bias of observational studies
General instructions: Grade each criterion as "Yes," "No," "Partially," or "Can't tell." Factors to consider when making an assessment are listed under each criterion. Note that some criteria will only apply to specify types of study. For example, power calculations are relevant for studies aiming to compare suicide risk between two groups, or studies that look at correlates of study outcomes. Where a criterion only applies to a specific design, it is in italics. The examples given for studies meeting, or not meeting, criterion may not apply in every instance. The review team should carefully consider any adaptations needed to this tool and ensure these are implemented prior to starting the Risk of Bias assessment.

Criteria	Yes - criteria met	No - criteria not met
Unbiased selection of the cohort? To consider: is the sample representative of the population of interest? What is the risk of self-selection bias?	• True random sample or method that approximates this (e.g. stratified cluster sampling). • All potentially eligible consecutive referrals at a service or clinic are invited to take part in the study • All patients at a service or students within a University are invited - In this case potential participants still have the option to say no and not participate, and so self-selection bias is introduced, but the means of identifying and approaching potential participants does not impose further risk of self-selection.	• Method of sampling liable to introduce substantive self-selection bias • Snowball sampling • Advertising placed in selected locations (e.g. waiting rooms, around University campus) • Advertising via social media CONSIDER PARTIAL RATING IF: Recruitment methods above are used, where self-selection bias likely, but a wider range of recruitment sites or sources are used (e.g. social media and clinical services and community groups) so that the impact of self-selection might be limited.
Sample size calculated?	• Sample size is justified with power calculation, simulation or other appropriate method • Eventual sample size does not deviate by $\geq$ 10% from the sample size suggested	• No justification of sample size is given CONSIDER PARTIAL RATING IF: Any justification of sample size provided, but not a power calculation
Adequate description of the cohort?	• Age and gender are reported • Ethnicity reported (may be	• Sample age and gender not reported

	partial rating if this is missing) • Other information concerning participants' demographic background such as education, employment or socio-economic status is given (may be partial rating if this is missing).	
Validated method for ascertaining clinical status or participant group Note: this also includes samples with a common, clinically relevant, status, such as survivors of sexual abuse To consider: What is the risk of individuals being incorrectly identified (false positives and negatives)	• Validated instrument used to determine relevant clinical status • Valid method of ascertaining diagnosis or clinical 'caseness' (e.g., clinical interview)	• This will depend on researchers' discretion over what constitutes a valid method of ascertaining this information, but non-valid methods may include: • Self-report (or self-report when not obtained through a validated assessment tool) • Chart diagnoses or reliance on medical notes not otherwise confirmed by researchers
Validated methods for assessing emotion during ESM	• Measures used have been previously validated in other research with evidence of acceptable reliability and validity CONSIDER PARTIAL RATING IF: The measure has previously been validated but in the current study sample has poorer psychometric properties such as an internal reliability below .6	• Tool or measure developed specifically for the study • No psychometric evaluation undertaken, or very minimal evaluation (e.g. internal consistency only) CONSIDER PARTIAL RATING IF: The measure has not previously been validated but in the current study sample good evidence of psychometric properties is shown, such as good reliability or results of factor analysis.
Validated methods for assessing NSSI/NSSIT during ESM	• Measures used that has been previously validated in other research with evidence of acceptable reliability and validity	• Tool or measure developed specifically for the study • No psychometric evaluation undertaken, or very minimal

	• Other valid process for determining outcome may include clinical diagnosis or coroner reports (e.g. if outcome is suicide) CONSIDER PARTIAL RATING IF: The measure has previously been validated but in the current study sample has poorer psychometric properties such as an internal reliability below .6	evaluation (e.g. internal consistency only) • CONSIDER PARTIAL RATING IF: The measure has not previously been validated but in the current study sample good evidence of psychometric properties is shown, such as good reliability or results of factor analysis.
Missing data is minimal	• Missing ESM data does not exceed 30%	• Missing ESM data exceeds 40% and is not suitably managed. CONSIDER PARTIAL RATING IF: The missing ESM data is between 30-40%
Analysis controls for confounding variables	• A set of key confounds should be identified a priori (it is not realistic for study to control for all potential confounders, but aim is to identify probable confounders where there is evidence these could bias findings if not adjusted for • At least one of these confounders is accounted for.	• None of the pre-established confounders are adjusted for within analyses.
Analytic methods appropriate	• Analysis was appropriate given the type of data (categorical, continuous, etc.), and type of association being tested. • Analysis takes into account issues such as clustering, rare outcomes, multiple comparisons, etc.	• Analysis was not suitable given the type of data or type of associations being tested CONSIDER PARTIAL RATING IF: • Appropriate analytic method used but analysis controls for prior instances of the outcome as a covariate
Time-stamped response	• ESM responses are time-stamped by electronic system	• ESM responses are not time stamped by electronic system

Pseudo-random prompts	• ESM prompts are issued at pseudorandom times	• ESM prompts are not issued at pseudorandom times
Included timepoints completed within 15 minutes	• ESM entries included for analysis are completed within 15 minutes of prompt	• ESM entries occurring after 15 minutes of the prompt included in analysis

Appendix C: Author Guidelines for The Journal of Abnormal Psychology

Prior to submission, please carefully read and follow the submission guidelines detailed below. Manuscripts that do not conform to the submission guidelines may be returned without review.

Submission

To submit to the Editorial Office of Angus MacDonald, III, please submit manuscripts electronically through the Manuscript Submission Portal in Microsoft Word or Open Office format.

Starting June 15, 2020, all new manuscripts submitted should be prepared according to the 7th edition of the Publication Manual of the American Psychological Association. APA Style and Grammar Guidelines for the 7th edition are available.

SUBMIT MANUSCRIPT

Angus MacDonald, III, PhD

Editor, Journal of Abnormal Psychology

Department of Psychology

University of Minnesota

75 E River Rd

Minneapolis, MN 55455

General correspondence may be directed to the Editor's Office.

Journal of Abnormal Psychology is now using a software system to screen submitted content for similarity with other published content. The system compares the initial version of each submitted manuscript against a database of 40+ million scholarly documents, as well as content appearing on the open web. This allows APA to check submissions for potential overlap

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Masked Reviews

Masked reviews are optional and must be specifically requested in the cover letter accompanying the submission. For masked reviews, the manuscript must include a separate title page with the authors' names and affiliations, and these ought not to appear anywhere else in the manuscript.

Footnotes that identify the authors must be typed on a separate page.

Make every effort to see that the manuscript itself contains no clues to authors' identities.

Types of Articles

Brief Report

The manuscript should not exceed 5,000 words when including the abstract, body of the text, tables, table captions, figure captions, footnotes, author notes, appendices, and references in a word count.

Note that supplementary materials and figures are not included in the word count.

Brief reports can have a maximum of two figures (there is no table limit).

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Extended Article

Extended articles are published within regular issues of the journal (they are not free-standing). This article type is reserved for manuscripts that require

extended exposition beyond the length of a regular article (e.g., reporting results of multiple experiments, multifaceted longitudinal studies, cross-disciplinary investigations, or studies that are extraordinarily complex in terms of methodology or analysis).

Extended article submissions are expected to be precleared by contacting the editorial office to determine the appropriateness for this format. When seeking preclearance, please provide a description of your manuscript and its significance.

Other submissions that exceed 9,000 words will be returned for shortening.

Commentary

Commentaries on articles previously published in Journal of Abnormal Psychology are also considered for publication. Commentaries should contain original data relevant to the topic at hand. They are subject to the same process of peer review and the same editorial criteria and standards as any other manuscript. If a commentary is deemed acceptable for publication, authors of the original submission are given the opportunity to reply to the commentary. Commentaries may be no more than half the length of the original article, and replies may be no more than half the length of the commentary. A commentary and reply will be published together. Except under rare circumstances, there will be only one round of comment and reply.

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All cover letters must contain the following:

- a statement that the material is original — if findings from the dataset have been previously published or are in other submitted articles, please include the following information:

a. Is the present study a new analysis of previously analyzed data? If yes, please describe differences in analytic approach.

b. Are some of the data used in the present study being analyzed for the first time? If yes, please identify data (constructs) that were not included in previously published or submitted manuscripts.

c. Are there published or submitted papers from this data set that address related questions? If yes, please provide the citations, and describe the degree of overlap and the unique contributions of your submitted manuscript.

- if the manuscript has been pre-posted online prior to peer review, this fact should be stated in the acknowledgements and the URL for the posting should be included in the acknowledgements as well.
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- the complete telephone and fax numbers of the same;
- the proposed category under which the manuscript was submitted;
- a statement that the authors complied with APA ethical standards in the treatment of their participants and that the work was approved by the relevant Institutional Review Board(s);
- whether or not the manuscript has been or is posted on a web site;
- that APA style (Publication Manual, 6th or 7th edition) has been followed;
- the disclosure of any conflicts of interest with regard to the submitted work;
- a request for masked review, if desired, along with a statement ensuring that the manuscript was prepared in accordance with the guidelines above.

Authors should also specify the overall word length of the manuscript (including all aspects of the manuscript, except figures) and indicate the number of tables, figures, and supplemental materials that are included.

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Update. Your equation has now been inserted into your Word file as a MathType Equation.

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In the Text of the Article

If you would like to include code in the text of your published manuscript, please submit a separate file with your code exactly as you want it to appear, using Courier New font with a type size of 8 points. We will make an image of each segment of code in your article that exceeds 40 characters in length. (Shorter snippets of code that appear in text will be typeset in Courier New and run in with the rest of the text.) If an appendix contains a mix of code and explanatory text, please submit a file that contains the entire appendix, with the code keyed in 8-point Courier New.

Tables

Use Word's Insert Table function when you create tables. Using spaces or tabs in your table will create problems when the table is typeset and may result in errors.

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Please provide a General Scientific Summary of the paper on the manuscript file below the abstract.

This should be a brief (2-3 sentences) statement that, in nontechnical language, explains the contributions of the paper.

This is not a simplified version of the abstract, which highlights the details of your study and its findings for other specialists who know the history of the research, will be able to comprehend a description of methodology, and can determine the significance of your results amidst more technical language. Rather, assume that the reader is an intelligent, interested individual who might know something about abnormal psychology, but may not know technical terms or abbreviations such as ERP, SEM, endophenotype, error-related negativity, or mediation.

Examples are included below:

"This study suggests that some approaches to subtyping eating disorders in adolescence, specifically those that include _____, _____, and _____, may be more useful than _____in predicting outcomes in young adulthood."

"Decreased motivation to seek out rewarding experiences is a key symptom in depression. This study supports the notion that for depressed individuals, this decrease in motivation is more likely due to lower anticipation that an activity will be pleasurable than by the ability to actually experience pleasure during the activity itself."

References

List references in alphabetical order. Each listed reference should be cited in text, and each text citation should be listed in the References section.

Examples of basic reference formats:

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  Hughes, G., Desantis, A., & Waszak, F. (2013). Mechanisms of intentional binding and sensory attenuation: The role of temporal prediction, temporal

control, identity prediction, and motor prediction. Psychological Bulletin, 139, 133–151. http://dx.doi.org/10.1037/a0028566

- Authored Book:

  Rogers, T. T., & McClelland, J. L. (2004). Semantic cognition: A parallel distributed processing approach. Cambridge, MA: MIT Press.

- Chapter in an Edited Book:

  Gill, M. J., & Sypher, B. D. (2009). Workplace incivility and organizational trust. In P. Lutgen-Sandvik & B. D. Sypher (Eds.), Destructive organizational communication: Processes, consequences, and constructive ways of organizing (pp. 53–73). New York, NY: Taylor & Francis.

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Other Information

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Appendix D: MISSI Study Poster

Version 1, 26/03/2019
IRAS ID: 237135

Do you have recent experiences of self-harm?

PARTICIPANTS REQUIRED

Mixed-Methods Investigation of Shame in those who Self-Injure (MISSI)

This study aims to understand experiences of emotions, especially shame in people who self-harm. Research suggests this difficult feeling could be linked to self-harm. Understanding this link better could help to guide future therapies.

We are looking for volunteers aged 16-25 who self-harm and own a smartphone.

Participants will be invited to complete initial questionnaires, before filling out brief electronic diaries for a period of two weeks. Participants will then be invited to an interview to discuss their experiences.

Participants will be reimbursed with a **love2shop** voucher.

If you are interested please contact:

MISSIstudy@manchester.ac.uk
MISSIstudy@manchester.ac.uk
MISSIstudy@manchester.ac.uk
MISSIstudy@manchester.ac.uk
MISSIstudy@manchester.ac.uk
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MISSIstudy@manchester.ac.uk

Appendix E: Telephone Screen

Mixed-Methods Investigation of Shame in those who Self-Injure

Eligibility Telephone Screen

Interviewer: _____ Date: _____
Chief Investigator: Dr Peter Taylor

Eligibility Telephone Screen Script

PART A

Hello, ____. My name is ____ and I am part of the research team for the Mixed-Methods Investigation of Shame in those who Self-Injure study. I'm contacting you as you expressed interest in finding out more about the study.

Just so you know, this is about a ten – fifteen minute phone screen. I'll first describe the study and then, if you are interested, I will ask a few questions to see if you are eligible for participation.

Ok, great! Before I explain the study to you, I should note that the few questions I'm going to eventually ask you are about sensitive topics so you might want to be in a private room. Everything that you tell me during this phone call is confidential; HOWEVER, I must let you know that if you tell me that you or someone else is at imminent risk of harm, I must take the necessary steps to ensure your safety. This might include steps such as contacting the emergency services. Is this OK with you?

Ok great. Let me tell you a little bit about the study but please stop me along the way if you have any questions *(discuss the Participant Information Sheet)*

PART B

[Access]
Do you have access to a smartphone?

Would you be able to use this to fill in brief diary entries online three times per day for two weeks? Will your data plan cover this?

Age (must between 16+)_____

Do you have any special requirements? *E.g. wheelchair access*_____

Do you have any issues understanding the English language?

[Clinical history]
Are you currently under mental health services?

If so, what service are you under?

I need to let you know that mental health clinicians/GPs will be contacted to let them know that you would like to take part in this study, and to check your eligibility to take part. It is also a University of Manchester requirement for me to contact them to discuss whether it is safe and appropriate to visit you at home, if this is where you would like our meetings to take place. Would you agree to this?

[If yes, continue to next question. If no, inform them that unfortunately this is a requirement to take part in this study and thank them for their time and interest in the study- end conversation.]

Are you currently diagnosed with a psychiatric disorder, such as mood disorder (MDD, Bipolar), substance use disorder (alcohol or drugs), psychotic disorder, or personality disorder (BPD, Antisocial Personality Disorder)? [if yes, gain diagnosis(es)]

Are you currently diagnosed with a neurodevelopmental condition, such as an Autism Spectrum Condition or a Learning Disability? [is yes, gain diagnosis(es)]

[Self-Injury]
Have you ever engaged in non-suicidal self-injury? By this, I mean intentionally damaging yourself in a way that has caused bleeding, bruising or pain without wanting to kill yourself?

If so, what kind of NSSI have you engaged in?

Have you done this 5 or more times in the last year?

When was the last time?

Have you ever been hospitalised due to self-harm?

If so, when was the last time?

[Suicide Ideation]
Have you ever had thoughts about actually killing yourself?

If so, when was the last time?

[If yes, provide details]

[Suicide Attempt]
Have you ever actually attempted to kill yourself?

If so, when was the last time?

[If yes, provide details] Can you give me some more information about what happened?

[Current Suicidality]
Currently, how would you rate your desire to live, with "10" being you really want to be alive and "0" being you very much want to be dead? **[If answered 3 or less, read small paragraph below, before going on to risk protocol]**

Do you have any plan or intent to kill yourself at this time? **[If yes, read small paragraph below, before going on to risk protocol]**

IF DESIRE TO LIVE 3 OR LESS or intent/plan to kill oneself: *I am concerned to hear that you are currently having these thoughts. In our study, we are going to ask you about some things that may be difficult to talk about. Given you are currently feeling like you want to die, what I would like to do is first make sure you have someone to talk to about getting help, and we can talk more about the study later on.* ***THEN REFER TO RISK PROTOCOL.***

PART C: If person <u>does</u> meet eligibility criteria

Thanks so much for answering these initial questions and for your interest in our study. Based on your initial responses, it looks like you are eligible to take part in the study.

The next step is to meet to talk a bit more about the study, to fill out some questionnaires and receive electronic diary instructions. The meeting would last for approximately an hour, and we could meet at the University of Manchester, a GP surgery near to you, or your home (though I would need to check this with your mental health clinician).

Are there any dates/times that suit you?

Where would it be possible to meet?

If you need it, I will send out another copy of the PIS prior to our meeting. Do you need another copy?

PART D: If person does <u>not</u> qualify

Thanks so much for answering these initial questions and for your interest in our study. Unfortunately, based on your initial responses, it looks like you do not qualify to participate in this study. But we very much appreciate your calling and taking the time to speak with me. Thank you very much for your time.

[If person asks about reason for not qualifying]: We are actually looking for people of a certain age, and history for this study – so it was nothing wrong at all with anything that you reported. You are just not a match with the characteristics we are looking for in this study.

[If more persistent]: We are looking for people who are [input criteria they do not meet e.g. no recent episodes of NSSI] so you do not match our criteria for this particular study. OK, thanks again for your time.

NOTES:

Assessor: _____ Date: _____

Appendix F: Risk Protocol

Risk Protocol for Mixed-Methods Study of Shame in those who Self-Injure

Overview

This protocol has been developed in collaboration between Alexandra Brown (Trainee Clinical Psychologist), Cameron Latham (Expert-by-Experience and Mental Health Consultant), Dr Peter Taylor (clinical lecturer and clinical psychologist) and Dr Adam Danquah (Clinical Lecturer and Clinical Psychologist).

General principles

A realistic and genuine discussion should be had with all participants during the first meeting (prior to consent being taken) about the possibility of distress/risk during the study, and what might be a helpful response if this were to happen for them.

This discussion should cover helpful contacts, any current risk management planning and other strategies they find helpful at times of distress, possibly also including other suggestions for helpful resource (e.g. Samaritans) if needed.

Another goal of this discussion is to explain the limits of confidentiality and discuss how to manage this should issues arise. Furthermore, during this discussion it should be agreed what actions will be taken by both participant and researcher if risk becomes apparent, with the emphasis (except in extremis) upon the researcher and participant building understanding and trust. Just as the researcher can be trusted to follow ethical and research standards, the participant should also be 'trusted' to know how to manage their emotions and feelings.

The researcher should also explain to the participant that electronic diaries will only be checked after the two week period, prior to interviews - they will not be actively monitored every day. Similarly, the study email account will not be checked consistently throughout each day, or overnight. The researcher will not be available outside of meetings and telephone contact, and it will also be sensitively explained to participants that the researcher cannot act as a clinical service or provide crisis management (outside of meetings). However, it is possible that participants may become distressed while in contact with the researcher during the initial study meeting, the check-in call for using diaries and the interview session. Therefore, the risk protocol covers these meetings and telephone calls.

Procedures to be followed throughout the study:-

To be enacted if a participant and the researcher is concerned about the participant's current and subsequent welfare, for example if a participant:

- Reports or displays notable distress
- Reports thoughts or feelings related to suicide
- Reports current urges to harm themselves

If participant reports or shows signs of low or moderate distress:

- Pause the session/phone call (with the participant's agreement) and allow time to talk about other topics including how the participant feels, and then carefully observe levels of distress.
- If distress seems to have lessened, discuss with participant whether or not they wish to continue with the study/the current phone call or session.
- If distress remains prominent or worsens, follow steps below.

If participants report more severe distress or thoughts/feelings related to current urge to self-harm or suicidal ideation:

- Halt or pause the session/phone call.
- Try to assess what the participant needs at this point in time - active listening alone, validation, acknowledgement, normalisation.
- Allow the participant an appropriate amount of time to say more about how they are feeling and allow time to listen to them, be non-judgmental and empathic.
- Ask specifically about any thoughts of suicide, if not already mentioned.
- Where these are present, assess level of immediate risk (this should be done as part of a calm, collaborative conversation, avoiding appearing panicked). The researcher should ask about intent, planning/access to means, and how hard it feels to resist this for both suicide and NSSI. A Likert scale could be used to assist this discussion and quantify risk.
- Ask the participant: Do you feel that taking part in this interview is affecting how you feel? If so, in what way? / Is participation making you feel more like self-injuring or suicidal?
- If so, explain that the researcher has a duty of care and refer to current risk management (previously discussed) or previously agreed plan of action.
- Risk management should be a collaborative process, taking into account the wishes of the participant; however the limits of confidentiality should be reiterated.

- In judging the level of risk associated with urges to self-harm/attempt suicide it is important to involve the participant themselves in discussing this. In doing this the researcher can check with the participant about the usual severity of their self-harm and aftercare (including any aftercare they provide themselves such as wound cleaning and also any health services they routinely attend), and also their degree of suicidal ideation.
- Be aware of the increased likelihood of subsequent contact, perhaps taking the form of a distressing email (see guidance below). The email account should have a standard automatic reply that reiterates signposting information.

Where taking part in the study is having an adverse effect on the participant the study should be immediately halted.

If the researcher considers the risk level to have returned to low to moderate, and the participant is euthymic, lucid and appears to have capacity, the participant will be asked if they wish to continue with the diaries/interview, and be reminded of their right to withdraw at any point without adverse consequences for their psychological and health care.

If the participant does not feel able to continue the diaries or interview, but is eager to remain involved in the research, this could be discussed with them, once they have had a break from the study, and once the issue has been reviewed by the study supervisors. If the participant has not commenced the diaries, they could be given a longer break, however if the participant has started their diaries or is due for their interview, the maximum break possible would be one week due to the importance of the in-the-moment information required for this study.

The participant would be judged as high risk of intentional or accidental suicide if

- Current suicidal ideation present, and suicidal intent rated moderate to high, but no plan or access to lethal means.
- Urges to self-harm that are hard to resist are present and could result in severe injury (e.g. planned overdose or hanging), long-term disability or death.

Clinical judgement should be employed in making this judgement and a cautious approach should generally be adopted where uncertain. The participant should be involved in this discussion where possible.

If high level of risk is identified **then the researcher should follow the procedure below:**

- ❒ Encourage participant to immediately contact support(s) and clinician(s)/psychiatric emergency services to inform of risk
- ❒ If the participant does not feel able to do so, the researcher will seek permission from the participant to contact these people for them (clinician(s)/contact support(s)/psychiatric emergency services) to inform them of level of risk and enlist their assistance in getting participant to a clinician
- ❒ If participant does not agree to contacting supports/clinician(s)/psychiatric emergency services, then the researcher should inform the participant that they must break confidentiality and contact clinician(s)/contact support(s)/psychiatric emergency services to inform them of level of risk and enlist their assistance in getting participant to a clinician.*
- ❒ Call Project Supervisor(s)
- ❒ Record adverse event

* Where researcher is required to contact and inform others of risk this should be first discussed with the participant where possible. It can be emphasised this action is about keeping the participant safe. It can also be discussed if the participant has preferences regarding who you contact or how you share this information. Where possible (and not conflicting with duty of care or other requirements of the researcher) participants' preferences should be taken into account.

The participant would be judged as being at imminent risk of intentional or accidental suicide if:

- Current suicidal ideation present, and suicidal intent rated moderate to high, with plan and access to lethal means. moderate to high
- Plan to self-harm in a way that could result in severe injury, long-term disability or death (e.g. planned overdose or hanging), and access to means

If imminent level of risk is identified **then the researcher should follow the procedure below:**

- ❒ Call Project Supervisor(s)
- ❒ If consent can be gained for the steps below then this is preferable, if not the researcher must break confidentiality
- ❒ Researcher tells/calls clinician and/or people in support network to inform them of level of risk and enlist their assistance in getting subject to a clinician
- ❒ If in with researcher: Participant should not be left alone. They can leave with family member/friend, researcher should accompany Participant to Hospital Emergency Department
- ❒ If on the phone: Participant should not remain at home alone. Researcher tells/calls clinician and/or people in support network to inform them of level of risk and enlist their assistance in getting the Participant to a clinician
- ❒ If an ambulance is being sent, stay on the phone with the Participant until the ambulance arrives.
- ❒ If Participant refuses to do the above: call 999 and inform of subject's location and risk level.
- ❒ Call participant 1-2 days following the above to follow up, repair rupture if appropriate
- ❒ Record serious adverse event

Risk expressed via email

All participants will be informed that emails will only be check sporadically. Moreover, an automatic reply reiterating signposting information should be set up. It will be made clear to participants that researchers will not follow up emails by contacting participants where risk or distress is shared. This is important as it prevents a dynamic forming whereby participants elicit support via sending distressed emails, and also sets a clear boundary that the study team are not able to act as a support or clinical service.

Where researchers read an email from a participant that indicates high or immediate risk to themselves they should act by informing the clinician and/or people in the participant's support network to inform them of level of risk. If the researcher has an appointment scheduled with the individual they should first call the participant to check they are still wish to see the researcher and check-in with the participant with regards to their level of risk and how they are feeling at that point.

Notably, the study email account should only be checked during work hours.

Personal Safety and Boundaries

In responding to the above situations it is important that the researcher balances these actions against their own personal safety, and should avoid situations where their personal safety feels compromised. The study lone working policy will be adhered to.

In addition, where any of the above incidents take place the researcher should inform their supervisor(s) and arrange a time to debrief with regards to the situation, including a focus on how they have personally been affected.

Appendix G: Experience of Shame Scale

Everybody at times can feel embarrassed, self-conscious or ashamed. These questions are about such feelings if they have occurred at any time in the past year. There are no 'right' or 'wrong' answers. Please indicate the response which applies to you with a tick.

	Not at all	A little	Moderately	Very Much
1. Have you felt ashamed of any of your personal habits?	( )	( )	( )	( )
2. Have you worried about what other people think of any of your personal habits?	( )	( )	( )	( )
3. Have you tried to cover up or conceal any of your personal habits?	( )	( )	( )	( )
4. Have you felt ashamed of your manner with others?	( )	( )	( )	( )
5. Have you worried about what other people think of your manner with others?	( )	( )	( )	( )
6. Have you avoided people because of your manner?	( )	( )	( )	( )
7. Have you felt ashamed of the sort of person you are?	( )	( )	( )	( )
8. Have you worried about what other people think of the sort of person you are?	( )	( )	( )	( )
9. Have you tried to conceal from others the sort of person you are?	( )	( )	( )	( )
10. Have you felt ashamed of your ability to do things?	( )	( )	( )	( )
11. Have you worried about what other people think of your ability to do things?	( )	( )	( )	( )
12. Have you avoided people because of your inability to do things?	( )	( )	( )	( )
13. Do you feel ashamed when you do something wrong?	( )	( )	( )	( )
14. Have you worried about what other people think of you when you do something wrong?	( )	( )	( )	( )
15. Have you tried to cover up or conceal things you felt ashamed of having done?	( )	( )	( )	( )
16. Have you felt ashamed when you said something stupid?	( )	( )	( )	( )
17. Have you worried about what other people think of you when you said something stupid?	( )	( )	( )	( )
18. Have you avoided contact with anyone who knew you said something stupid?	( )	( )	( )	( )
*19. Have you felt ashamed when you failed in a competitive situation?	( )	( )	( )	( )
*20. Have you worried about what other people think of you when you failed in a competitive situation?	( )	( )	( )	( )
21. Have you avoided people who have seen you fail?	( )	( )	( )	( )
22. Have you felt ashamed of your body or any part of it?	( )	( )	( )	( )
23. Have you worried about what other people think of your appearance?	( )	( )	( )	( )
24. Have you avoided looking at yourself in the	( )	( )	( )	( )

mirror?
25. Have you wanted to hide or conceal your body or any part of it? ( ) ( ) ( ) ( )

* Alternatives for populations where competition is not relevant:
19. Have you felt ashamed when you failed at something which was important to you?
20. Have you worried about what other people think of you when you fail?

Appendix H: The Test of Self-Conscious Affect-3 (short-form)

Test of Self-Consoious Affeot, Version 3

Below are situations that people are likely to encounter in day-to-day life, followed by several common reactions to those situations.

As you read each scenario, try to imagine yourself in that situation. Then indicate how likely you would be to react in each of the ways described. We ask you to rate all responses because people may feel or react more than one way to the same situation, or they may react different ways at different times.

For example:

A. You wake up early one Saturday morning. It is cold and rainy outside.

a) You would telephone a friend to catch up on news. (1)---2---3---4---5
not likely very likely

b) You would take the extra time to read the paper. 1---2---3---(4)---5
not likely very likely

c) You would feel disappointed that it's raining. 1---2---(3)---4---5
not likely very likely

d) You would wonder why you woke up so early. 1---2---3---(4)---5
not likely very likely

In the above example, I've rated ALL of the answers by circling a number. I circled a "1" for answer (a) because I wouldn't want to wake up a friend very early on a Saturday morning -- so it's not at all likely that I would do that. I circled a "5" for answer (b) because I almost always read the paper if I have time in the morning (very likely). I circled a "3" for answer (c) because for me it's about half and half. Sometimes I would be disappointed about the rain and sometimes I wouldn't -- it would depend on what I had planned. And I circled a "4" for answer (d) because I would probably wonder why I had awakened so early.

Please do not skip any items -- rate all responses.

1. You make plans to meet a friend for lunch. At five o'clock, you realize you have stood your friend up.

	not likely	very likely
a) You would think: "I'm inconsiderate."	1---2---3---4---5	
b) You'd think you should make it up to your friend as soon as possible.	1---2---3---4---5	
c) You would think: "My boss distracted me just before lunch."	1---2---3---4---5	

2. You break something at work and then hide it.

	not likely	very likely
a) You would think: "This is making me anxious. I need to either fix it or get someone else to."	1---2---3---4---5	
b) You would think about quitting.	1---2---3---4---5	
c) You would think: "A lot of things aren't made very well these days."	1---2---3---4---5	

3. At work, you wait until the last minute to plan a project, and it turns out badly.

	not likely	very likely
a) You would feel incompetent.	1---2---3---4---5	
b) You would think: "There are never enough hours in the day."	1---2---3---4---5	
c) You would feel: "I deserve to be reprimanded for mismanaging the project."	1---2---3---4---5	

4. You make a mistake at work and find out a co-worker is blamed for the error.

	not likely	very likely
a) You would think the company did not like the co-worker.	1---2---3---4---5	
b) You would keep quiet and avoid the co-worker.	1---2---3---4---5	
c) You would feel unhappy and eager to correct the situation.	1---2---3---4---5	

5. While playing around, you throw a ball, and it hits your friend in the face.

	not likely very likely
a) You would feel inadequate that you can't even throw a ball.	1---2---3---4---5
b) You would think maybe your friend needs more practice at catching.	1---2---3---4---5
c) You would apologize and make sure your friend feels better.	1---2---3---4---5

6. You are driving down the road, and you hit a small animal.

	not likely very likely
a) You would think the animal shouldn't have been on the road.	1---2---3---4---5
b) You would think: "I'm terrible."	1---2---3---4---5
c) You'd feel bad you hadn't been more alert driving down the road.	1---2---3---4---5

7. You walk out of an exam thinking you did extremely well, then you find out you did poorly.

	not likely very likely
a) You would think: "The instructor doesn't like me."	1---2---3---4---5
b) You would think: "I should have studied harder."	1---2---3---4---5
c) You would feel stupid.	1---2---3---4---5

8. While out with a group of friends, you make fun of a friend who's not there.

	not likely very likely
a) You would feel small...like a rat.	1---2---3---4---5
b) You would think that perhaps that friend should have been there to defend himself/herself.	1---2---3---4---5
c) You would apologize and talk about that person's good points.	1---2---3---4---5

9. You make a big mistake on an important project at work. People were depending on you, and your boss criticizes you.

	not likely very likely
a) You would think your boss should have been more clear about what was expected of you.	1---2---3---4---5
b) You would feel as if you wanted to hide.	1---2---3---4---5
c) You would think: "I should have recognized the problem and done a better job."	1---2---3---4---5

10. You are taking care of your friend's dog while they are on vacation, and the dog runs away.

	not likely very likely
a) You would think, "I am irresponsible and incompetent."	1---2---3---4---5
b) You would think your friend must not take very good care of her dog or it wouldn't have run away.	1---2---3---4---5
c) You would vow to be more careful next time.	1---2---3---4---5

11. You attend your co-worker's housewarming party, and you spill red wine on a new cream-colored carpet, but you think no one notices.

	not likely very likely
a) You would stay late to help clean up the stain after the party.	1---2---3---4---5
b) You would wish you were anywhere but at the party.	1---2---3---4---5
c) You would wonder why your co-worker chose to serve red wine with the new light carpet.	1---2---3---4---5

Scoring for the TOSCA-3S

The TOSCA-3S scenarios that you just responded to were created from the personal experiences of several hundred college students and non-college adults. Your responses can now be used to calculate your scores for Shame Self-Talk, Guilt Self-Talk and Blaming Others.

Transfer your circled answers from the TOSCA to the lines below. For example, if you answered a "4" for item 1a, enter a 4 under the column labeled "Shame Self-Talk" on the line next to 1a. If you entered a "1" for item 1b, enter a 1 under the column labeled "Guilt Self-Talk" on the line next to 1b. And so on. Carefully transfer your responses, because the order for a, b and c will be different for each question.

When you have finished transferring your answers, add up your score for each column. For example, your "Shame Self-Talk Total" score will be the total of all of the numbers written in the first column. Compare your total scores to the scoring interpretation at the bottom of the page.

Shame Self-Talk	Guilt Self-Talk	Blaming Others
1a____	1b____	1c____
2b____	2a____	2c____
3a____	3c____	3b____
4b____	4c____	4a____
5a____	5c____	5b____
6b____	6c____	6a____
7c____	7b____	7a____
8a____	8c____	8b____
9b____	9c____	9a____
10a____	10c____	10b____
11b____	11a____	11c____
=_____	=_____	=_____
Shame Self-Talk Total	Guilt Self-Talk Total	Blaming Others Total

For Men

If your score on "Shame Self-Talk" is:

0-24 you seldom use shame self-talk
25-32 you use shame self-talk an average amount
33-55 you often use shame self-talk

If your score on "Guilt Self-Talk" is:

0-38 you seldom use guilt self-talk
39-45 you use guilt self-talk an average amount
46-55 you often use guilt self-talk

If your score on "Blaming Others" is:

0-21 you seldom blame others
22-28 you blame others an average amount
29-55 you often blame others

For Women

If your score on "Shame Self-Talk" is:

0-26 you seldom use shame self-talk
27-35 you use shame self-talk an average amount
36-55 you often use shame self-talk

If your score on "Guilt Self-Talk" is:

0-42 you seldom use guilt self-talk
43-48 you use guilt self-talk an average amount
49-55 you often use guilt self-talk

If your score on "Blaming Others" is:

0-20 you seldom blame others
21-28 you blame others an average amount
29-55 you often blame others

PHQ- 9

Over the last 2 weeks, how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly every day
1 Little interest or pleasure in doing things	0	1	2	3
2 Feeling down, depressed, or hopeless	0	1	2	3
3 Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4 Feeling tired or having little energy	0	1	2	3
5 Poor appetite or overeating	0	1	2	3
6 Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7 Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8 Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9 Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

A11 – PHQ9 total score ☐

Appendix J: Self-Injurious Thoughts and Behaviour Interview (short-form)

→ 1. Have you ever actually purposely hurt yourself without wanting to die? _____
(0) no
(1) yes

2. How old were you the first time you purposely hurt yourself without wanting to die? _____

3. How old were you the last time? _____

4. Now I'm going to go through a list of things that people sometimes purposely do to harm themselves without wanting to die. Please let me know which of these you've done: _____
(1) cut or carved skin
(2) burned your skin (i.e., with a cigarette, match or other hot object)
(3) inserted sharp objects into your skin or nails
(4) picked areas of your body to the point of drawing blood
(5) hit yourself on purpose
(6) gave yourself a tattoo
(7) scraped your skin to the point of drawing blood
(8) other (specify):_____

5. How many times in your life have you purposely hurt yourself without wanting to die? _____
0-5
6-10
11-30
31-50
51+

6. How many times in the past year? _____
0-5
6-10
11-30
31-50
51+

7. How many times in the past month? _____
0-5
6-10
11-30
31-50
51+

8. How many times in the past week? _____

9. On average, how long have you thought of purposely hurting yourself _____

without wanting to die before actually doing it?

(0) 0 seconds
(1) 1-60 seconds
(2) 2-15 minutes
(3) 16-60 minutes
(4) less than one day
(5) 1-2 days
(6) more than 2 days
(7) wide range (spans > 2 responses)

10. Have you ever received medical treatment for harm caused by purposely hurting yourself without wanting to die? _____

(0) no
(1) yes

→ 11. On a scale of 0 to 4, what do you think the likelihood is that you will purposely hurt yourself without wanting to die in the future? _____

0-4 SCALE

0	1	2	3	4
Not at all	*A little bit*	*Somewhat*	*Very Much*	*Extremely*

Appendix K: Ecological Sampling Methodology Questions

Timestamp:		
Question number	Question (answer format)	Answer
1	Since the last text, have you felt bad about yourself or something you did? (Yes/No)	
2	How would you describe this feeling? Could you put a label on it? (Free text box):	
3	Rate the strength of this feeling 0= not strong at all, 7= extremely strong (Likert Scale)	
4	Did you notice this feeling anywhere in your body, for example in your chest or abdomen? (Yes/No)	
5	If yes, please describe where you felt this (where about in your body) and what it felt like (Free text box)	
6	What happened immediately before you felt this way? Where were you? Who were you with? Did any unwanted images or thoughts come to mind prior to this feeling? (Free text box)	
7	What thoughts went through your mind when you first noticed this feeling? (Free text box)	
8	Did you do anything to cope with, or try and get rid of this feeling? (Free text box)	
9	Please feel free to write anything you would	

	like to add in the space below. (Free text box)	

Appendix L: Generic Interview Template

MANCHESTER 1824
The University of Manchester

Interview Schedule for Mixed-Methods Investigation of Shame in those who Self-Injure

The interview schedule will be elicited from diary data. However, a general interview schedule is below:

Introduction

"Hello _____, it's nice to see you again. Thank you for agreeing to meet with me and participate in the Study. Our discussion should take about an hour, but maybe a little longer. Is that ok ?"

(point out refreshments, toilets, maybe some people like to sit with back to wall, facing door, sit or stand…)

If participant has completed diary entries:

"Today I'm going to be asking you some questions around the information you put in your diary. Is this OK? I understand that this can be a difficult topic to talk about. Do you have any questions before we begin? Please inform me at any time if any of the questions I ask are triggering or are causing distressing feelings."

Questions will be specific to diary entries, but will focus on triggers, processes and coping around any entry identified as shame.

If participant has not completed diary entries:

"Today I'm going to be asking you some questions around certain emotions. Is this OK? I understand that this can be a difficult topic to talk about. Do you have any questions before we begin? Please inform me at any time if any of the questions I ask are triggering or are causing distressing feelings."

1. Have you recently felt guilt or shame?
2. When did you first notice either of these feelings? Can you remember?
3. How common are these feelings for you?
4. Can I ask about the last time you noticed feeling shame in particular. Can you recall the time and place and what was happening at the time? Who were you with? What were you doing?
5. More generally, do you notice any situations or events that consistently seem to

happen before you notice feeling shame?

6. What is this feeling like? How would you describe it?
    a. prompt: Could you tell me where this feeling sits or is felt in your body?
    b. prompt: do you have your own name for this feeling?
7. When you notice this feeling, what goes through your mind?
    a. Prompt: Ask about any specific thoughts, sounds, images or beliefs related to this feeling.
    b. prompt: are there any memories that occur with this feeling?
8. How does this feeling effect you and your day-to-day life?
9. prompt: How does it affect what you are doing at that moment?
   Prompt: How does it affect your relationship with others, like family or friends?
   prompt: how does it affect your thoughts or feelings about self-injury?
10. Do you experience this feeling at any particular place in your body?
11. What do you do to cope with this feeling?
12. prompt: Is there anything you do when you feel this way to help yourself feel better or feel differently?
13. Is there any way to stop this feeling that you have found?

Thank you for speaking with me about this topic.

Appendix M: Confirmation of Favourable Ethical Opinion

NHS
Health Research Authority
North West - Greater Manchester West Research Ethics Committee
Barlow House
3rd Floor
4 Minshull Street
Manchester
M1 3DZ

Telephone: 0207 104 8021

13 August 2019

Dr Peter Taylor
Room 2.33, 2nd Floor Zochonis Building
The University of Manchester
Brunswick Street
Manchester
M13 9PL

Dear Dr Taylor

Study title:	**Mixed-Methods Investigation of Shame in those who Self-Injure (MISSI)**
REC reference:	**19/NW/0340**
Protocol number:	**NHS007961**
IRAS project ID:	**237135**

Thank you for your submission, responding to the Committee's 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 Vice-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.

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

It is a condition of the REC favourable opinion that all clinical trials are registered on a publicly accessible database. For this purpose, clinical trials are defined as the first four project categories in IRAS project filter question 2. For clinical trials of investigational medicinal products (CTIMPs), other than adult phase I trials, registration is a legal requirement.

Registration should take place as early as possible and within six weeks of recruiting the first research participant at the latest. Failure to register is a breach of these approval conditions, unless a deferral has been agreed by or on behalf of the Research Ethics Committee (see here for more information on requesting a deferral: https://www.hra.nhs.uk/planning-and-improving-research/research-planning/research-registration-research-project-identifiers/

As set out in the UK Policy Framework, research sponsors are responsible for making information about research publicly available before it starts e.g. by registering the research project on a publicly accessible register. Further guidance on registration is available at: https://www.hra.nhs.uk/planning-and-improving-research/research-planning/transparency-responsibilities/

You should notify the REC of the registration details. We will audit these as part of the annual progress reporting process.

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

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 listed in the application 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*
Copies of advertisement materials for research participants [Study poster]	1	26 March 2019
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Insurance letter]		26 April 2019
GP/consultant information sheets or letters [Clinician letter]	1	19 July 2019
GP/consultant information sheets or letters [Clinician letter v1 19.07.19 track changes]	1	19 July 2019
Interview schedules or topic guides for participants [Interview template]	1	25 April 2019
IRAS Application Form [IRAS_Form_08052019]		08 May 2019
IRAS Application Form XML file [IRAS_Form_08052019]		08 May 2019
IRAS Checklist XML [Checklist_19072019]		19 July 2019
Letter from sponsor [Letter from sponsor]		26 April 2019
Non-validated questionnaire [ESM questions]	1	25 April 2019
Other [Indemnity letter]		07 May 2018
Other [Consent to contact form]	1	27 March 2019
Other [Lone working policy]	1	26 March 2019
Other [Risk assessment]	1	25 April 2019
Other [Risk protocol]	1	26 March 2019
Other [SOP recording participants]	1	07 March 2019
Other [Text message template]	1	27 March 2019
Other [Example ESM questions]	1	25 April 2019
Other [Research supervisor CV]		
Other [Diary screenshot 1]		
Other [Diary screenshot 2]		
Other [Diary screenshot 4]		
Other [Diary screenshot 5]		
Other [Phone screen]	1	18 July 2019
Other [Liability insurance certificate]		01 June 2019
Other [Diary screenshot 3]		
Other [Phone screen script v1 18.07.19 track changes]	1	18 July 2019
Other [Response to REC requests for information 19.07.19]		19 July 2019
Other [Signposting Sheet]	1	18 July 2019
Participant consent form [Consent form]	1	18 July 2019
Participant information sheet (PIS) [PIS]	1	18 July 2019
Participant information sheet (PIS) [PIS track changes v1 18.07.19]	1	18 July 2019
Referee's report or other scientific critique report [Subcommittee approval letter]		15 February 2018
Research protocol or project proposal [Protocol]	1	24 April 2019
Summary CV for Chief Investigator (CI) [CI summary CV]		23 November 2017
Summary CV for student [Summary CV student]		12 November 2017
Validated questionnaire [SITBI]		

Validated questionnaire [TOSCA]		
Validated questionnaire [ESS]		
Validated questionnaire [PHQ-9]		

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/

19/NW/0340	**Please quote this number on all correspondence**

With the Committee's best wishes for the success of this project.

Yours sincerely

Dr Gideon Smith
Vice Chair

Email:nrescommittee.northwest-gmwest@nhs.net

Enclosures: "After ethical review – guidance for researchers"

Copy to: Ms Lynne Macrae

Appendix N: Health Research Authority England & Wales Approval

Ymchwil Iechyd a Gofal Cymru
Health and Care Research Wales

NHS
Health Research Authority

Dr Peter Taylor
Room 2.33, 2nd Floor Zochonis Building, The University of Manchester
Brunswick Street
Manchester
M13 9PL

Email: hra.approval@nhs.net
HCRW.approvals@wales.nhs.uk

13 August 2019

Dear Dr Taylor

HRA and Health and Care Research Wales (HCRW) Approval Letter

Study title:	**Mixed-Methods Investigation of Shame in those who Self-Injure (MISSI)**
IRAS project ID:	**237135**
Protocol number:	**NHS007961**
REC reference:	**19/NW/0340**
Sponsor	**The University of Manchester**

I am pleased to confirm that HRA and Health and Care Research Wales (HCRW) Approval has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further relating to this application.

Please now work with participating NHS organisations to confirm capacity and capability, in line with the instructions provided in the "Information to support study set up" section towards the end of this letter.

How should I work with participating NHS/HSC organisations in Northern Ireland and Scotland?
HRA and HCRW Approval does not apply to NHS/HSC organisations within Northern Ireland and Scotland.

If you indicated in your IRAS form that you do have participating organisations in either of these devolved administrations, the final document set and the study wide governance report (including this letter) have been sent to the coordinating centre of each participating nation. The relevant national coordinating function/s will contact you as appropriate.

Please see IRAS Help for information on working with NHS/HSC organisations in Northern Ireland and Scotland.

How should I work with participating non-NHS organisations?
HRA and HCRW Approval does not apply to non-NHS organisations. You should work with your non-NHS organisations to obtain local agreement in accordance with their procedures.

What are my notification responsibilities during the study?

The document "*After Ethical Review – guidance for sponsors and investigators*", issued with your REC favourable opinion, gives detailed guidance on reporting expectations for studies, including:

- Registration of research
- Notifying amendments
- Notifying the end of the study

The HRA website also provides guidance on these topics, and is updated in the light of changes in reporting expectations or procedures.

Who should I contact for further information?
Please do not hesitate to contact me for assistance with this application. My contact details are below.

Your IRAS project ID is **237135**. Please quote this on all correspondence.

Yours sincerely,
Anna Bannister

Approvals Specialist

Email: hra.approval@nhs.net

Copy to: *Ms Lynne Macrae*

List of Documents

The final document set assessed and approved by HRA and HCRW Approval is listed bel

Document	*Version*	*Date*
Copies of advertisement materials for research participants [Study poster]	1	26 March 2019
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Insurance letter]		26 April 2019
GP/consultant information sheets or letters [Clinician letter]	1	19 July 2019
GP/consultant information sheets or letters [Clinician letter v1 19.07.19 track changes]	1	19 July 2019
HRA Schedule of Events [Statement of events]	1	25 April 2019
HRA Statement of Activities [Statement of activities]	1	26 April 2019
Interview schedules or topic guides for participants [Interview template]	1	25 April 2019
IRAS Application Form [IRAS_Form_08052019]		08 May 2019
IRAS Application Form XML file [IRAS_Form_08052019]		08 May 2019
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Participant information sheet (PIS) [PIS track changes v1 18.07.19]	1	18 July 2019
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Research protocol or project proposal [Protocol]	1	24 April 2019

Summary CV for Chief Investigator (CI) [CI summary CV]		23 November 2017
Summary CV for student [Summary CV student]		12 November 2017
Validated questionnaire [SITBI]		
Validated questionnaire [TOSCA]		
Validated questionnaire [ESS]		
Validated questionnaire [PHQ-9]		

IRAS project ID	237135

Information to support study set up

The below provides all parties with information to support the arranging and confirming of capacity and capability with participating NHS organisations in England and Wales. This is intended to be an accurate reflection of the study at the time of issue of this letter.

Types of participating NHS organisation	Expectations related to confirmation of capacity and capability	Agreement to be used	Funding arrangements	Oversight expectations	HR Good Practice Resource Pack expectations
All NHS organisations will act as PICs (Participant Identification Centres) therefore no research activities will be taking place at NHS sites.	Organisations will not be required to formally confirm capacity and capability, and research procedures may begin 35 days after provision of the local information pack, provided the following conditions are met. You have contacted participating NHS organisations (see below for details) HRA and HCRW Approval has been issued. The NHS organisation has not provided a reason as to why they cannot	A statement of activities has been submitted and the sponsor is not requesting and does not expect any other site agreement to be used.	No study funding will be provided to sites as per the statement of activities	There is no requirement for a Principal Investigator or Local Collaborator as it is expected that relevant clinical staff would be able to undertake the requested activity.	All staff conducting identification at PIC sites hold contracts with the site, therefore no Letter of Access or Honorary Research Contracts would be expected.
	participate. The NHS organisation has not requested additional time to confirm. You may start the research prior to the above deadline if HRA and HCRW Approval has been issued and the site positively confirms that the research may proceed. You should now provide the local information pack for your study to your participating NHS organisations. A current list of R&D contacts is accessible at the NHS RD Forum website and these contacts MUST be used for this purpose. The password to access the R&D contact list is Redhouse1.				

Other information to aid study set-up and delivery

This details any other information that may be helpful to sponsors and participating NHS organisations in England and Wales in study set-up.

Researchers do not intend to make an application for the study to be considered for NIHR Clinical Research Network (CRN) portfolio.

Appendix O: Participant Information Sheet

Mixed-Methods Investigation of Shame in those who Self-Injure (MISSI)

Participant Information Sheet (PIS)

You are being invited to take part in a research study looking at shame experiences in people who self-injure. This research forms part of a student project for the Doctorate of Clinical Psychology.

Before you decide whether to take part, it is important for you to understand why the research is being conducted and what it will involve. Please take time to read the following information carefully before deciding whether to take part and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Thank you for taking the time to read this.

About the research

➢ **What is the purpose of the research?**

This study aims to better understand how people with experiences of self-injury are affected by and cope with feelings of shame. Shame is a very common emotion, but it can also be very distressing for some people.

We know that people who self-injure can often struggle with very difficult emotions, including shame. The study will explore different triggers shame, what shame feels like and how different people cope with this feeling. We cannot promise that this research will help you, but this information may help us to improve understanding and awareness for young people who self-injure in the future by guiding health workers, policy makers and those developing new therapies.

You have been invited to take part in our project because you:

- Are between the ages of 16-25
- Own a smartphone
- Have indicated that you have intentionally injured yourself in a way likely to cause pain, without wanting to end your life, 5 or more days in the past year. (This does not include body piercing, tattooing, or cultural rituals).

You will not be able to take part if:

- You injure yourself only during episodes of psychosis, delirium, substance intoxication or withdrawal.
- Injuring yourself is related to a neurodevelopmental disorder, e.g. Autism Spectrum Condition.

The researcher will ask for the contact details of your mental health clinician (if you have one) or your GP. We will contact these individuals to check your eligibility for the study. It is also a standard University of Manchester requirement to check that it is safe and appropriate to visit people at their homes, if this is where you would prefer to meet with the research team.

- **Will the outcomes of the research be published?**

The findings of this research will be written up as part of a Doctoral Thesis. It is hoped that this research may also be published in a peer-reviewed journal, or presented at a conference. You can request a copy of the outcomes on the consent form.

- **Who has reviewed the research project?**

This study has been reviewed by Greater Manchester West Research Ethics Committee.

- **Who is funding the research project?**

This study is being funded by The University of Manchester.

What would my involvement be?

- **What would I be asked to do if I took part?**

First, you will be invited to an initial face-to-face meeting with the researcher, lasting for around 30-60 minutes. You will be asked whether you would like to take part in the study and to sign a consent form if you do want to take part. The researcher will also ask for your permission to contact your mental health clinician or GP. You will be asked to complete questionnaires asking about your thoughts, feelings and self-injury. You will then be given instructions on how to use your electronic diary.

Next, you will be asked to complete electronic diaries using your smartphone three times per day for two weeks. These diaries are short (5-10 minutes), and ask questions about how you are feeling, and what is happening for you at that time. You will be given an electronic link and password to access the diary, and you will receive text message prompts on your phone to complete these diaries at three different times during the day. The researcher will ask you what hours you are usually awake so that these text messages do not disturb your sleep. You will be able to ignore the text message if you are busy when it is received. The researcher will contact you a few days after starting the diaries to check if you have any questions.

Finally, you will be invited to a face-to-face interview with the researcher to discuss your diary entries, lasting for around one hour. This will be an opportunity for you and the researcher to develop a shared understanding of your experiences over the last two weeks. This interview will be recorded so that your answers can be typed up for analysis.

At the end of this interview you will have the chance to ask further questions about the study. Throughout the study you will not have to answer any questions you do not want to. Any meetings will take place either at The University of Manchester, at a GP/Health clinic, or at your home if this is appropriate. You will be reimbursed with a £30 love2shop voucher for your time and effort when you have completed the face-to-face interview at the end of the study. The researchers cannot provide financial reimbursement for travel.

The study might involve answering questions about things that are upsetting to you. For example, you may be asked to answer questions about self-injury, including types of self-injury and reasons for self-

injury, and about feelings such as shame. An example of a question that you will be asked is "how many times in the last month/week have you purposefully hurt yourself without wanting to die?" As part of the initial meeting, the researcher will discuss risk and safety with you. We will provide you with information to access crisis support, such as the Samaritans (116 123). If any of the questions raise concerns or you feel you are in crisis, then we will also advise you to contact your mental health clinician or GP for support, and/or discuss these concerns with someone you trust, as the researcher is not able to provide crisis support outside of face-to-face meetings. Please see the section "will my participation in the study be confidential and my personal identifiable information be protected?" for further information around risk and confidentiality.

- **What happens if I do not want to take part or if I change my mind?**

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time without giving a reason and without any negative consequences. However, it will not be possible to remove your data from the project once it has been anonymised (four weeks after your face-to-face interview) as we will not be able to identify your specific data. This does not affect your data protection rights. If you decide not to take part you do not need to do anything further.

Audio recording of the 1-1 interview is essential for your participation in the study, but you should feel comfortable with the recording process and you are free to ask the researcher to stop recording at any time.

Data Protection and Confidentiality

- **What information will you collect about me?**

In order to participate in this research project we will need to collect information that could identify you, called "personal identifiable information". Specifically we will need to collect:

- Your name, date of birth, and contact details.
- Your mental health clinician or GP's name and contact details.
- Answers to questionnaires about your mood, any feelings of shame and self-injury.
- Electronic diary entries.
- An audio-only recording of your 1-1 interview.
- A written transcription of your 1-1 interview.

Please see the section "will my participation in the study be confidential and my personal identifiable information be protected?" for further information about how this is stored, and for how long.

- **Under what legal basis are you collecting this information?**

We are collecting and storing this personal identifiable information in accordance with data protection laws which protect your rights. These state that we must have a legal basis (specific reason) for collecting your data. For this study, the specific reason is that it is "a public interest task" and "a process necessary for research purposes".

- **What are my rights in relation to the information you will collect about me?**

You have a number of rights under data protection law regarding your personal information. For example you can request a copy of the information we hold about you, including audio recordings.

If you would like to know more about your different rights or the way we use your personal information to ensure we follow the law, please consult our Privacy Notice for Research (http://documents.manchester.ac.uk/display.aspx?DocID=37095). If you wish to contact us about your data protection rights, please email dataprotection@manchester.ac.uk or write to The Information Governance Office, Christie Building, The University of Manchester, Oxford Road, M13 9PL at the University and we will guide you through the process of exercising your rights.

- **Will my participation in the study be confidential and my personal identifiable information be protected?**

Your participation in the study will be kept confidential to the research team and your mental health clinician/GP. It is important to know that there are limits to confidentiality. For example, if you tell the researcher that you feel unsafe (for example, at a high risk of fatal self-injury or suicide), or if the researcher feels that you are currently unsafe, the researcher would have to break confidentiality. They would have to share this information with your mental health clinician or GP, or emergency services. The researcher would always discuss this with you first unless they felt that this would put you at further risk of harm. Furthermore, individuals from the University, the site where the research is taking place, and regulatory authorities, may need to review the study information for auditing and monitoring purposes or in the event of an incident.

In accordance with data protection law, The University of Manchester is the Data Controller for this project. This means that we are responsible for making sure your personal information is kept secure, confidential and used only in the way you have been told it will be used. All researchers are trained with this in mind, and your data will be looked after in the following way:

- The research team at the University of Manchester will have access to your personal identifiable information, that is data which could identify you (including your mental health clinician/GP contact details), but they will anonymise it four weeks after your face-to-face interview, or once you have received a copy of the outcomes of the study if you have requested this. Your consent form will be retained for 5 years, kept in a filing cabinet within a locked office at The University of Manchester.
- Your contact details will be entered into software used to send you text message prompts, this software is secure and often used in research studies at The University of Manchester. Your contact details will be wiped from this system as soon as you have completed your final diary entry. Diary entries are stored using a secure University of Manchester system, these will be exported and stored on an encrypted USB and secure University of Manchester drive for 10 years following the date of any publication based on this research data.
- Data such as questionnaires and diary entries will be made anonymous four weeks after your face-to-face interview, and will be kept on a secure University of Manchester drive, encrypted USB or in hard copy form in a filing cabinet within a locked office at The University of Manchester for 10 years following any publication based on this data.

- Your interview will be audio recorded using an encrypted Audio-recorder. A written account of what is said (a "transcript") will be created, and the original recording will be destroyed as soon as the transcription is completed. The transcript will be anonymous, so no information that could allow anyone to identify you (e.g. names, locations) would be included. Audio recordings will be transcribed by the research team or a University of Manchester Course Administrator, both of whom have signed The University of Manchester Confidentiality Agreement. Direct quotes may be used in any write-up of this study, but these will be anonymous. The anonymous transcriptions will be stored on a secure University of Manchester drive and encrypted USB (kept in a filing cabinet within a locked office at The University of Manchester) for 10 years following any publication based on this research data.

- Your data will be linked together using an assigned participant ID known only to the research team.

- Any paper published will not identify you.

- You can request that your study data be destroyed before it is made anonymous (4 weeks after your face-to-face interview). After this point, it will be impossible to know which data belongs to you as this will be anonymous.

Please also note that individuals from The University of Manchester or regulatory authorities may need to look at the data collected for this study to make sure the project is being carried out as planned. This may involve looking at identifiable data. All individuals involved in auditing and monitoring the study will have a strict duty of confidentiality to you as a research participant.

When you agree to take part in a research study, the information about you may be provided to researchers running other research studies. The future research will be of a similar nature to this research project and will concern self-harm or shame. Your information will only be used by researchers to conduct research in accordance with the UK Policy Framework for Health and Social Care Research (https://www.hra.nhs.uk/planning-and-improving-research/policies-standards-legislation/uk-policy-framework-health-social-care-research/). This information will not identify you and will not be combined with other information in a way that could identify you. The information will only be used for the purpose of health and care research, and cannot be used to contact you regarding any other matter. It will not be used to make decisions about future services available to you.

What if I have a complaint?

➢ **Contact details for complaints**

If you have a complaint that you wish to direct to members of the research team, please contact Alexandra Brown, Trainee Clinical Psychologist, or Dr. Peter Taylor, Clinical Psychologist, in the first instance at **MISSIstudy@manchester.ac.uk** or on 0161 306 0400.

If you wish to make a formal complaint to someone independent of the research team or if you are not satisfied with the response you have gained from the researchers in the first instance then please contact:

The Research Governance and Integrity Officer, Research Office, Christie Building, The University of Manchester, Oxford Road, Manchester, M13 9PL, by emailing: research.complaints@manchester.ac.uk or by telephoning 0161 275 2674.

You also have a right to complain to the Information Commissioner's Office about complaints relating to your personal identifiable information (https://ico.org.uk/make-a-complaint/), Tel 0303 123 1113 .

Contact Details

If you have any queries about the study or if you are interested in taking part then please contact the researcher (Alexandra Brown, Trainee Clinical Psychologist) at **MISSIstudy@manchester.ac.uk**.

This Project Has Been Approved by Greater Manchester West Research Ethics Committee [19/NW/0340]

Appendix P: Consent-to-Contact Form

MANCHESTER 1824
The University of Manchester

Version 1. 27/03/2019
IRAS ID: 237135

Study Title: *Mixed-Methods Investigation of Shame in those who Self-Injure (MISSI)*
Chief Investigator: Dr Peter Taylor, Clinical Psychologist
Researcher: Alexandra Brown, Trainee Clinical Psychologist

If you are interested in taking part in this study and would like the researchers to contact you please give your details below. You should only provide the information if you are happy to be contacted in that way. For example, if you do not want to be contacted by phone then do not provide a phone number.

Please note the following points in relation to the processing of your data:

- Data will be held securely by the research team on behalf of the University of Manchester according to the University's data protection and information security policies. A copy of the University's Privacy Notice can be found at: http://documents.manchester.ac.uk/display.aspx?DocID=37095
- Access to the data will be restricted to the research team for the sole purpose of contacting you about this study.
- Your data will not be shared with any third party without your written permission.
- The details collected will only be stored for as long as required to find out if you wish to take part in this specific study. Once no longer needed, that data will be destroyed securely.
- If you decide to change your mind about being contacted about the study or would like your details to be destroyed you can contact Alexandra Brown at **MISSIstudy@manchester.ac.uk**

Once you have completed your details, please ensure that you have added your signature before tearing off the section below and passing it to your clinician. You can keep the top half of this form.

✂----------

I am happy **to provide/for my health care professional to provide** (delete as appropriate) my personal details so that I can be contacted about this study (IRAS ID: 237135).

Name	
Signature	
Today's date	

Please complete the details below or hand back to your health care provider to complete on your behalf

Contact by letter	Address	
	Post Code	
Contact by phone	Preferred contact number	
	When would you prefer to be contacted? (please circle)	Morning/ Afternoon/ Evening/ Don't Mind
Contact by email	Email address	

Appendix Q: Consent Form

Mixed-Methods Investigation of Shame in those who Self-Injure (MISSI)

Consent Form

If you are happy to participate please complete and sign the consent form below:

	Activities	Initials
1	I confirm that I have read and understand the attached information sheet (Version 1, 18/07/19) for the above study and have had the opportunity to consider the information. I have also had the opportunity to ask questions and these have been answered satisfactorily.	
2	I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving a reason and without detriment to myself or my care. I understand that it will not be possible to remove my data from the project once it has been anonymised (four weeks after the face-to-face interview) and forms part of the data set.	
3	I agree to the researcher contacting my GP or relevant clinician to discuss eligibility and safety prior to commencing the online diaries.	
4	I understand that my clinician/GP will receive a letter informing them that I am taking part in this study, and that a copy of this consent form will be kept in my medical notes.	
5	I agree to the interview being audio recorded and written out in full (transcribed) by the research team or a University of Manchester Course Administrator as outlined in the Participant Information Sheet. I understand that I can halt this recording at any time.	
6	I understand that data collected during the study may be looked at by individuals from The University of Manchester or regulatory authorities, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my data.	
7	I agree that any anonymised data collected may be shared with researchers for future, relevant projects.	
8	I agree that any data collected may be published in anonymous form in academic books, reports or journals. I understand that direct quotes from interviews may be published, however these will be anonymised.	
9	I would like researchers to email me with the findings of the study. If yes, please provide email address: Email address:_____	
10	I understand that there may be instances where during the course of the study information is revealed which means that the researchers will be obliged to break confidentiality and this has been explained in more detail in the information sheet.	
11	I agree to take part in this study.	

Data Protection

The personal information we collect and use to conduct this research will be processed in accordance with data protection law as explained in the Participant Information Sheet and the Privacy Notice for Research Participants
(http://documents.manchester.ac.uk/display.aspx?DocID=37095).

_____	_____	_____
Name of Participant	Signature	Date
_____	_____	_____
Name of the person taking consent	Signature	Date

You will be given one copy of this form to keep. One copy will be kept by the research team and one copy will be sent to your GP/mental health clinician to be kept in your notes.

Appendix R: Electronic Sampling Methodology Instructions

MISSI Study Diary Instructions

Thank you for taking part in the MISSI study. Part of this study will involve completing brief diary entries using your smartphone.

How do I access the online diaries?
You will receive a text message three times per day with a link to the diary for a total of two weeks. You will be given log in details during this initial meeting to use each time you log on to the diaries.

Will the text messages be sent at the same times every day?
No, the time that the text messages are sent will be randomised each day. However, they will be sent be within the hours that you have specified to us (e.g. between 8am-9pm).

What happens if I receive a text when I'm really busy/it's not convenient to fill the diary in/miss a text/don't feel it would be helpful?
We appreciate that there are lots of valid reasons why people may not be able to fill in all of their diary entries, so please do not worry about this. If you cannot fill in the diary within 1 hour of receiving the text message, please do not fill this entry in, as we are focusing on people's in-the-moment experiences, so if too much time has passed we might not be able to include this entry in data analysis. Wait until the next beep to record your more recent experiences. These instructions also apply if you miss a text and see it e.g. over an hour later. If you do not feel that completing the diary will be helpful to your emotional wellbeing at any time, you are welcome not to complete the diary, or let us know in the free text section.

What happens if I'm having issues with the diaries?
The researcher will phone you two days after you start the diaries to check in, please inform them if you are having any issues with the diaries- either technical or emotional. You are also welcome to email MISSIstudy@manchester.ac.uk with any issues, however this email address cannot be used to give emotional crisis support.

When will I start/stop receiving text messages?
You will start receiving text messages tomorrow _____. You will stop receiving text messages when you have been completing diary entries for 14 days, you will receive your last text message on _____.

The researcher will take you through a brief "practice" session during this initial meeting.

Appendix S: A Sample of Anonymised Electronical Sampling Methodology Data

Timestamp: 01/02/2020, 10:15am		
Question number	Question (answer format)	Answer
1	Since the last text, have you felt bad about yourself or something you did? (Yes/No)	Yes
2	How would you describe this feeling? Could you put a label on it? (Free text box):	Upset, overwhelmed, ashamed of myself.
3	Rate the strength of this feeling 0= not strong at all, 7= extremely strong (Likert Scale)	5
4	Did you notice this feeling anywhere in your body, for example in your chest or abdomen? (Yes/No)	No
5	If yes, please describe where you felt this (where about in your body) and what it felt like (Free text box)	N/A
6	What happened immediately before you felt this way? Where were you? Who were you with? Did any unwanted images or thoughts come to mind prior to this feeling? (Free text box)	Had a few funny looks off people because I have my arms on show. They try not to make it obvious but you can just tell when they look.
7	What thoughts went through your mind when you first noticed this feeling? (Free text box)	Why can't people just accept me for me and not look down at me with so much judgement. I'm

		feeling like an outsider right now.
8	Did you do anything to cope with, or try and get rid of this feeling? (Free text box)	Put some music on to drown it out
9	Please feel free to write anything you would like to add in the space below. (Free text box)	[Blank]

Appendix T: Sample of an Anonymised Interview Transcript

P: it's not something I have, it's something I am, it's exactly like that, and it's like I'm a bad person, (inaudible:0.05.30) and it's like, but that's the whole point (laughs), like,

I: yeah, that's, that's really tricky, so it sounds like there's a lot of kind of shame associated with that sort of label

P: Yeah, like if I didn't have, like, if somebody's never said that to you, or if they didn't know, if they didn't know that self-harm is so linked to your PD, I probably wouldn't feel that ashamed about it.

I: yeah, so is there something about kind of knowledge and kind of acceptability in that respect

P: yeah (laughs) basically

I: yeah,

P: erm, 'cos that's, that's because I care about what other people think about me, and I care about that a lot, and I think some will kind of go beyond that and say, I don't really care, (inaudible:0.04.49) I care a lot about what people think about me, and about my appearance, erm, and I'm probably a little bit superficial in that regard and that's something I need to work on, but at the same time, ultimately I want to be accepted, and I think, to be accepted you, I have to kind of fit into what other people deem to be acceptable, whether or not you actually agree with it overall.

I: and how hard is that for you when you've already said you know, you don't feel like you quite fit into certain groups?

P: it's almost like being someone you're not, being someone you know you're not. Erm, or having to fake it the whole time, and I think with me like, I don't actually have kind of identity issues, I know exactly who I am, I just feel like if they already knew what I was like they would hate me. So I just trying to be someone I'm not.

I: and that comes back to that shame

P: and then that's gonna (inaudible:0.04.07) because it means you make friends who you don't actually like, erm, then it's like, how do I get rid of these people, (laughs)

I: (laughs)

Appendix U: Signposting Information Sheet

MANCHESTER 1824
The University of Manchester

Version 1, 26/03/2019 IRAS ID: 237135

Mixed-Methods Investigation of Shame in those who Self-Injure (MISSI)

Support Information

If you feel distressed, or struggle with any of the issues discussed in this study, we strongly advise that you consider talking to your general Practitioner (GP). You may also want to consider contacting the support networks below.

The Samaritans 116 123

A free 24 hour support phone line, to speak about whatever is getting to you.

http://www.samaritans.org

CALM 0800 58 58 58

A support service running from 5pm-midnight 365 days a year, aimed at preventing male suicide. They also run a webchat.

https://www.thecalmzone.net/

PAPYRUS 0800 068 41 41

A confidential helpline for young people at risk of suicide, open 10am-10pm Monday-Friday and 2pm-10pm at weekends.

https://www.papyrus-uk.org/

If you would like to access face to face support we advise that you visit your GP or if you are in crisis visit your local A& E department or call 999.

As this is a research project we cannot provide support, therapy or intervention. This is because we are not a clinical team. The email addresses provided for study related questions are not monitored 24 hours a day and cannot be used to offer support or advice for an individual in crisis.