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Investigating the Intrapersonal and Interpersonal Functions of Adolescent Self-Harm: A Research Portfolio.

Michael Young

Doctorate in Clinical Psychology

The University of Edinburgh

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Lay Thesis Summary

Self-harm is when someone hurts themself deliberately. There are many reasons people might self-harm. For some people this can be a way to help them when they feel upset or stressed (intrapersonal reasons). For others, this can be a way to let others know that they need support, or that they are unhappy with other people (interpersonal reasons). Self-harm is a growing problem among young people and is linked to many negative outcomes, meaning that research into how to prevent self-harm or support people who self-harm is important. One aim of this thesis is to understand why some young people might self-harm for one reason and not another. This thesis also looks at the reasons young people's caregivers give for their self-harm and whether this is different from the reasons young people give. To answer these questions the current research in this area was summarised and analysed (systematic review) and a new research study (empirical project) was completed.

Systematic Review

It is important that caregivers have a good understanding of the reasons that their young person might be self-harming. If caregivers and young people have very different understandings of self-harm, this could lead to difficulties in communication and may make it difficult for caregivers to help. The review found that caregivers often felt they didn't understand self-harm at all and became upset and overwhelmed when they discovered their young person was self-harming. For some caregivers this meant that they downplayed their young person's self-harm as a way to cope with their own feelings, while others were motivated to learn more to offer support. Caregivers often felt guilty and blamed themselves for their young person's self-harm, worrying that they had done something wrong. When caregivers did give reasons for their young person's self-harm these included: to cope with or remove difficult emotions, to control their caregiver, to get care or attention, and to fit in with friends. This review showed that caregiver would benefit from having access to helpful support and educational resources, especially when they first discover their young person is self-harming, so that they can provide better support.

Empirical Project

There is a lot of research on the reasons that young people self-harm, but there is no current research on why some young people self-harm for one reason and not another. This study gave young people questionnaires asking about: their relationships with other people, how they manage their emotions, their wellbeing, and if they self-harm and for what reasons. It found that people who find it difficult to rely on others due to their early experiences (avoidant attachment) were more likely to self-harm for intrapersonal reasons, and people who were highly reliant on others (anxious attachment) were more likely to self-harm for interpersonal reasons. The study also found that this may be due to people with anxious or avoidant attachment having more difficulties in managing their emotions. This helps people working with young people who are self-harming learn more about what might be most helpful, mainly: helping caregivers and young people to develop to feel comfortable in relationships (secure attachment), helping people learn to manage their emotions, and helping people find ways other than self-harm to meet their social and emotional needs.

Thesis Abstract

Objective: This thesis aimed to explore the intrapersonal and interpersonal functions of self-harm for young people. The systematic review aimed to synthesise studies which explored how caregivers understand their young person's self-harm. The empirical project aimed to examine whether attachment insecurity predicted which functions of self-harm were endorsed and whether this relationship was mediated by difficulties in emotion regulation.

Methods: The systematic review searched eight databases to identify eligible studies which included qualitative data on how caregivers understand their young person's self-harm and thematic synthesis was used to analyse results. The empirical project was a cross-sectional, questionnaire-based study and was analysed using three mediation models.

Results: The systematic review identified 22 eligible studies and identified four superordinate themes: 1) A Lack of Understanding 2) Searching for a Cause 3) Internal Functions 4) Interpersonal Functions. The empirical project found support that attachment avoidance could predict intrapersonal functions of self-harm and attachment anxiety could predict interpersonal functions of self-harm. There was also support that these relationships were mediated by differences in emotion regulation in three out of four cases.

Discussion: The systematic review identified that caregivers often feel that they lack understanding of their young person's self-harm, and access to good psychoeducational materials and support is important to relieve their feelings of guilt and allow them to better support their young person. The findings of the empirical project suggest that promoting greater attachment security, improving emotion regulation skills, and identifying alternative means of meeting specific functions of self-harm can be important targets for intervention.

Systematic Review

How do Caregivers Understand Their Young Person's Self-Harm? A Qualitative Systematic Review and Thematic Synthesis.

(Authors - Michael Young [1 2 4], Amy Latimer [2], Dr Jamie Kennedy-Turner [1 3])

This chapter has been prepared in accordance with author guidelines for the international peer-reviewed journal *Child Psychiatry and Human Development* (see Appendix A).

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Systematic Review Abstract

Youth self-harm is a major public health concern and global research priority. Caregiver's beliefs about the functions of self-harm in young people can influence how they respond to this behaviour. These responses can be adaptive or maladaptive and can play a large part in a young person's recovery from self-harm, with better understanding among caregivers potentially leading to more helpful responses. Despite this, no extant systematic review has collated the evidence exploring caregiver understanding of the functions of their young person's self-harm. A comprehensive systematic search was undertaken to identify qualitative studies relating to how caregivers understand the function of their young person's self-harm. Of the 2,850 articles identified, 22 were included for thematic synthesis and appraised for quality. Four themes were formulated to explain parents' understanding of why their young person self-harms: 1) A Lack of Understanding 2) Searching for a Cause 3) Internal Functions 4) Interpersonal Functions. While caregiver explanations typically aligned with current academic understandings of self-harm and the reported lived experience of young people, the majority position was that caregivers did not feel they understood self-harm well. Implications of these findings, including the importance of parental education around self-harm, particularly in the early stages of discovering their young person's self-harm, are discussed.

Keywords: Self-Harm, NSSI, Non-suicidal self-injury, Adolescent, Parents, Caregivers

Introduction

Self-harm is any self-directed behaviour which can cause physical harm (Muehlenkamp et al., 2012) such as cutting, burning, poisoning, and self-battery (Hawton et al., 2012). Self-harm typically first occurs during adolescence (Braush & Woods, 2019; Moran et al., 2012), and appears to be increasingly prevalent in recent years (Cybulski et al., 2021; Morgan et al., 2017; Trafford et al., 2023), with between 5-15% of adolescents engaging in self-harm at least once (Hawton et al., 2002; Iob et al., 2020; De Leo & Heller, 2004; Madge et al., 2008; McManus et al., 2019). Self-harm represents a major public health concern (Hawton et al., 2012), often being an indicator of distress or mental health difficulties, and being associated with increased risk of suicide (Bergen et al., 2012; Cooper et al., 2005). Self-harm can also impact the wellbeing of the wider family system, with many parents of a young person who self-harms reporting insomnia, depression, anxiety, and feelings of hopelessness (Arbuthnott & Lewis, 2015; Mughal et al., 2022).

Self-harm is still highly stigmatised and often poorly understood (Aggarwal et al., 2021), with young people being much less likely to seek support for their self-harm if they feel their motives for self-harming may be judged or misunderstood (Waller et al., 2023). Many self-harming young people often never present to mental health services, instead relying on support from family or friends (Fortune et al., 2008; Michelmore & Hindley, 2012). As a result, it is important that caregivers develop a good understanding of self-harm to be able to support young people more effectively. To this end, increasing understanding of self-harm among families and the wider public is an important part of many self-harm and suicide prevention measures (NHS Education for Scotland, 2022; Scottish Government & COSLA, 2022).

Functions of Self-Harm

Knowledge about the possible functions of self-harm is central to helping people understand the causes of self-harm and the strategies that would be most helpful to support the cessation or recovery from this behaviour (Duarte et al., 2019; Klonsky, 2007). Self-harm can serve a diverse range of functions, which can be endorsed simultaneously (Klonsky, 2007) and there is a large degree of variance as to which functions individuals report as motivating their self-harm (Gratz, 2003). Common functions include: affect regulation; sensation-seeking; meeting interpersonal needs through eliciting care or reducing unwanted social interaction; and coping with suicidal thoughts (Hooley & Franklin, 2017; Klonsky & Glenn, 2009; Nock & Prinstein, 2004).

Several theories have been posited to explain the possible functions and maintaining mechanisms of self-harm (Jacobson & Batejan, 2014). Interpersonal theories of self-harm often conceptualise self-harm as being a way to meet interpersonal needs such as eliciting care, communicating needs, or changing the behaviour of others, or asserting interpersonal boundaries (Jacobson & Batejan, 2014). Interpersonal functions are commonly endorsed by individuals who self-harm, with one study suggesting adolescents endorse interpersonal functions as frequently as intrapersonal functions (Lloyd-Richardson et al., 2007); however other research has suggested intrapersonal functions to be more likely to be endorsed (Nock & Prinstein, 2004; Tang et al., 2025). This suggests that while interpersonal functions play an important role, it may not be sufficient to explain all self-harm. Affect regulation theories suggest that self-harm is used primarily to remove, decrease, or avoid negative feelings or increase or initiate desirable feelings when feelings are absent and as this can be an effective strategy in the short term this behaviour is reinforced and more likely to

reoccur (Chapman, Gratz & Brown, 2005; Jacobson & Batejan, 2014). Affect-regulation does appear to be the most commonly endorsed function of self-harm (Klonsky & Olino, 2008; Nock & Prinstein, 2004) and a majority of people will report some relief following self-harm although this is typically short lived and often followed by an increase in negative feelings (Favazza & Conterio, 1989; Nixon et al., 2002). Additionally, systematic reviews have noted an established link between self-harm and difficulties in emotion regulation (Brereton & McGlinchey, 2020; Wolff et al., 2019). Despite strong supporting evidence for affect regulation theories, interpersonal factors can clearly still play a role for some individuals and should be accounted for.

The Four Function Model of Self-Harm (FFM; Nock & Prinstein 2004) is a behaviourist theory of self-harm which accounts for both interpersonal and intrapersonal functions. Behaviourism argues that a behaviour is likely to be repeated when accompanied by a desirable response (positive reinforcement) or the removal or reduction of an aversive response (negative reinforcement) (Skinner, 1971). Individuals may engage in self-harm to cope with interpersonal or intrapersonal distress and experience short-term relief or the generation of desirable affective, cognitive, or social states, meaning that self-harm is more likely to occur again in the future (see table 1).

Table 1

Four Function Model of Self-harm

Reinforcement Type	Negative	Positive
Automatic (Internal Factors)	Decrease or eliminate aversive affective or cognitive state(s)	Increase or generate desired affective or cognitive state(s)
Social (Interpersonal Factors)	Decrease or eliminate aversive social event(s)	Increase or generate desired social event(s)

Note: Adapted from *Bentley et al. (2014)*

The FFM is supported empirically as capturing the most commonly endorsed functions of self-harm (Hird et al., 2023; Lloyd-Richardson et al., 2007) and its specificity around the functions served has been used as a basis for providing a framework to recommend alternative behaviours which can serve similar functions (Bentley et al., 2014). While initially criticised for not explaining why some people would engage in self-harm but not others, the FFM was later expanded into Nock's integrative model of self-harm (Nock, 2009) to include a series of distal and proximal risk factors which when activated by stress, could increase the likelihood of self-harm.

Caregiver Beliefs and Reponses to Self-Harm

Research suggests that following an incident of self-harm, there can be substantial discrepancy between the beliefs of caregivers and their young people regarding the functions of that self-harm. One quantitative study suggested that parents appeared to emphasise interpersonal functions of self-harm (e.g., eliciting care) more than intrapersonal functions (e.g., reducing unwanted emotions) (Duarte et al., 2019), while both young people and the research in general suggests that intrapersonal functions are much more commonly endorsed by young people who have self-harmed (Klonsky 2007; Nock & Prinstein, 2004). Such differences in the perceived function of the behaviour may lead to difficulties in communication between the caregiver and young person, a lack of attunement, and could lead to caregivers responding in line with their understanding of the motivations for self-harm (Curtis et al., 2018), when this is at odds with the young person's own perspective. This could potentially lead to further self-harm, given that maladaptive communication patterns within families can be risk factor for further self-harm (Kennedy-Turner et al., 2025;

Michelson & Bhruga, 2012), leading to a vicious cycle of escalating self-harm and communication difficulties.

As adolescents are typically heavily reliant on their caregivers during this developmental stage, how caregivers make sense of and respond to their young person's self-harm is important. Research has indicated that caregiver responses to self-harm can have a significant influence on recovery outcomes (Rissanen et al., 2013), with many clinical interventions for adolescent self-harm involving input from families and focussing on improving communication and emotional support (Muhlenkamp et al., 2013). Caregivers' initial reaction to self-harm can impact a young person's willingness to seek support from parents again in the future (Arbuthnot & Lewis, 2015; Rowe et al., 2016). Given the association between understanding of self-harm and adaptive responses among caregivers, it is important to examine whether they have a good understanding of the functions associated with self-harm to be able to respond helpfully.

Young people report that reliability, emotional connectedness, calm communication, non-judgement, being made to feel safe, and validation of distress are all helpful responses to self-harm (Fortune et al., 2007; Shaw, 2006; Wadman et al., 2018); however, it is often difficult for these needs to be met within the family. Caregiver distress associated with their young person's self-harm and increased stress within the household can lead to a reduced capacity to provide care effectively and can influence how caregivers respond to their young person's self-harm (Townsend et al., 2021). This can include reacting angrily, or increased family conflict and arguments following discovery of self-harm (Wadman et al., 2018). Alternatively, caregivers who feel overwhelmed may responding by minimising or denying the young person's self-harm or withdrawing from interacting with the young person

(Wadman et al., 2018). Other caregivers may respond by becoming hypervigilant towards any signs of distress, or becoming overinvolved or overprotective in a way which is unhelpful for the young person (Townsend et al., 2021).

The Current Study

Despite research linking self-harm to negative outcomes for young people and the importance of caregiver support, caregivers can often respond in unhelpful ways (Townsend et al., 2021). This may be due to misunderstanding among caregivers as to the reasons young people engage in self-harm, leading to mis-attunement in caring responses offered. It is important to examine how caregivers understand youth self-harm, as this can highlight education and support needs for caregivers, and may inform targets of effective educational materials or interventions. Qualitative studies have suggested that caregivers often report a lack of understanding of the reasons for self-harm (Hughes, 2017; Kelada et al., 2016) while other research suggests a number of different explanations for self-harm which would merit further investigation, such as being related to mental health difficulties, attention seeking or manipulation, or peer pressure (Galea & Galea 2018; Oldershaw et al., 2018; Townsend et al., 2021). The quantitative data regarding common caregiver beliefs about self-harm is more limited, but did suggest that caregivers overemphasised interpersonal functions as a reason for self-harm, to the neglect of intrapersonal functions more commonly endorsed by young people (Duarte, et al., 2019).

Previous systematic reviews have examined caregivers' emotional experiences, needs, difficulties, and challenges when caring for a young person who self-harms (Curtis et al., 2018; Martin et al., 2024; Mughal et al., 2022), however, there is no existing review which

synthesises information about how caregivers understand the functions of self-harm in young people. This review aims to address this gap in the literature and draw on available qualitative data to gain a better understanding of caregiver perceptions of the reasons for, functions of, and maintaining factors perpetuating their young person's self-harm. It is hoped that a clearer understanding of the common beliefs that caregivers have about the functions of their young person's self-harm can aid in the development of better psychoeducation and resources to address gaps in knowledge or misconceptions around this behaviour, which in turn could improve outcomes for families. This systematic review therefore seeks to answer the question: How do caregivers understand their young person's self-harm?

Methods

This systematic review aimed to gain a deeper understanding of the reasons that caregivers provide when trying to explain the reasons for, functions of, and maintaining factors perpetuating their young person's self-harm. In other words, how do caregivers understand their young person's self-harm?

Design

This systematic review focuses exclusively on qualitative literature, due to a desire to focus on rich, in-depth and diverse perspectives and first-person experiences offered by caregivers regarding how they make sense of and understand youth self-harm (Braun & Clarke, 2006); these experiences are unlikely to be accurately quantified by existing psychometric questionnaires. Further, this review builds on previous qualitative reviews in the areas of: caregiver and young peoples' experiences, wellbeing and needs during self-

harm (Martin et al., 2024; Mughal et al., 2022; Simes et al., 2021); family factors associated with adolescent self-harm (Fortune et al., 2016); and how young people understand their own self-harm (Stänicke et al., 2018), to focus exclusively on caregivers' own understandings. It is hoped that this review, with a different research focus specifically prioritising caregivers' understanding of functions of self-harm rather than their emotional experiences, will complement existing literature and support in developing recommendations driven by evidence derived from the collated lived experiences of caregivers themselves.

The review uses a thematic synthesis methodology, an approach which shares many underlying philosophical assumptions with meta-ethnography, but uses techniques drawn from thematic analysis (Thomas & Harden, 2008). A benefit of such an approach is that it provides a systematic methodology for aggregating and categorising qualitative data which remains very close to the views and opinions of participants and authors of the primary texts, while also allowing at a later stage the development of novel 'higher level' themes which go beyond a simple aggregation of pre-existing data (Barnett-Page & Thomas, 2009; Flemming et al., 2019). Thematic synthesis was chosen over other methodologies as it is an approach considered to be particularly helpful in answering specific research which are likely to generate in-depth analytical themes while providing an 'audit trail' of how themes are generated from the primary texts, reducing the likelihood of researcher bias (Flemming et al., 2019, Cochrane, 2022).

In order to maintain transparency and ensure that the review aligns with best practice in reporting, the Enhancing Transparency in Reporting the Synthesis of Qualitative Research (ENTREQ) guidelines were followed (Tong et al., 2012). This approach consists of ensuring

literature is searched for in a systematic way, that all articles are critically appraised, and that analysis of included articles are completed in an inductive and iterative manner (see Appendix B for ENTREQ checklist).

An *a priori* protocol was registered with the international PROSPERO database on 05th August 2024 (PROSPERO ID: CRD42024555018; see Appendix C) and can be viewed online at: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42024555018.

Search Strategy

Initial scoping searches were conducted to ensure that the present review makes a novel contribution, and to ensure sufficient extant research existed.

Search terms were developed by looking at the keywords of relevant studies and refined following dummy searches. The “*” truncation function was used to include papers using related words with differing suffixes and the adj3 function (three-word adjacency searching) was used to ensure that identified terms are specific to parent or caregiver experiences, and not for instance, parents or caregivers who are self-harming. The following electronic databases were searched using the below search string with no limiters, applied on 1st September 2024: Scopus, Embase, PsycInfo, Medline, EMBASE, AMED, CINHAL, ProQuest and Web of Science (Core Collection). The final search strategy, with adapted formatting for each database as required, was as follows:

("nonsuicidal self-injury" or "non-suicidal self-injury" or "NSSI" or "self-harm*" or "self-injur*" or "self-mutilat*" or "self-wound*" or "self-poison*" or "para-suicid*" or "parasuicid*" or "headbang*" or "head-bang*" or "cutting" or "self-inflict*" or "self-destruct*" or "burning") AND (("parent*" or "caregiver*" or "carer*" or "father*" or

"mother*" or "paternal" or "maternal" OR "grandparent*" or "grand-parent*" or "foster" or "guardian*") adj3 ("experience*" or "attitude*" or "perception*" or "perspective*" or "belief*" or "thought*" or "opinion*" or "understand*" or "view*" or "attribut*" or "function*"))

Reference lists of included studies were also searched for additional studies that were not captured by the search strategy but none were identified.

Eligibility and Screening

While there is no consistently agreed upon definition of a young person, for the purposes of this review it was decided that an upper limit of 25 years would be selected – this aligns with broad conceptualisations of the adolescent period and captures a large period where self-harm is most frequent (Sawyer et al., 2018).

Articles were eligible if they met the following criteria:

- The article was of qualitative or mixed methods design
- The article used a well-defined, rigorous methodology to analyse the qualitative data (e.g., Thematic Analysis, Interpretive Phenomenological Analysis)
- The article sample included parents or caregivers of children and young people who have at least once engaged in self-harm
- The article contained qualitative data relevant to the central research question on how caregivers make sense of their young person's self-harm, including reasons, functions, motivations, maintaining factors
- A full-text version of the article was available in English at the time of writing

Articles were excluded if they met any of the following criteria:

- The article was a systematic review or narrative synthesis
- The article was a book review, abstract-only, or poster-only

Duplicate articles were automatically removed using the Covidence systematic review management software, with another five duplicate articles manually removed at the stage of full-text screening. All titles and abstracts were screened by the primary researcher, with 20% of papers also screened separately by a second reviewer to reduce the risk of researcher bias or error. There were no conflicts which arose during abstract screening and inter-rater reliability was perfect (k=1.00) (Cohen, 1960). Full text screening followed the same process and inter-rater reliability was near perfect (k=.93) with disputes being resolved through discussion with a third researcher, resulting in the final set of studies.

Data Extraction and Quality Appraisal

For each included study, the following data were extracted using a custom data extraction tool (see Appendix D): author(s); year of publication; country of study; study design, data collection method, and method of analysis; sample size; population; study aims; themes generated.

The quality of all included studies was critically appraised using The National Institute for Health and Care Excellence (NICE) 'Methodological Checklist: Qualitative Studies' (NICE, 2012) (*appendix E*). This appraisal tool helps to assess the appropriateness, methodological soundness, and ethical merits of each paper. All papers were rated by the primary researcher and 20% of studies were also rated by a second reviewer, with inter-rater rating at this stage near perfect (k=0.93). Any conflicts in rating were resolved by a third reviewer. None of the identified studies were excluded from the final analysis due to low quality.

Data Synthesis

Data was aggregated and interpreted using a thematic synthesis approach supported by NVIVO v15 software (Thomas & Harden, 2008). This involved an initial line-by-line free coding of relevant text within each included article. These codes were then aggregated under descriptive themes, which remained close to the original interpretation of the data. When these themes had developed and the researcher had a more comprehensive understanding of the data as a whole, higher-level themes were developed. This was not a fully linear approach, and codes, descriptive themes, and higher-level themes were iterated on throughout the process.

Reflexivity

Qualitative research, including thematic synthesis, relies on appraisal and understanding of reviewers (Thomas & Harden, 2008) and as such the subjectivity of the reviewer should be considered at each stage (Dodgson, 2019). The researcher has known many young people who have self-harmed within both personal and professional contexts and this had potential to influence the analysis of the primary data and generation of themes. Potential biases were discussed during academic supervision and the positionality of the primary researcher was considered throughout the process. A second reviewer was consulted throughout this process to review generated codes and themes in order to reduce the risk of researcher bias and to help reflect on the meaning of the data gathered.

Results

2,850 potentially relevant studies were identified in the initial search. Following de-duplication 1,360 articles proceeded to abstract screening. After screening abstracts of potentially relevant articles, a total of 35 full-text studies were retained and retrieved for full text screening. 13 studies were excluded following full-text eligibility screening, leaving 22 to be included in the final review (see Figure 1).

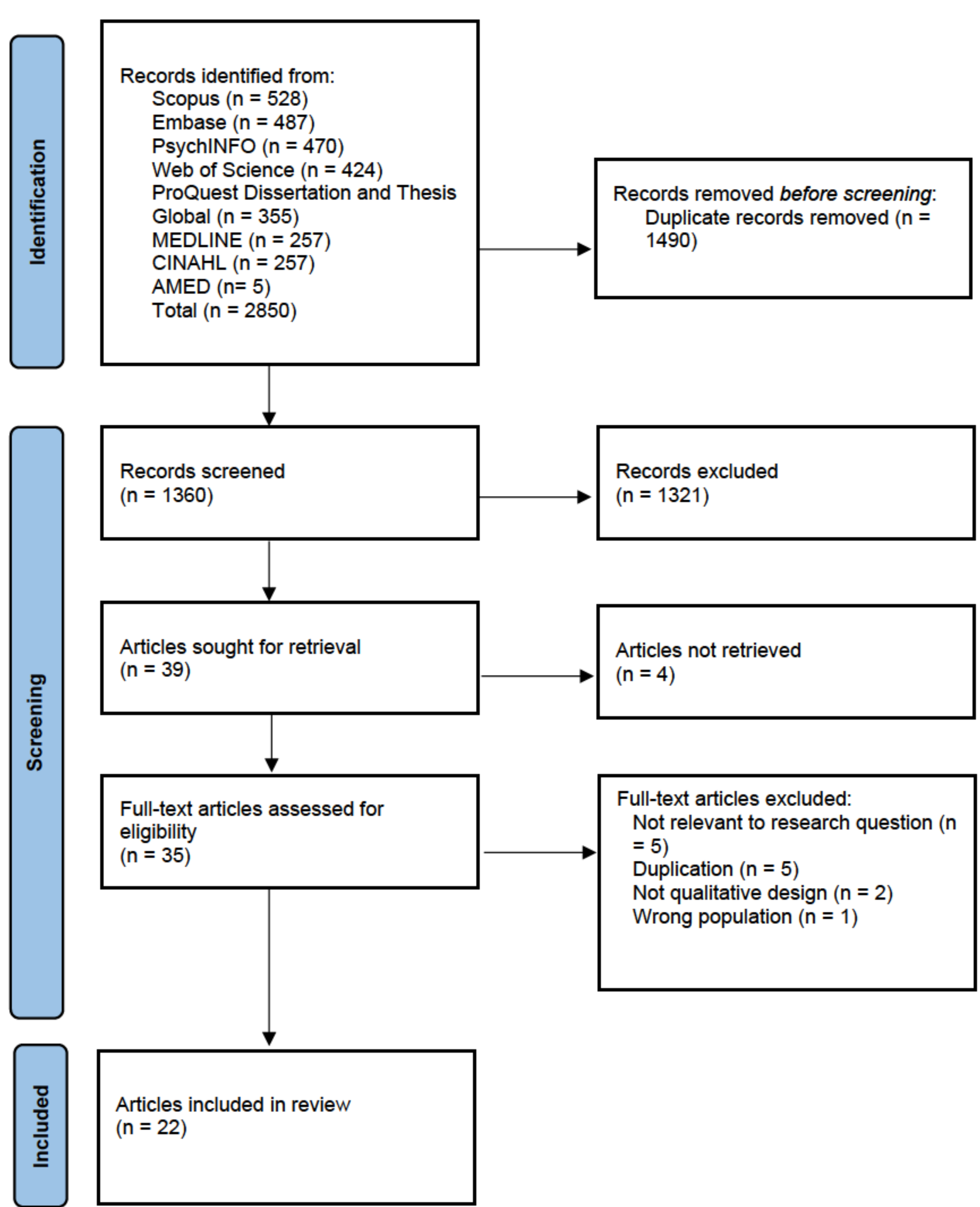

Figure 1

PRISMA Flowchart Displaying Study Selection Procedure

Characteristics of Included Studies

The search strategy identified 22 papers that were eligible for inclusion. Selected characteristics of included studies are summarised in Table 2. Included studies were published between 2006 and 2023 in the UK (n=6), USA (n=4), China (n=4), Australia (n=2), Canada (n=1), Finland (n=1), Ireland (n=1), Malta (n=1), Portugal (n=1), and Australia and Canada combined (n=1).

Together the included studies reported a total population of 359 participants, of which 347 were parents, 11 were carers, and 1 was a grandparent. Of the papers which clearly reported participant gender, 196 were mothers, 30 were fathers, and one participant was non-binary. The age of the self-harming young person in each of the studies was variable, ranging from 11 to 25. Data was mainly collected through interviews (n=20), and focus groups (n=2). The most common qualitative data analysis methodology was thematic analysis (n=8) followed by Interpretive Phenomenological Analysis (IPA; n=6), other phenomenological approaches (n=5), inductive content analysis (n=2), and conceptual analysis (n=1). Of the included studies, 16 were published, peer-reviewed journal articles and six were unpublished doctoral theses.

Quality Appraisal

All of the included studies were found to be of excellent quality and no issues warranting a study exclusion from the review were identified. Quality appraisal results are summarised in Table 3.

Table 2
Characteristics of Included Studies (n=22)

Author(s)	Country	Publication Type	Design and Analysis	n	Population	Study Aim(s)	Themes Identified
Bohlinger (2017)	USA	Unpublished PhD thesis	Mixed methods study using semi-structured interviews and interpretative phenomenological analysis (IPA).	5	Twenty parents (17 female, 1 male, 1 non binary) completed an online questionnaire. Five mothers of five young people (aged 14-16 years old) also completed an interview after the survey.	To understand how parents conceptualize support and validation in the context of adolescent self-injury and how family resilience functions within families affected by adolescent non-suicidal self-injury.	1) The meaning of adversity: why did my child begin to hurt his or her Self? 2) Connectedness/cost of connectedness 3) Maintaining flexibility and boundaries in family roles 4) Boundaries: deciding who is In and who is out 5) Hopefulness
Byrne et al. (2008)	Ireland	Journal Article	Qualitative study using focus group methodology, participants met at the same time but were split into 5 sub-groups. Conceptual analysis using an inductive approach based on Guerin and Hennessy (2002).	25	25 participants (15 parents and 10 carers) with child/young person 16 or under who had self-harmed	To describe parent and carers' experiences of self-harm in their child in order to identify their support needs.	1) Support 2) Emotions 3) Parenting 4) Family 5) Psycho-education Managing self-harm 6) Beliefs about self-harm 7) School 8) Internet
DeMiranda Trinco, et al. (2017)	Portugal	Journal Article	Qualitative exploratory-descriptive study using semi-	38	38 parents (34 mothers and 4 fathers) of adolescents aged	To identify the experiences/needs of parents of adolescents aged 13	1) Reactions to the news 2) Feelings/Emotions 3) Thoughts/Reasons/Beliefs 4) Needs

			structured interviews and a phenomenological approach to data analysis.		13-18 admitted to the emergency department after deliberate self-poisoning and/or cutting without suicidal intent.	to 18 years with self-harm behaviours and who were admitted to the emergency department of a paediatric hospital	
Ferrey et al. (2016)	UK	Journal Article	Qualitative study using semi-structured interviews and thematic analysis.	37	37 parents of 35 young people who had self-harmed (including 2 parent pairs). 32 Mothers (1 adoptive), 5 fathers.	To explore the emotional, physical and practical effects of a young person's self-harm on parents and family.	1) Immediate impact 2) Ongoing impact on parent's emotional/mental health 3) Impact on partners 4) Impact on siblings 5) Impact on wider family 6) Social isolation/support 7) Impact on work/finances 8) Parents' conception of the future
Fu et al. (2020)	China	Journal Article	Qualitative study using semi-structured interviews and thematic analysis.	24	20 parents (16 mothers, 4 fathers) of adolescents (aged 12-18) with NSSI recruited from psychiatric ward.	To investigate the parent's attitudes toward and perceptions of adolescents who have engaged in NSSI behaviors, and the impact of NSSI on their parents.	1) Attitudes to children's NSSI a) Ignorance b) Shame c) Stereotypes 2) Coping strategies of parents a) Initial response to adolescent NSSI b) Help seeking responses 3) Impact on family a) Altered parenting/communication Styles b) Limited personal Lives c) Increased psychological pressure

Galea & Galea (2018)	Malta	Journal Article	Qualitative study using semi-structured interviews and IPA.	4	Four mothers of self-harming adolescents. Each interviewed twice.	To explore and understand the lived experiences of mothers of adolescents who engaged in Deliberate Self-Harm while investigating the need for further education and support.	1) Guardians' depths of despair a) Adolescents' traits b) Trauma c) Coping, anxiety, attention seeking 2) Guardians weathering the storm a) Endurance b) Socioeconomic deprivation c) Familial relationships 3) Hope in the midst of despair
Gelinas (2021)	Canada	Unpublished PhD thesis.	Qualitative study using semi-structured interviews and thematic content analysis within an IPA framework.	10	10 parents (9 mothers, 1 father) of children who had recovered from self-harm (age of onset between 11-17 years).	To examine the perspectives and experiences of parent-caregivers of individuals who have recovered from self-harm	1) Emotional experience of caregiving 2) Parental experience of caregiving 3) Familial experience of caregiving 4) Challenges and struggles with caregiving role 5) Helpful actions 6) Unhelpful actions 7) Involvement in help-seeking 8) Support Needs of Parent-caregivers 9) Support needs of those who self-harm
Hughes (2017)	UK	Journal Article	Qualitative study using narrative interviews and thematic analysis.	41	41 parents or other family members of 38 young people (aged up to 25	To seek views from parents of young people who self-harm with a view to developing and getting feedback on	1) Bewilderment and confusion 2) Looking for information 3) Building a new way of seeing

					years) who had self-harmed	informational resources	
Karamat Ali (2013)	UK	Unpublished PhD Thesis	Qualitative study using semi-structured interviews and IPA.	6	3 family dyads (mother, father, daughter) with children who self-harmed (aged between 12 and 15). 6 Parents total.	To explore the experiences of the parents of young people who self-harm and understand these within a systemic, relational context	1) Feeling emotionally overwhelmed 2) Impact on couple relationship
Kelada et al. (2016)	USA and Australia	Journal Article	Qualitative studies using a combination of open-ended questions and interviews and thematic analysis.	40	Study 1: 16 parents (15 mothers, 1 father) of adolescents who had engaged in NSSI (aged between 14 and 17) Study 2: 22 parents (18 mothers, 4 fathers) of young people with a history of NSSI	To understand parent perspectives on adolescent self-harm and whether parents believe their responses to self-harm are appropriate or detrimental	1) Lack of knowledge about NSSI 2) Uncertainty about how to interact with child after NSSI 3) Negative experiences with mental-health professionals
Krysinska et al. (2020)	Australia	Journal Article	Qualitative study using semi-structured individual and group interviews and thematic analysis.	19	19 parents (16 mothers 3 fathers) with young person who has self-harmed	To explore how parents experience supporting a young person who self-harms and identify psychoeducational needs	1) Discovering that the young person is self-harming 2) Challenges in the parent-young person relationship 3) The need to understand self-harm 4) Emotional reactions to self-harm

							5) Self-care and help-seeking 6) The need for psychoeducational resources
Lee (2019)	UK	Unpublished Doctoral Thesis	Qualitative study using semi-structured interviews and IPA.	6	6 mothers of children who are currently or have previously self-harmed	To understand how self-harm affect parents. To examine parents' experiences, perceptions and responses to self-harm.	1) Impact of self-harm on the mothers' self 2) Self-harm as an omnipresent phenomenon
McDonald et al. (2007)	Australia	Journal Article	Qualitative study using interviews and a Hermeneutic Phenomenology Approach.	6	6 mothers of adolescents (12-21) who had a history of self-harming.	To examine experiences of mothers of self-harming adolescents and how this affects their own wellbeing.	1) Dilemmas of guilt and shame 2) Searching for a reason 3) Echoes from other relationships 4) Embarrassment - you should not think of it in terms of yourself, but you do 5) Becoming hypervigilant 6) Diminished roles
Oldershaw et al. (2008)	UK	Journal Article	Qualitative study using semi-structured interviews and IPA.	12	12 parents (9 mothers. 2 fathers, 1 grandmother) of adolescents (13-18y) who had been referred to CAMHS and had/were self-harming.	To gather the perspectives of parents of adolescents who self-harm, including: their views on health service provision; their understanding and ability to make sense of self-harm; the emotional and personal impact of their young person's self-harm; their	1) The process of discovery 2) Making sense of self-harm 3) Psychological impact on parents 4) Effect of self-harm on parenting and family

						perceived caregiving skills; their hopes for the future.	
Qin et al. (2023)	China	Journal Article	Qualitative study using semi-structured interviews and thematic analysis.	18	18 parents (16 mothers, 2 fathers) of adolescents (aged 13-18) with at least two episodes of NSSI.	To investigate the perspectives of parents of adolescents with repeated self-harm on sharing their caretaking experiences with peers.	1) Sharable caretaking experiences 2) Motivations for sharing 3) Barriers to sharing
Raphael et al. (2006)	UK	Journal Article	Qualitative study using interviews and a phenomenological approach.	9	9 parents of young people (aged 16-24) who had self-harmed.	To understand parent's experiences and concerns following an episode of deliberate self-harm by their young person.	1) Emotional responses 2) What to do next? Where to find information and support? 3) Health professionals
Rissanen (2008)	Finland	Journal Article	Qualitative study using interviews and inductive content analysis.	4	Four parents (3 mothers, 1 father) of self-mutilating adolescents.	To describe self-harm from the perspective of parents of self-harming Finnish adolescents.	1) The phenomenon of self-mutilation 2) Factors contributing to self-mutilation 3) The purpose of self-mutilation 4) Sequels of self-mutilation
Russell (2017)	USA	Unpublished doctoral thesis	Qualitative study using semi-structured interviews and a hermeneutic phenomenological approach.	6	6 mothers of adolescents who had self-harmed.	To explore the experiences, characteristics and needs of parents of self-harming adolescent children.	1) Reaction to behaviour: Denial and blame 2) Change in self 3) Change in parenting style 4) Impact on relationships 5) Change in perception of MH issues 6) Support system

Townsend et al. (2022)	Australia	Journal Article	Qualitative study using semi-structured interviews and thematic analysis.	10	10 parents of adolescents (aged 12-18) with ongoing or previous self-harm.	To understand parent's experiences of supporting and seeking help for their self-harming child.	1) An emotional journey into the dark unknown 2) The promise of psychological help
Tuls (2011)	USA	Unpublished doctoral thesis	Qualitative study using interviews and a collective case study method of data collection and inductive content analysis.	4	4 mothers (aged 13-17) who had been admitted to inpatient psychiatric facility with self-harming behaviours.	To gain a qualitative understanding of parent's perspectives and comprehension of adolescent self-injuries, including their views on how the parent-child/family relationships may have influenced the self-injury.	Multiple themes including: Understanding why; More than cutting, Lack of knowledge and how to respond; Psychological aspects; Behavioural response; Trauma; Emotional Release.
Wang et al. (2022)	China	Journal Article	Qualitative study using semi-structured interviews and thematic analysis.	24	24 parents of adolescents (12-18) with repeated NSSI.	To explore parent's cognitions, behaviours and interactions with their self-harming adolescent	1) Attribution of NSSI 2) Perceptions of NSSI 4) Coping behaviours of NSSI
Ye et al. (2021)	China	Journal Article	Qualitative study using semi-structured interviews and Collaizzi's phenomenological methodology.	11	11 parents whose children harmed themselves through self-poisoning	To describe experience of parents of self-poisoning adolescents	1) Against expectations 2) Sense of guilt 3) Self-growth

Table 3

Summary of quality appraisal outcomes of NICE Qualitative Studies Methodological Checklist

Author	1.1	1.2	2	3	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	7
Bohlinger	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	DK	DK	++
Byrne	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	DK	DK	++
DeMiranda Trinco	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	++
Ferrey	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	++
Fu	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	++
Galea	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	++
Gelinas	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	++
Hughes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	++
Karamat Ali	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	++
Kelada	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	++
Krysinska	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	++
Lee	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	++
McDonald	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	++
Oldershaw	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	++
Qin	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	++
Raphael	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	++
Rissanen	✓	✓	✓	✓	✓	✓	✓	DK	✓	✓	✓	✓	++
Russell	✓	✓	✓	✓	✓	✓	✓	DK	✓	✓	✓	✓	++
Townsend	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	++
Tuls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	++

Wang	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	++
Ye	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	++

1.1: Is a qualitative approach appropriate? 1.2: Is the study clear in what it seeks to do? 2: How defensible/rigorous is the research design/methodology? 3: How well was the data collection carried out? 4.1 Is the context clearly described? 4.2: Were the methods reliable? 5.1: Are the data 'rich'? 5.2: Is the analysis reliable? 5.3: Are the findings convincing? 5.4: Are the conclusions adequate? 6.1: Was the study approved by an ethics committee? 6.2: Is the role of the researcher clearly described? 7: As far as can be ascertained from the paper, how well was the study conducted? ✓= appropriate/clear/defensible/rich/reliable/convincing/adequate; ✗= inappropriate/unclear/not defensible/poor/unreliable/unconvincing/inadequate; DK= don't know

Themes

A total of four superordinate themes were generated following the thematic synthesis. These were: 1) Lack of Understanding 2) Searching for a Cause 3) Internal Functions, and 4) Interpersonal Functions. A number of subthemes were also identified and are summarised in Table 4. A theme occurrence map is presented in Table 5, indicating the presence or absence of each superordinate theme within each included study.

Table 4

Summary of Superordinate and Subthemes

Superordinate Themes	**Subtheme**
Lack of Understanding	Not Knowing A Need to Know More Knowing but not Understanding
Searching for a Cause	Caregiver Failure Caregiver as a Trigger
Internal Functions	Removing Unwanted Emotions A Way of Coping
Interpersonal Functions	Eliciting Care A Way to Control Caregivers Peer Influence

Table 5
Theme occurrence map indicating the presence or absence of data reflecting each superordinate theme within each study

Themes	Lack of Understanding	Searching for a Cause	Internal Functions	Interpersonal Functions
Study				
Bohlinger		✓	✓	
Byrne		✓	✓	✓
DeMiranda Trinco	✓	✓		
Ferrey	✓	✓	✓	
Fu	✓			✓
Galea		✓	✓	✓
Gelinas	✓	✓	✓	✓
Hughes	✓	✓	✓	✓
Karamat Ali	✓	✓	✓	✓
Kelada	✓	✓	✓	✓
Krysinska	✓	✓	✓	✓
Lee	✓	✓	✓	✓
McDonald	✓	✓		
Oldershaw	✓	✓	✓	✓
Qin	✓	✓	✓	
Raphael	✓	✓		
Rissanen	✓	✓	✓	✓
Russell	✓	✓	✓	✓
Townsend	✓			
Tuls	✓	✓	✓	✓
Wang	✓	✓	✓	✓
Ye	✓	✓	✓	

Theme 1: A Lack of Understanding

The most common finding was that many caregivers found it difficult to understand their young person's self-harm, finding it hard to comprehend what purpose this might serve, or relate to this based on their own experiences. This sentiment was present in almost all articles studied and is something which arose during interviews, even when this was not the primary focus of the study.

Subtheme 1: Not Knowing

Many of the caregivers interviewed described a lack of knowledge about the reasons people may self-harm, feeling caught 'off guard' and self-harm typically having a big emotional impact on the caregiver's wellbeing. A mother interviewed by Kelada and colleagues (2016) described her initial reaction to her daughter's self-harm:

"Well I had never even heard of it…I didn't ever know anything about it…so it just you know scared the daylight out of me. I really didn't understand what it meant…I don't want other parents to be as blindsided by this as I was."

Another told Kelada and colleagues (2016) that by not knowing about what self-harm was they were unable to offer support initially:

"I thought it was just a one time you know, weird kinda thing. I at no point understood what it was …Because I didn't know what it was, I didn't know to do anything about it… I didn't know that it was self-injury… And it wasn't denial 'cause I didn't even know to deny anything. I had no idea."

For many caregivers who expressed an initial lack of knowledge about self-harm, this led them to minimise the seriousness following disclosure or discovery. For instance, one father told Gelinas (2021) of their response to discovering self-harm:

"The problem I had was minimizing situations. That certainly didn't help matters. I think that escalated things a lot of the time."

It appears that for caregivers who had never considered that their young person may engage in self-harm, the discovery was overwhelming, and responses could range from shock and panic to minimisation to cope with this unexpected discovery. This lack of

knowledge appears to have increased the distress felt by caregivers and, for many, impacted on their ability to offer support.

Subtheme 2: A Need to Know More

For many caregivers their initial lack of knowledge about self-harm motivated them to learn more about what can cause it and how best to provide support. For example, in interviews with Krysinska and colleagues (2020) caregivers described their desire to access resources around self-harm to learn more, although some acknowledged that this can be emotionally difficult:

"I've sort of read through all this stuff and gone through the whole process of (. . .) [I am] pretty much up to speed with what's happening and what we have to do"

One caregiver told Tuls (2011) of their desire to learn more about self-harm in order to provide the best support for their young person:

"I don't really know enough…I need to know more. I need to know more so I can know how to interact properly with her in a healthy way."

For some caregivers, there were conflicting emotions, with a desire to learn more but a fear that this would be too difficult due to feeling overwhelmed. For example, one caregiver told Krysinska and colleagues (2020):

"I actually did buy a book on self-harm and I didn't read it. (. . .) It was really weird because I wanted to skill up in it but I, at the same time emotionally just resisted it because I felt so overwhelmed and I was so worried that I'd just read all this stuff and just feel overwhelmed"

One caregiver described how their initial need to know why their young person was self-harming led to regular confrontations, but that they had learned that this approach was unhelpful and modified their way of communicating allowing their young person to share only when they felt able to, telling Wang and colleagues (2022):

"We are changing too. I used to be tough. When she hurt herself, I would confront her and demand her to tell me why. Now I can put up with it. She doesn't have to say anything if she doesn't want to."

These examples all appears to highlight a strong need for supportive, easily accessible resources on the causes and functions of self-harm and what can help, but also the importance of providing advice or support to caregivers who are likely to be feeling overwhelmed.

Subtheme 3: Knowing but not Understanding

This theme highlights the subtle difference between knowing the reasons for self-harm and fully understanding those reasons. Many caregivers described familiarity with the common reasons that people may self-harm but still found it difficult to fully understand or relate to this behaviour in practice. This was encapsulated by a caregiver interviewed by Oldershaw and colleagues (2008) who stated:

"'I don't understand it. I mean, I know why, but I don't understand."

One father who was interviewed alongside his partner by Karamat Ali (2003) also found it hard to fully understand the common motivations provided for self-harm:

"As for understanding it… I don't, I just don't, I personally can't understand why anybody would want to hurt themselves…. [pause] …to make themselves feel better. I just don't

because that's not something I know. You [other parent] feel differently about that but I just…. I know and I know it's really common but I just I still don't …."

This was echoed by a mother interviewed by Lee (2019), who suggested that being unable to imagine herself engaging in self-harm made it hard to fully understand:

"It's hard to understand because she's so unhappy and that's why she feels she has to do it, and she says it makes her feel better but I don't understand that. I don't, I can never imagine hurting myself physically if I've been unhappy."

Another caregiver appeared to confirm that having not experienced a desire to self-harm made it difficult to fully understand this behaviour, telling Karamat Ali (2003):

"I understand from a… you know… from a more of a clinical point of view about it. But I don't, I don't get it on a personal… because I never felt, I never felt like that… and I couldn't…. you know, no matter how bad I felt, I wouldn't… I couldn't do that to myself"

For some, while they didn't feel as if they fully understood self-harm, this did not prevent them from providing support and care. Krysinska et al. (2020) interviewed a caregiver who stated:

"I don't get it and I don't have to. (. . .) I just need to support"

Theme 2: Searching for a Cause

Many caregivers understandably described looking to pinpoint the cause of their young person's self-harm on external events, developmental changes, or most commonly their own perceived mistakes as parents.

Subtheme 1: Caregiver failure

A common finding across many studies was the belief that a young person's self-harm reflected caregiver failure, as this was seen as behaviour that does not occur in happy or 'normal' families. Some caregivers gave concrete examples for their belief that their caregiving led to their young person self-harming, such as alcohol use, their own mental health difficulties, and divorce. In an interview with Qin and colleagues (2023) one parent reflected on a potential cause of self-harm:

"… I think the main reason for my child's self-injury was that I put too much pressure on her and did not care about her. So I think I am a failure as a parent …"

Other caregivers felt responsible for their young person's self-harm due to a family history of mental illness or being too strict and emotionally unavailable, telling Ye and colleagues (2021):

"My mom has mental illness, so I fear my daughter will be the next. It's all my fault"

"He had a close relationship with his mom, but she left us several years ago. I felt sorry for scolding him and never cheering him up. I am not a qualified father"

Other caregivers were less specific about how their caregiving may have led to their young person's self-harm but still blamed themself. A caregiver interviewed by Ferrey et al. (2016) described their feeling that they had failed:

"I'm embarrassed by it, you know, because you think you've failed because if they were normal, well-balanced children they wouldn't be doing these things."

Another told Gelinas (2021) of how the lack of certainty she felt over why her young person was self-harming made her question her caregiving and leading to guilt and fear:

“There is a lot of uncertainty. What if I did something differently? Would it have been better? It’s a guilt-fear cycle”

Some caregivers had modified their view after learning more about self-harm, but could still recall their initial beliefs about self-harm. One parent told Lee (2019):

“…I felt like an absolute failure as a parent… I felt that I’d done something wrong, in rearing her, the fact that she felt she had to self-harm because my viewpoint, very naively at the time, I thought that, well, children that self-harm or children that hurt themselves are the ones that are raised in an unsupportive family and that’s absolutely not how she was.”

It appears that, in the absence of knowledge or understanding about other reasons for why their young person may engage in self-harm, many caregivers experience feelings of guilt and self-blame. This again highlights a need for access to effective resources on self-harm, as many caregivers reported decreased feelings of guilt as they learned more.

Subtheme 2: Caregiver as a Trigger

For many caregivers of young people who would self-harm regularly, they worried greatly that their actions may trigger a further episode of self-harm. This would often lead to them changing their way of interacting with their young person, often describing this as ‘walking on eggshells’. One caregiver told Lee (2019):

“I’m very, sort of, wary about broaching anything really, in case I aggravate a situation. It’s like treading on eggshells sometimes at home.”

Another told Oldershaw and colleagues (2008) that they feared that saying the wrong thing would trigger another episode of self-harm:

"'It's almost like walking on eggshells a lot of the time to make sure you're not, not going to say anything that's going to upset her."

One caregiver told Kelada and colleagues (2016):

"You just had to be so careful…you wanted to get your point across and be able to talk to her but if you made her really mad or she felt like she was a failure, she would go and cut."

These examples suggest the anxiety and trepidation that caregivers can feel when their young person is self-harming, but also the need for access to support or educational materials that can help build confidence in how to communicate and help young people manage distress.

Theme 3: Internal Functions

A common explanation for self-harm among caregivers was that it was used as a way to regulate a young person's strong internal emotions. Caregivers described their view that self-harm was often used as an immediate way for young people to relive difficult emotions and often used as a coping skill where young people felt that other ways of coping were not available.

Subtheme 1: Removing Unwanted Emotions

When talking about self-harm serving a function of emotion regulation, Caregivers often referred to the removal of unwanted emotions such as anger, anxiety, low mood or stress.

In an interview with Oldershaw and colleagues (2008) a caregiver shared their thoughts on the motivations behind self-harm as being a way to ease emotional pain:

"Like any other person, if you're worried about something you look for a way to ease off your pain or whatever you're worried about."

Some caregivers described self-harm as being an immediate way for young people to rid unwanted emotions. For instance, a caregiver told Krysinska and colleagues (2020):

"Self-harm is generally about now. How you're feeling right now, to get that feeling to go away now"

Subtheme 2: A Way of Coping

Many caregivers recognised self-harm as being a way of coping with difficult feelings, not just removing them outright. Some caregivers suggested to Rissanen and Laukkanen that they thought self-harm was their young person's sole way of coping with emotional pain, highlighting the importance of developing strategies other than self-harm to meet a young person's emotional needs:

"She could not release her internal pain otherwise"

Another caregiver suggests that the availability of adaptive coping skills may fluctuate and can be related to a young person's developmental stage, suggesting that getting older can allow for the development of alternative ways of coping, telling Ferrey and colleagues (2016):

"…there will be times… where she will cope less well and I see troughs at the bottom, where she may well resort to hurting herself… The older she gets, the more experienced she gets at dealing with stuff and coping with stuff and learning how to deal with her emotions better."

Self-harm was again seen as an immediate way of coping with difficulties. For example, one caregiver told Bohlinger (2017):

"In a way, she didn't choose this… it's her way of coping in the moment."

Viewing self-harm as a coping skill motivated some caregivers to help their young person develop alternative ways of coping. One parent, feeling that it is the role of a parent to help young people develop adaptive coping skills, told Gelinas (2021):

"A parent's role is to try and help them [their children] to learn better coping skills. To learn that you don't have to hurt yourself to cope with whatever the stress may be."

Theme 4: Interpersonal Functions

Many caregivers pointed to interpersonal factors as a possible function of their young person's self-harm, including eliciting care (or 'attention seeking'), controlling social situations, fitting in with peers, or a rebellion against boundaries or discipline.

Subtheme 1: Eliciting Care

Some caregivers shared the view that self-harm was often used as a way to elicit care or communicate their needs. This was often described as 'attention-seeking'. A father told Karamat Ali (2003):

"…whether she self-harms as a way to try and get attention… uhmm… from one of us to draw the attention from it being about me and [mother] to get attention for her. That's the only thing I can think of"

Another caregiver shared their initial reaction to the motivations behind their young person's self-harm with Russell (2017):

"I was like, what are you doing? Is this an attention thing? Are you doing this for attention?"

Many caregivers worried that by giving attention to their young person's self-harm that this would encourage this behaviour and be an unhelpful response. For example, a caregiver told Fu and colleagues (2020):

"…I am afraid that if I pay too much attention to her self-injury, she will think she is more abnormal, so I dare not pay attention to her…"

Another shared the sentiment that attention from caregivers may be inherently reinforcing for young people who self-harm, when they told Lee (2019):

"I think because I don't want to draw attention to that as what I'm looking for I suppose [self-cutting wounds]. If she thinks I'm looking for it, it might encourage her to do it again."

Subtheme 2: A Way to Control Parents

Another function of self-harm that was shared by caregivers was that this could be used by young people to gain control over their caregivers, or to avoid negative consequences or discipline.

One caregiver told Fu and colleagues (2020) that they viewed their young person's self-harm as being a way to get her to do what she wants:

"She threatened me with cutting her wrists every time. What she wants me to do, if I don't do it, she says she wants to cut her wrists."

Another described feeling that self-harm was used as a way for a young person to get her own way, telling Russell (2017):

"...she played us good. She knew what she was doing just to get her own way."

Another caregiver told Gelinas (2021) that they felt 'held hostage' by their young person's self-harm, suggesting that they viewed this as a way of changing their parents' behaviour:

"I think – honestly – I think she was keeping us emotionally hostage."

Subtheme 4: Peer Influence

Others suggested that self-harm may be a result of peer influence, social contagion, or following a trend, suggesting that some caregivers view self-harm as a means for young people to connect with peers. A caregiver told Oldershaw and colleagues (2008):

"I almost feel that it is a fashionable thing to do. Do you understand what I mean by that? The girls have got themselves into a situation where it's trendy."

Another described that peer influence was an initial understanding of their young person's self-harm, but that this view changed over time, telling Oldershaw and colleagues (2008):

"First of all, my immediate reaction was erm she's just copying. She's just copying her friend."

Discussion

This systematic review evaluated how caregivers understand their young person's self-harm. The aim was to systematically review the available qualitative literature and use thematic synthesis to generate a deeper understanding of the how caregivers view the functions of self-harm in young people. Thematic synthesis identified a variety of explanations for the function of youth self-harm and generated the following themes: 1) A Lack of Understanding 2) Searching for a Cause 3) Internal Functions 4) Interpersonal Functions.

Caregiver Beliefs about Functions of Self-harm

While the most pervasive theme generated was a lack of understanding, when caregivers did offer explanations for the functions of self-harm, these were often congruent with the current academic literature, and young people's own understanding of self-harm (Stänicke et al., 2018) suggesting that many of the caregivers interviewed do appear to have a good understanding of the common factors that can precipitate and maintain self-harm. For example, many of the reasons given for self-harm were consistent with interpersonal theories of self-harm, affect-regulation theories, or integrative theoretical models such as the Four Function Model of Self-Harm (Jacobson & Batejan, 2014; Nock & Prinstein, 2004). Across studies, many caregivers identified that self-harm can serve a role in removing unwanted emotions (automatic negative reinforcement) or generating more positive feelings (automatic positive reinforcement).Research supports these intrapersonal factors as being the most commonly identified reasons young people give for self-harm (Klonsky & Olino, 2008; Nock & Prinstein, 2004) and there is evidence that a majority of people report relief or positive feelings directly following self-harm (Favazza & Conterio, 1989; Nixon et al.,

2002). Other caregivers described eliciting care (generally referred to by caregivers as 'attention seeking') as a motivation behind self-harm, which can be viewed as a positive interpersonal reinforcer, while the common description of self-harm as a means of attempting to change or control unwanted social interactions can be understood as interpersonal negative reinforcement. Similarly, self-harming due to perceived peer pressure or 'following a trend' would suggest an increase in desirable social events due to feeling accepted as part of a social group. The strong focus on 'attention seeking' or manipulation as a motivation for self-harm is consistent with previous literature that suggests that this is a typical interpretation from caregivers (Duarte et al., 2019) or healthcare staff (Dickinson and Hurley, 2012; Egan et al., 2012), but that this is much less commonly endorsed by young people themselves (Chandler, 2018; Duarte et al., 2019).

Other explanations caregivers gave for self-harm can still be viewed within this model, with puberty and hormonal balances suggesting emotion dysregulation and the presence of aversive affective states which led to the development of self-harm as a coping strategy. Hormonal and neurological changes during adolescence have been shown to be associated with increased risk-taking and emotion dysregulation (Patton & Viner, 2007; Steinberg, 2007), and is posited as a contributing factor towards the increase in self-harm during this period (Brausch & Woods, 2019; Moran et al., 2012; Patton et al., 2007). A lack of knowledge among many caregivers led to a search for meaning and understanding about why their young person had self-harmed, often leading to them questioning their caregiving abilities and blaming themselves, fearing that they were responsible. While the literature does suggest that family factors can be associated with self-harm (Buckmaster et al., 2019), for many caregivers it appeared that they were able to alleviate their feelings of guilt or self-blame after learning more about self-harm. This further highlights the importance of

considering caregiver wellbeing alongside understanding, in order to allow caregivers to feel confident in providing support and managing their own emotions.

Some caregivers stated that this understanding was only gained after they discovered their young person's self-harm and were able to seek out professional advice and educational materials, again highlighting the importance of improved access to high quality psycho-educational materials for caregivers of young people who are self-harming. This is in line with existing research on the needs of caregivers, which found that psychoeducational resources were widely accepted and cited as being helpful following their young person's self-harm but that these were not always made available (Krysinska et al., 2020).

A Lack of Understanding

Despite studies suggesting a rise in prevalence of self-harm in young people (Cybulski et al., 2021; Morgan et al., 2017; Trafford et al., 2023) and increased efforts to improve awareness about the phenomena (NHS Education for Scotland, 2022; Scottish Government & COSLA, 2022), this review found that a large number of caregivers feel they lacked understanding around self-harm. This lack of understanding led to increased caregiver distress and decreased ability to provide helpful support, with some caregivers saying that their responses (e.g., minimisation, ignoring) may have caused their young person's self-harm to escalate. In many cases, caregivers reflected on their initial responses to self-harm and stated that they had modified their caregiving and communication style after gaining increased knowledge, suggesting that improving knowledge can lead to tangible outcomes for highlighting the importance of ensuring that caregiver understanding is improved in order that they can provide the best care. This further highlights an established need for increased understanding among caregivers of young people who self-harm. Most caregivers

were generally receptive to opportunities to access information and educational materials relating to self-harm (Krysinska et al., 2020) and this appears to be a helpful practice which should be encouraged by health professionals. This appears to be particularly important early-on in the process as caregivers were often bewildered by self-harm and unsure of how they should proceed, increasing the likelihood of adopting unhelpful responses and increasing the caregiver and young person's distress. Intervening in this key period is likely to be beneficial to caregivers and young people. Some caregivers described a need for a greater societal understanding of self-harm being important for other caregivers in the future. For others, despite having *knowledge* about the reasons behind self-harm, they still felt that they could not fully *understand* this behaviour or see this as a coping strategy that they would use. This distinction between knowledge and understanding was not uncommon but some caregivers suggested that knowledge alone may be sufficient for caregivers to be able to learn effective ways to respond to or manage their young person's self-harm. It appears that learning more about self-harm is not only important for the outcomes of the self-harming young person, but also for caregivers to alleviate the self-blame that was very common among the sample.

Strengths, Limitations and Future Research

This was a novel review in an important area with a large set of eligible studies to draw from, all of which were of high quality and used rigorous methodologies, allowing for a good richness of analysis.

The sample was limited to articles available in English, and despite having studies from a diverse range of countries, there are likely to be more studies that were not in English which may be able to inform of potential cultural differences in caregiver beliefs about self-harm.

A review of self-harm across different cultures suggested some functional differences, including that non-western countries more commonly endorsed interpersonal functions (Gholamrezaei et al., 2015). Given this discrepancy, it is likely that cultural differences also exist in caregiver beliefs around the function of self-harm. Additionally, studies that were included and translated from another language to English may have led to some of the nuance being lost.

Many of the data available were accounts from caregivers whose young people had been self-harming for a number of years, meaning it is hard to distinguish how much their views have changed following contact with the research team or healthcare services. However, many of the caregivers appeared able to recall their beliefs and views at the time when self-harm began and often offered interesting insights, for example, the journey from not understanding self-harm to becoming more familiar with the reasons behind this behaviour.

There may be a selection bias among the sample, as those who agreed to take part in research may be inherently more likely to have spent time in researching or seeking out information around self-harm. This may mean that these views and attitudes may not be entirely representative of caregivers at large and some caution may need to be taken when generalising these results to the wider population.

Another limitation of this review is that due to the methodology of included studies it was not possible to assess how accurately their views on their young person's motivations for self-harm matched up with the young person's views. While these views on the whole do appear to align with commonly understood explanations for self-harm, they may not align with the specific reasons that their young person would give, with research suggesting that caregivers can overemphasise interpersonal functions compared with young people (Duarte

et al., 2019). For instance, while a caregiver may have interpreted a self-harm as a way to elicit care, a young person may instead endorse the view that this is for emotion regulation, suggesting a gap in understanding which could affect the relationship. Further research using caregiver-young person dyads may shed more light on the accuracy of caregiver understanding of the specific function of their young person's self-harm.

Additionally, many of the studies included focused on broader caregiver experiences and not specifically on caregiver understanding of the reasons for self-harm. This means that there were not always follow-up questions to some of the caregivers' beliefs about the specific motivations for self-harm and some of the data therefore lacked specificity or 'richness'.

Finally, despite extensive searching there were limited studies that focused on non-parent caregiver's understanding of their young person's self-harm and were primarily focussed on parents and their children. Given that incidence of self-harm is higher among care-experienced young people (Stanley, Riordan, & Alaszewski, 2005; Wadman et al., 2017), this may be an important area for further research.

Summary

In conclusion, this systematic review provides a comprehensive review of the extant qualitative research on how caregivers understand their young person's self-harm. It summarises the general understanding of caregivers as to the functions of youth self-harm and highlights the importance of access to educational materials around self-harm as well as emotional support, given that many caregivers feel they lack knowledge on self-harm or find it difficult to provide helpful support when feeling overwhelmed. Further studies should

review how closely caregivers' beliefs around the functions of self-harm align with their young person, including specific research using caregiver-young person dyads or triads. Additionally, further research of guardians of care-experienced children may be needed, given the higher incidence of self-harm among this population and possible differences in the guardian-young person relationship.

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Empirical Study

Do Emotion Regulation Difficulties Mediate the Association Between Attachment Insecurity and Functions of Self-Harm in UK Adolescents? A Mediation Analysis.

(Authors- Michael Young [1 2 4], Dr Jamie Kennedy-Turner [1 3])

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Empirical Study Abstract

Adolescent self-harm is a growing health concern and global research priority. Associations between attachment insecurity, emotion regulation and self-harm are well established, however, no research has yet examined whether these factors can predict what specific functions of self-harm are likely to be endorsed. This research study uses a series of mediation models to examine whether dimensions of attachment insecurity (attachment anxiety and attachment avoidance) predict specific functions of self-harm as conceptualised by the Four Function Model of Self-Harm, and whether these relationships are mediated by difficulties in emotion regulation. 440 adolescents were recruited to complete an online survey. Statistical analysis found evidence that attachment anxiety predicts greater endorsement of social (interpersonal) functions of self-harm, and attachment avoidance predicts greater endorsement of automatic (intrapersonal) functions of self-harm. In most cases this was mediated fully or partially by difficulties in emotion regulation. Implications for current theoretical conceptualisations self-harm, directions for future research, and implications for mental health and psychosocial self-harm interventions are discussed.

Key Words: Self-Harm, NSSI, Attachment, Emotion Regulation, Adolescent

Introduction

Self-Harm

Self-harm is defined as any self-directed behaviour which can cause physical harm (Muehlenkamp et al., 2012). This can include, but is not limited to, cutting, burning, poisoning, and self-battery (Hawton et al., 2012; NICE, 2004). In the literature such behaviour is often referred to as Non-Suicidal Self-Injury (NSSI) and is seen as being distinct from overtly suicidal behaviours (Nock & Favazza, 2009), however this definition can be misleading as self-harm can occur with or without the intention to end one's life (Hawton et al., 2003; Kapur et al., 2013). It is also not always clear to an individual whether self-harm is performed with the intention to die, and self-harm behaviours may be better understood as existing on a spectrum of suicidal intent, rather than an act with a binary intention (NICE, 2012; Tørmoen et al., 2012). For the purposes of this study the term self-harm is used throughout to refer to any intentional self-injury, regardless of whether this would be considered non-suicidal in nature. Self-harm is not always related to suicidality, in fact some have cited this as a strategy used to prevent suicide (Klonsky, 2007; Suyemoto, 1998). Despite this, there is compelling evidence of the association between self-harm and suicide (Bergen et al., 2012; Cooper et al., 2005), which is a leading cause of death among adolescents (Heron, 2017; Papyrus, 2025) and responsible for at least 720,000 global deaths each year across all age groups (WHO, 2025). In addition, self-harm can have wide ranging impacts including: significant distress for adolescents; lasting psychological effects of physical damage to body such as shame or self-consciousness around scars (Linington, 2024); distress to families and support systems (Arbuthnott & Lewis, 2015; Mughal et al., 2022); and significant financial cost to the healthcare system (Dyvesether et al., 2022;

Tsiachristas et al., 2017). Self-harm prevention is considered a key global priority (WHO, 2014) and increasing understanding of self-harm among health professionals and the wider public is an important part of many national suicide and self-harm prevention measures (NHS Education for Scotland, 2022; Scottish Government & COSLA, 2022).

Self-harm typically first occurs during the adolescent period (Braush & Woods, 2019; Moran et al., 2012) with an estimated 5-15% of adolescents have engaged in self-harm at least once (Hawton et al., 2002; Iob et al., 2020; De Leo & Heller, 2004; Madge et al., 2008; McManus et al., 2019). Explanations for onset of self-harm during adolescence include the effects of puberty leading to a period of emotional dysregulation, increased social pressures, and changes in brain functioning leading to an increased propensity for risk-taking (Blakemore, 2008; Boyer, 2006; Laye-Gindhu & Schonert-Reichl, 2005). The incidence of adolescent self-harm appears to be increasing in recent years (Borschmann & Kinner, 2019; Griffin et al., 2018), however, as many self-harming adolescents do not present to medical or mental health services, the true prevalence is likely to be even higher than reported (Fortune et al., 2008). Self-harm may also be underreported due to: perceived stigma about this behaviour, even within clinical settings (Mitten et al., 2016); fearing that their difficulties will not be taken seriously (Waller et al., 2023); concerns around confidentiality or loss of privacy following disclosure of self-harm (Perry et al., 2020); and feeling that staff lack knowledge or resources to help (Waller et al., 2023).

Functions of Self-Harm

While the prevalence and impact of self-harm has been studied extensively, there has been recent interest in the psychological, social and behavioural functions that self-harm may serve (Hawton et al., 2012; Klonsky, 2007). Individuals report a wide range of functions that

are served by self-harm (Gratz, 2003) and it is important that research is undertaken to help improve our understanding of why self-harm serves different functions for different people, and by what psychological mechanisms established risk factors might exert their influence on these different functions (Bentley et al., 2014). There are a number of theories which attempt to explain self-harm (Jacobson & Batejan, 2014). Interpersonal theories view self-harm as a way to meet interpersonal needs, such as eliciting care, communicating needs, asserting boundaries, or changing the behaviour of others (Jacobson & Batejan, 2014). While interpersonal factors do appear to play a role in why some people self-harm, the frequency of which this is an endorsed function of self-harm is debated. One study which asked adolescents why they engaged in self-harm suggested that interpersonal factors are endorsed at the same rate as intrapersonal functions (Lloyd-Richardson et al., 2007), while other research has suggested intrapersonal functions to be endorsed significantly more frequently (Nock & Prinstein, 2004; Tang et al., 2025). Another theory of self-harm is the affect regulation theory, which suggests that the primary role of self-harm is to remove, decrease, or avoid negative feelings or increase or initiate desirable feelings (Chapman, Gratz & Brown, 2005; Jacobson & Batejan). A majority of people do report positive feelings such as relief following an episode of self-harm, although this can be short lived and can be followed with increased negative feelings (Favazza & Conterio, 1989; Nixon et al., 2002) and systematic reviews have linked emotion regulation difficulties to self-harm (Brereton & McGlinchey, 2020; Wolff et al., 2019). Some studies suggest that affect-regulation is the most commonly endorsed function of self-harm (Klonsky & Olino, 2008; Nock & Prinstein, 2004), however, interpersonal factors do still appear to be a role for some individuals and this is not accounted for within this theory. The Four Function Model of Self-Harm (FFM; Nock & Prinstein, 2004) offers a theoretical framework to understand the functions and

reinforcing processes behind self-harm which includes both interpersonal and intrapersonal functions, drawing heavily from behaviourist theories of learning. Behaviourist theory argues that behaviour is more likely to reoccur when accompanied by a desirable response (positive reinforcement) or the removal or reduction of an aversive response (negative reinforcement) (Skinner, 1971). The FFM outlines that these processes of reinforcement can explain why self-harm develops and is maintained. Distressed individuals may engage in self-harm in an attempt to cope with interpersonal and/or intrapersonal distress, and because these strategies can be effective in the short-term, they are reinforced and may be more likely occur again if alternative ways of coping are not developed. The four functions proposed by the FFM are: automatic negative reinforcement (ANR), where aversive affective or cognitive states are decreased or eliminated, such as using self-harm to stop bad thoughts or feelings; automatic positive reinforcement (APR), where desired affective or cognitive states are generated or increased, such as feeling a sense of relaxation following self-harm; social negative reinforcement (SNR), where aversive social events are decreased or eliminated, such as to avoid punishments or prevent escalation of an argument; and social positive reinforcement (SPR), where desired social events are increased or generated, such as receiving increased care as a result of self-harm (See Table 1). It is important to note, that in the context of the FFM automatic reinforcers refer to intrapersonal factors and do not imply that these behaviours occur without thought or purpose (Nock & Prinstein, 2004).

Table 1

Proposed Four Functions of Self-Harm

Reinforcement Type	Negative	Positive
Automatic (Intrapersonal)	Decrease or eliminate aversive affective or cognitive state(s)	Increase or generate desired affective or cognitive state(s)
Social (Interpersonal)	Decrease or eliminate aversive social event(s)	Increase or generate desired social event(s)

Note: Adapted from Bentley et al. (2014)

Studies have found empirical support for the utility of the FFM in describing common functions of self-harm (Hird et al., 2023; Lloyd-Richardson et al., 2007), and it has utility in both explaining why self-harm is maintained and also providing recommendations on alternative behaviours that can be used to meet these functional needs (Bentley et al., 2014)

While the FFM hypothesises why people start and continue to self-harm from a behavioural perspective, it does not explain why some people self-harm and others do not, nor about the factors which may influence some people to endorse one function over another (Bentley et al., 2014). Attachment theory, may provide a useful framework into understanding some of these questions.

Attachment

Attachment theory suggests than our early experiences with attachment figures (typically parents or caregivers) form the basis of how we relate to ourselves and others (Ainsworth et

al., 1978; Bowlby, 1969). These early relationships are proposed to influence an individual's internal working model, which is described as an individual's mental representation of beliefs and expectations that can influence how they view themselves and interact with others (Bretherton & Munholland, 2008). Though historically, an individual's attachment style has been conceptualised using a discrete categorical approach (e.g., secure vs. insecure) many researchers instead seek to understand attachment in terms of two dimensions, attachment anxiety and attachment avoidance (Fraley et al., 2011; Fraley et al., 2015; Raby et al., 2021). In this dimensional approach attachment avoidance and anxiety are not mutually exclusive constructs and individuals can have high level of both attachment anxiety and attachment avoidance, indicating a more disorganised attachment style. For example, a young person who experienced neglect may develop beliefs that other people cannot meet their needs, leading to an over-reliance on solving problems themselves and keeping emotions hidden – this is often referred to as avoidant attachment. Individuals with high attachment avoidance will typically cope with distress by overregulating emotions and using strategies such as stress denial, disengagement, suppression of unwanted thoughts or avoidance of situations where they may feel more vulnerable (Gilath et al., 2005; Holmberg et al., 2010; Messina et al., 2024). For an avoidantly attached adolescent, this may present as a tendency to avoid close relationships and a great reluctance towards seeking help from peers or caregivers when in distress (Danquah & Berry, 2013; Gillath et al., 2016). If someone experiences inconsistency in responses from a caregiver, they may develop a fear that others may abandon them or withhold care, leading to a hypersensitivity to perceived rejection - this is often referred to as anxious attachment. Individuals with high attachment anxiety can often become hyperactivated during stressful events, experiencing heightened emotions and feeling as if they are less able to cope with threats of stressors and must rely

on others to help them regulate (Messina et al., 2024; Mikulincer & Shaver, 2016). In adolescence, this may lead to an over-reliance on others to manage their distress, with difficulty engaging in self-soothing (Danquah & Berry, 2013; Gillath et al., 2016).

Given that both of these dimensions of attachment insecurity have implications for how individuals manage both intrapersonal and interpersonal stressors, it makes sense that attachment insecurity may influence an individual's use of self-harm. Research has found a consistent relationship between attachment insecurity and self-harm among adolescents, with greater levels of attachment insecurity predicting greater likelihood of self-harm or suicide attempts (Ghandi et al., 2016; Prinstein et al., 2000; Tatnell et al., 2017; Woo et al., 2022).

As different attachment orientations can inform perceptions of self and others, it is possible that differences in attachment may predict differing functions of self-harm. It is hypothesised that because individuals with greater attachment anxiety will often seek out others to manage their distress, their self-harm may serve interpersonal functions. Alternatively, as those with greater attachment avoidance are more likely to avoid close personal relationships then they may be more likely to use self-harm to manage intrapersonal distress in order that they can manage their emotions while continuing to avoid relying on others.

Emotion Regulation

Emotion regulation (ER) is defined as the process by which we influence, express and experience our emotions (Gross, 1998) and systematic reviews have indicated difficulties in ER are associated with both attachment insecurity (Mikulincer & Shaver, 2019) and self-

harm (Brereton & McGlinchey, 2018; Clapham & Braush, 2022; Wolff et al., 2019) and make an individual more vulnerable to engage in self-harm as a means of managing these emotions (Linehan, 1993; Woo et al., 2022). It is therefore possible that differences in emotion regulation strategies related to attachment insecurity can be involved in the relationship between attachment insecurity and the functions of self-harm. For instance, given that individuals high in attachment avoidance will often overregulate or suppress their emotions to avoid relying on others (Messina et al., 2024; Mikulincer & Shaver, 2019; Mikulincer et al., 2003; Stevens, 2014), it is likely that self-harm may be used to serve this intrapersonal function. Similarly, given that individuals high in attachment anxiety often experience hyperactivation of emotions which they may feel they cannot cope with without assistance from others (Messina et al., 2024; Mikulincer & Shaver, 2019; Mukulincer et al., 2003; Stevens, 2014), it is likely that self-harm may be used to serve interpersonal functions. Some research on individuals with fearful attachment (e.g., high attachment avoidance and high attachment anxiety) suggested that attachment insecurity, a lack of adaptive secondary attachment strategies, and emotion regulation difficulties play a role in self-harm (Tatnell et al., 2016), however no research has yet examined attachment avoidance and attachment anxiety separately.

Current Study Aims

Understanding the psychological mechanisms and processes involved in self-harm is essential for guiding appropriate prevention and intervention strategies for self-harm. Current therapeutic interventions such as dialectical behaviour therapy, cognitive-behavioural therapy, and mentalization-based therapy for self-harm may all be effective in reducing self-harming behaviour in adolescents (Ougrin et al., 2015); however, the

mechanisms of action by which these interventions reduce self-harm are not fully understood meaning that precise targeting of appropriate interventions based on the specific needs of adolescents is difficult. This, taken together with the increasing prevalence of self-harm in adolescents, highlights a need for further research to better understand what factors can influence the functions of self-harm, leading to better identification of self-harm, preventative strategies and interventions aimed at reducing the harms associated with these behaviours and promoting alternative coping mechanisms to replace.

As insecure attachment is consistently associated with self-harm, it is possible that the nature of attachment insecurity (e.g. high attachment anxiety or high attachment avoidance) may be an important factor which can influence which functions of self-harm are more likely to be endorsed. As emotion regulation and attachment insecurity are both associated with self-harm, it is possible that this could mediate a relationship between attachment insecurity and endorsement of self-harm functions

This study will therefore examine whether differences in attachment insecurity may help explain the reasons people may self-harm and whether this is mediated by difficulties in emotion regulation.

The current study aims to explore the following research questions:

1) Do levels of attachment avoidance and attachment anxiety predict endorsement of specific functions of self-harm?
2) Is any relationship between attachment insecurity and self-harm mediated by difficulties in emotion regulation?

Based on previous research and theory it was hypothesised that:

A. Attachment avoidance will be directly and indirectly related to ANR functions of self harm via emotion dysregulation.
B. Attachment avoidance will be directly and indirectly related to APR functions of self harm via emotion dysregulation.
C. Attachment anxiety will be directly and indirectly related to SNR functions of self harm via emotion dysregulation.
D. Attachment anxiety will be directly and indirectly related to SPR functions of self harm via emotion dysregulation.

As no study has currently investigated the relationship between attachment insecurity and the endorsement of specific functions of self-harm, the study aims to fill a gap in the literature (Bentley et al., 2014) by testing a series of mediation models designed with reference to existing theory and research. The hypothesised relationship between self-harm and attachment insecurity is summarised in Figure 1.

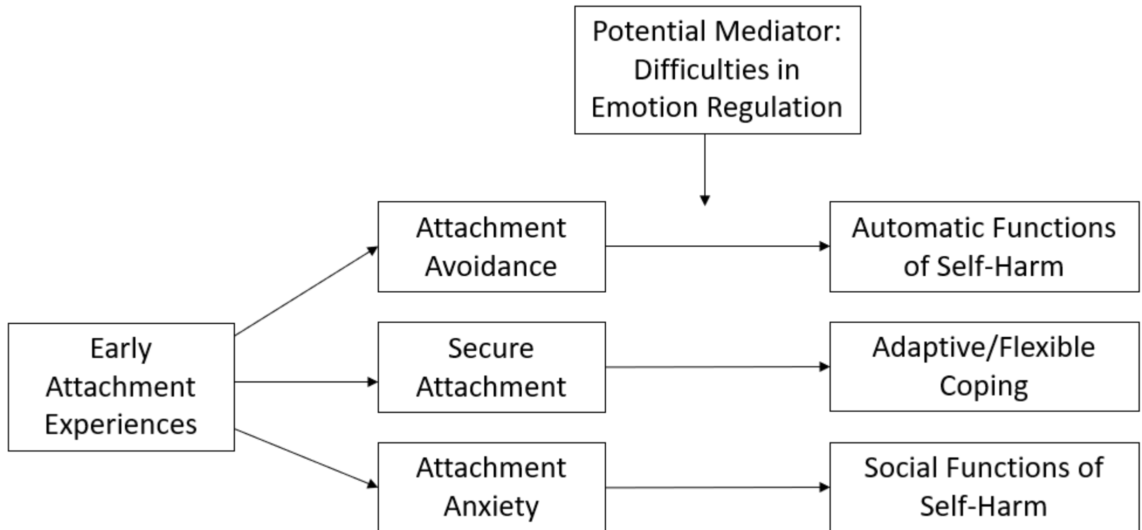

Figure 1
Potential Processes Behind Hypothesised Relationship Between Self-Harm and Attachment Insecurity

Methods

Design

This study used a quantitative, cross-sectional survey-based design, recruiting adolescents from a community sample (via third sector organisations, social media advertising, and the University of Edinburgh Research Advertising System 'SONA') and a clinical sample (via local NHS CAMHS clinicians). An online Qualtrics XM survey was distributed to a self-selecting community sample, primarily through paid social media advertising but also via promotion through own personal academic, professional networks.

NHS ethical approval was confirmed on granted on 11th March 2024 (see Appendix F) and University of Edinburgh School of Health in Social Sciences Ethical approval was confirmed on 21st June 2024 (see Appendix G) and a study protocol was registered a priori on Open Science Framework on 04th October 2024 (https://osf.io/hyd7p/). This protocol was followed but had to be adapted based on feedback from formal reviews. This meant that some of the analyses listed in the protocol were considered redundant (hierarchical multiple regressions) and some variables were analysed separately instead of being combined in order to remain consistent with the existing literature (e.g., ANR and APR functions of self-harm remained separate variables instead of being combined into one 'intrapersonal' variable).

Participants

Participants were eligible for the study if they:

- Were between the ages of 16 and 21 within the community sample, or between the ages of 12 and 18 within the clinical sample
- Were capable of giving informed consent
- Had consent from a parent/carer if under the age of 16 (for the clinical sample only)
- Were able to read and understand English

Participants did not need to have self-harmed to take part in the study in order to take part.

A total of 568 participants entered the survey. 128 individuals were excluded as they either did not finish reading the Participant Information Sheet (Appendix H), did not agree to the consent items (Appendix I), or were ineligible due to participate due to age. Two attention checks were included within the survey to reduce the likelihood of low-quality responses, with one participant failing the attention check and being removed from the dataset. This resulted in 440 participants being included in the final sample, although there was some attrition meaning that there were fewer useable responses for some measures.

Participant characteristics are summarised in Table 2. The mean age of participants was 18.75 years with most participants identifying as female (39.3%) or male (31.6%). A majority of participants reported their primary residence as living with a parent or carer (51.5%) or living in student accommodation (27.7%). Most participants listed a parent as their primary caregiver (90.9%). While the study recruited from a community and clinical sample, only one useable response was identified from the clinical recruitment arm and only two useable responses were identified from the University of Edinburgh student recruitment platform, with the rest recruited via social media advertising and snowball sampling.

Table 2
Demographic Characteristics of Study Participants

Demographic Characteristics	Descriptive Statistics (n/N, %)
Age in years: mean (SD, range)	18.75 (1.56, 16-21)
Method of Recruitment*	
Community	563/568 (98.4%)
University	2/568 (1.1%)
Clinical	3/568 (0.5%)
Gender	
Male	139/440 (31.6%)
Female	173/440 (39.3%)
Transgender Male	65/440 (14.8%)
Transgender Female	4/440 (0.9%)
Non-Binary	42/440 (9.5%)
Other	8/440 (1.8%)
Not reported	9/440 (2%)
Primary Residence	
Living with Parent or Carer	225/440 (51.5%)
Other Family Member	5/440 (1.1%)
Living Alone	9/440 (2%)
Student Accommodation	122/440 (27.7%)
Living with Roommate	57/440 (13%)
Living in a care Setting	2/440 (0.5%)
Other	1/440 (0.2%)
Not Reported	19/440 (4.2%)
Primary Caregiver	
Parent	400/440 (90.9%)
Grandparent	6/440 (1.4%)
Adoptive Parent	3/440 (0.7%)
Other	8/440 (1.8%)
None	21/440 (4.8%)
Not Reported	2/440 (0.5%)
Engaged in Self-Harm?	
Yes	349/381 (91.6%)
No	32/381 (8.4%)

*Includes users who entered survey but did not proceed due to not consenting

Measures

Demographics

The demographics questionnaire gathered basic information including: age, gender, primary residence, and primary caregiver.

Relationship Structures Questionnaire (ECR-RS, Fraley et al., 2011)

The ECR-RS is a 9-item questionnaire designed to measure attachment insecurity. The measure has two subscales, 'attachment anxiety' and 'attachment avoidance', with higher scores indicating a greater level of attachment insecurity. The ECR-RS allows the scale to be used to measure specific relationships (e.g., attachment towards mother, partner, or friend) but can also be used to assess a 'global attachment', where participants are asked to consider their feelings about close relationships with other people in general. The global attachment insecurity measure was used in this study and participants were asked to rate how strongly they agree or disagree with each item (e.g., "It helps to turn to people in times of need."), on a scale of 1 to 7. A mean score is taken from items 1 to 6 (with items 1 to 4 being reverse scored) to give an attachment avoidance score. A mean score is taken from items 7 to 9 to give an attachment anxiety score. The ECR-RS has been validated for use with adolescents (Feddern Donbaek & Elklit, 2014) and has previously demonstrated good reliability (Fraley et al., 2011). The current study showed good internal consistency on both subscales with Cronbach's alpha values of α=.82 and α=.83 for attachment avoidance and attachment anxiety respectively.

Risk-Taking and Self-Harm Inventory for Adolescents (RTSHIA; Vrouva et al., 2010)

The RTSHIA is a 26-item questionnaire which measures the frequency of self-harm and risk-taking behaviours. Two subscales (risk and self-harm) can be generated from the questionnaire. The measure is designed and validated for adolescents and has previously demonstrated good internal consistency, reliability and validity (Vrouva et al.,2010). In the RTSHIA respondents are asked to rate whether and how often they have engaged in a list of risky or self-harm related behaviours (e.g., "Have you ever intentionally cut your skin?") on a scale from 0 (never) to 3 (many times). These scores are then summed for each subscale to give an overall score for both risk-taking and self-harming, with a higher score indicating a greater engagement and frequency of these behaviours. The current study showed strong internal consistency on both subscales with Chronbach's alpha coefficients of α=0.79 and α=0.91 for the risk-taking and self-harm scales respectively.

Functional Assessment of Self-Mutilation (FASM; Lloyd et al., 1997)

The FASM was designed to assess the methods, frequency and functions of self-harm. It consists of a checklist of self-harm behaviours followed by another section which assesses motivations for self-harm. For this study, only section H of the FASM was used, in order to reduce participant burden as the RTSHIA was used to measure type and frequency of self-harm.

Section H of the FASM is a 22 item self-report measure of the functions of self-harm. The FASM asks respondents how often they have engaged in self-harm for 22 different reasons with an additional free text option to report any reason which has not been listed. Responses are scored on a scale from 0 (never) to 3 (often) for each item. The FASM has

demonstrated adequate internal consistency and validity and is validated for use in adolescents (Lloyd-Richardson, et al., 2007).

The FASM Section H items were sorted into subscales based on a Confirmatory Factor Analysis conducted post-hoc by Nock and Prinstein (2004), with questionnaire items being allocated as endorsing ANR, APR, SNR, SPR functions of self-harm. These scores were then averaged to give a mean total score for each function between 0 and 3.

Among the study sample the internal consistency of the generated subscales was variable, with Cronbach's alphas ranging from good (SPR α=.83) or acceptable (ANR: α=.68), to marginally poor (APR: α=.59) and poor (SNR α=.55). Item-level analyses revealed that the removal of items on either the SNR or APR scales would not result in an improved internal consistency, therefore the decision was taken to retain all items for each scale.

Difficulties in Emotion Regulation Scale – Short Form (DERS-SF; Kaufman et al., 2016)

The DERS-SF is an 18-item short-form measure based on the previous Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004). The DERS-SF measures difficulties in emotion regulation and is validated among adult and adolescent samples with good internal reliability (Kaufman et al., 2016). The DERS-SF asks respondents to rate their agreement of 18 statements (e.g., "When I'm upset, I lose control over my behaviour") on a scale of 1 (almost never, 0-10%) to 5 (almost always, 91-100%). A total score can be averaged, giving a mean score for overall difficulties in emotion regulation ranging from 1 to 5, with a higher score indicating greater emotion regulation difficulties. While mean scores can be calculated based on the average score on each of the following subscales: Strategies, Non-acceptance, Impulse, Goals, Awareness, Clarity, this study only used the overall score. In the present study the internal reliability was also good with a Cronbach's alpha of α =.88

Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001)

The PHQ-9 is a 9-item self-report measure which is used to assess depressive symptoms. The PHQ-9 has demonstrated good reliability and validity (Kroenke et al., 2001), and is validated for use among adolescents (Allgaier et al., 2012). The questionnaire asks respondents to rate how frequently they have experience symptoms of depression over the past two weeks (e.g., "Feeling down, depressed or hopeless") on a scale of 0 (Not at all) to 3 (Nearly every day). The scores are then summed, giving a possible score between 0 and 27, with a higher score indicating a greater degree of depressive symptoms. Among the study sample the PHQ-9 demonstrated good internal consistency with a Cronbach's alpha coefficient of α= 0.88.

Generalised Anxiety Disorder questionnaire (GAD-7; Spitzer et al., 2006)

The GAD-7 is a 7-item self-report measure which assesses generalised anxiety symptoms. The GAD-7 has good reliability and validity (Spitzer et al., 2006) and has been validated for use with adolescents (Casares et al., 2024). The questionnaire asks respondents to rate how frequently they have experienced a number of anxiety symptoms over the past two weeks (e.g., "feeling nervous, anxious, or on edge") on a scale of 0 (Not at all) to 3 (Nearly every day). The scores are then summed, giving a possible score between 0 and 21, with a higher score indicated greater severity of generalised anxiety symptoms. Among the study sample the GAD-7 demonstrated good internal consistency with a Cronbach's alpha coefficient of α =0.87.

Data Analysis Plan

Statistical analyses were conducted using IBM SPSS Statistics (Version 27). Descriptive statistics and correlations were calculated in order to characterise the sample. Correlational analyses were completed to conduct an initial exploration of association between study variables and identify potential covariates.

Model 4 (simple mediation) of the PROCESS Macro for SPSS (Hayes, 2013) was used to perform mediation analyses, testing a total of four simple mediation models. The data was analysed to confirm that it met assumptions for running mediations including linearity, homoscedasticity, normality of residuals, and independence of errors; these assumptions were all met (Hayes, 2013). To investigate potential outliers, Malhanobis and Cook's distances and leverage values were used; with cases that exceeded the critical values of two or more of these metrics excluded; however, no cases met these criteria, suggesting that there were no outliers that would have undue influence on the results of analyses present in the dataset. For mediation, direct and indirect parameter estimates were estimated using bootstrapping with 5000 samples and 95% bias-corrected confidence intervals (Field, 2024). Statistical significance was determined using a value of $\alpha < .05$ for direct effects, and when the upper and lower bounds of the 95% bias-corrected confidence intervals did not contain zero for indirect effects.

Multiple analyses were conducted to rule out common method bias (CMB) as a confounding issue. Harman's single factor test (Podsakoff et al., 2003) showed a single factor explained 20.50% of total variance, below a conservative 40% threshold (Fuller et al., 2016). Correlation analyses showed that the strongest single correlation was $r = .75$ between intrapersonal positive and intrapersonal negative functions of self-harm as measured by the

FASM questionnaire, below the critical threshold of .90 (Bagozzi et al., 1991). Multicollinearity was assessed for each factor in the model and variable inflation factors (VIF) ranged from 1.15 to 1.22, below the critical threshold of 3.3 (Kock and Lynn, 2012). As a result, CMB does not appear to confound the results of the study.

Missing data was automatically removed via listwise deletion during respective analyses and therefore did not need to be accounted for and no other transformation of the data was required.

Power Calculation

A priori estimates of required sample size were calculated using Cohen's Power Tables (Cohen, 1992) using a Cronbach's alpha value of 0.05, and a beta value of 0.80, in line with standard practice in social science research (Miller & Ulrich, 2019). A medium effect size was predicted based on systematic reviews showing a consistent relationship between attachment insecurity and self-harm (Woo et al., 2020). According to Cohen's power tables (Cohen, 1992) a sample of 102 participants was recommended.

To calculate the sample size needed for simple mediations, Fritz and MacKinnon's (2007) guidelines were used, with estimates at the 0.8 beta level based on likely effect sizes of variables included in the mediation. A study by Neilson et al. (2017) using the ECR-R (a previous version the ECR-RS) and DERS (a longer-form of DERS-SF used in this study) found a positive correlation with a medium effect size (0.41) between attachment avoidance and difficulties in emotion regulation difficulties and a positive correlation with a large effect size (0.61) between attachment anxiety and difficulties in emotion regulation. While specific relationships between emotion regulation and intrapersonal functions of self-harm have not

been widely studied, the relationship between emotion regulation and self-harm in general is well established. A meta-analysis of studies using the DERS reported a positive correlation with self-harm, with a pooled odds ratio of 3.03 across all studies (Wolff et al.,2019). This odds ratio is recommended to be interpreted as indicating a medium effect size (Chen et al., 2010). As a result of these estimated effect sizes, the recommended sample sizes for proposed mediations based on bias-corrected bootstrapping were estimated at between 54 and 71. It was determined that a sample size of 102 could be sufficient to detect any possible effects in all mediation analyses..

Results

Descriptive Statistics

Descriptive statistic of outcome measures used in the study are summarised in Table 3.

While the mean ANR and APR scores were similar to the original Nock & Prinstein sample (Nock & Prinstein, 2004), the mean scores obtained for interpersonal functions of self-harm were much lower than in the original sample with the SNR mean score being 0.39, compared with 1.29, and the SPR mean score at 0.64, compared with 1.35, suggesting the present sample did not endorse interpersonal functions as strongly as the original sample.

The mean score on the self-harm subscale of the RTSHIA was 24.22, which was higher than the score obtained for the clinical self-harm group during the original development study for the measure, which was 15.78 (Vrouva et al., 2010). This suggests that the present study recruited participants who engaged in frequent and multi-method self-harm. The mean risk-

taking score was 6.95, which was similar to the risk-taking score within the clinical self-harm group in the original study (6.42).

The mean PHQ-9 score was 14.58, which would indicate a moderately-severe level of depression symptoms. The mean GAD-7 score was 11.33, which would indicate a moderate level of generalised anxiety symptoms. On the ECR-RS, the mean attachment avoidance score was 4.57 and the mean attachment anxiety score was 5.55. The mean score on the DERS-SF was 3.25.

Table 3
Descriptive statistics of variables measures in the study

Variable	n	Mean (SD)	Min	Max	Cronbach's alpha (α)
ECR-RS					
Attachment Avoidance	395	4.57 (1.17)	1.50	7	0.82
Attachment Anxiety	396	5.55 (1.44)	1	7	0.83
RTSHIA					
Self-Harm	377	24.22 (12.67)	0	53	0.91
Risk Taking	386	6.95 (5.24)	0	23	0.79
FASM					
ANR	349	2.19 (0.88)	0	3	0.68
APR	349	1.87 (0.82)	0	3	0.59
SNR	349	0.39 (0.55)	0	3	0.55
SPR	344	0.64 (0.52)	0	2.5	0.83
DERS-SF					
Total	363	3.25(0.70)	1.50	5	0.88
PHQ-9	369	14.58 (6.83)	0	27	0.88
GAD-7	369	11.33 (5.74)	0	21	0.87

Abbreviations: ECR-RS– Experience in Close Relationships (Global attachment) – Relationship Structures Global; RTSHIA – Risk-Taking and Self-Harm Inventory for Adolescents; FASM – Functional Assessment of Self-Mutilation; ANR – Automatic Negative Reinforcement; APR – Automatic Positive Reinforcement; SNR – Social Negative Reinforcement; SPR – Social Positive Reinforcement; DERS-SF – Difficulties in Emotion Regulation Scale – Short Form; PHQ-9 – Patient Health Questionnaire; GAD-7 – Generalised Anxiety Disorder.

Correlational Analysis

Pearson's r correlations were calculated for all continuous variables and are summarised in Table 4. As predicted, there was a medium, positive correlation between attachment

avoidance and ANR and APR functions of self-harm (r=.27, r=.24 respectively). There was also a medium, positive correlation between attachment anxiety and SNR and SPR functions of self-harm (r=.23, r=.30 respectively), in line with study predictions. However, there was also a medium, positive correlation between attachment anxiety and ANR and APR functions of self-harm (r=.23, r=.26 respectively), suggesting those with higher levels of attachment anxiety were more likely to endorse both automatic and social functions of self-harm.

Difficulties in emotion regulation was found to be associated positively associated with attachment anxiety (r=.46), attachment avoidance (r=.42), and all functions of self-harm (ANR, r=.38; APR, r=45; SNR, r=.33; SPR, r=.26), confirming that further analysis using difficulties in emotion regulation as a mediator is warranted.

There was a large, positive correlation between ANR and APR functions of self-harm (r=.75). This is in line with previous findings and may suggest that these not completely distinct categories, but rather measure a similar or overlapping underlying construct (Nock & Prinstein, 2004). In line with previous research (Nock & Prinstein, 2005), there were medium, positive correlation between PHQ-9 score and ANR, APR and SNR functions of self-harm (r=.38, r=.46, r=.32 respectively), suggesting that depressive symptoms are associated with functions of self-harm and indicating that PHQ-9 score may be an important covariate in subsequent analyses. Additionally, a small, positive correlation was found between PHQ-9 score and SPR functions of self-harm (r=.25). There was a weak, negative correlation between age and attachment anxiety (r=.10), suggesting that as age increased, attachment anxiety reduced. There was also a weak, positive, correlation between age and frequency of risk-taking behaviours (r=.10). However, as the age range within this study was relatively

small, being only between 18 and 21, these findings may not give an accurate picture of these changes throughout adolescence.

Table 4
Pearson's r correlations and descriptive statistics of study variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	-											
2. ECR-RS-G-AAnx	-.10*	-										
3. ECR-RS-G-AAv	-.01	.16**	-									
4. RTSHIA-Risk	.10*	-.07	.17*	-								
5. RTSHIA-SH	.05	.37**	.37**	.33**	-							
6. FASM-ANR	.01	.23**	.27**	.16**	.58**	-						
7. FASM-APR	-.01	.26**	.24**	.24**	.68**	.75**	-					
8. FASM-SNR	-.06	.23**	.09	.21**	.42**	.24**	.33**	-				
9. FASM-SPR	-.08	.30**	-.04	.11*	.42**	.27**	.37**	.42**	-			
10. DERS-SF	-.11*	.46**	.42**	.21**	.64**	.38**	.45**	.33**	.26**	-		
11. PHQ-9	-.03	.45**	.36**	.23**	.63**	.38**	.46**	.32**	.25**	.69**	-	
12. GAD-7	-.04	.46**	.22**	.03	.51**	.29**	.38**	.28**	.28**	.61**	.72**	-
Mean	18.75	5.55	4.57	6.95	24.22	2.19	1.87	.389	.64	3.25	14.58	11.33
SD	1.56	1.44	1.17	5.24	12.67	.88	.82	.55	.52	.70	6.83	5.74
Min	16.00	1.00	1.50	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00
Max	21.00	7.00	7.00	23.00	53.00	3.00	3.00	3.00	2.50	5.00	27.00	21.00

Abbreviations: ECR-RS - Relationship Structures Questionnaire; RTSHIA – Risk-Taking and Self-Harm Inventory for Adolescents; FASM – Functional Assessment of Self-Mutilation; ANR – Automatic Negative Reinforcement; APR – Automatic Positive Reinforcement; SNR – Social Negative Reinforcement; SPR – Social Positive Reinforcement; DERS-SF – Difficulties in Emotion Regulation Scale – Short Form; PHQ-9 – Patient Health Questionnaire; GAD-7 – Generalised Anxiety Disorder; Aanx – Attachment Anxiety; AAv -Attachment Avoidance; SH – Self-Harm
* p <.05 ** p <.01

Mediation Analyses

The study sought to understand whether any relationship between attachment insecurity and functions of self-harm were mediated by difficulties in emotion regulation. To answer these questions, four simple mediation models were tested using Model 4 of the PROCESS Macro for SPSS. Effects reported are presented in unstandardised form. See Figure 2 for a graphical representation of each model.

Mediation Model 1

A simple mediation model was conducted to assess whether attachment avoidance predicted ANR functions of self-harm, and whether this was mediated by difficulties in emotion regulation. Additionally, the level of depressive symptoms was controlled for as a covariate. The mediation model accounted for a total of 18.81% of the variance in ANR functions of self-harm (R^2 =.19, $p < .001$). The results showed that attachment avoidance positively predicted difficulties in emotion regulation (B = .11, $p <.001$), supporting hypothesis a. In turn, difficulties in emotion regulation also positively predicted the endorsement of intrapersonal negative functions of self-harm (B = .25, $p <.01$). There was a small, indirect effect of attachment avoidance on endorsement of intrapersonal negative functions of self-harm through difficulties in emotion regulation which was significant as the confidence intervals based on 5000 bootstrap samples did not contain zero (B=.03, 95% BCI .01, .06). Attachment avoidance also had a significant direct effect on endorsement of intrapersonal negative functions of self-harm (B = 0.10, $p<.05$), indicating a partial mediation and fully supporting hypothesis A. Depressive symptoms significantly predicted both

difficulties in emotion regulation (B=.06, p<.001) and endorsement of intrapersonal functions of self-harm (B=.03, p<.01).

Mediation Model 2

A simple mediation model was conducted to assess whether attachment avoidance predicted APR functions of self-harm, and whether this was mediated by difficulties in emotion regulation. Additionally, the level of depressive symptoms was controlled for as a covariate. The mediation model accounted for a total of 25.41% of the variance in APR functions of self-harm (R^2 =.25, p < .001). The results showed that attachment avoidance positively predicted difficulties in emotion regulation (B = .11, p <.001). In turn, difficulties in emotion regulation also positively predicted the endorsement of APR functions of self-harm (B = .29, p <.001). There was a small, indirect effect of attachment avoidance on endorsement of APR functions of self-harm through difficulties in emotion regulation which was significant as the confidence intervals based on 5000 bootstrap samples did not contain zero (B=.03, 95% BCI .01, .06). When accounting for the effect of emotion regulation and depression, attachment avoidance did not have a significant direct effect on endorsement of APR functions of self-harm (B = .04, p=.29), indicating a full mediation and partially supporting hypothesis B. Depressive symptoms significantly predicted both difficulties in emotion regulation (B=.06, p<.001) and endorsement of intrapersonal functions of self-harm (B=.04, p<.05).

Mediation Model 3

A simple mediation model was conducted to assess whether attachment anxiety predicted SNR functions of self-harm, and whether this was mediated by difficulties in emotion

regulation. Additionally, the level of depressive symptoms was controlled for as a covariate. The mediation model accounted for a total of 13.2% of the variance in SNR functions of self-harm (R^2 =.13, p < .001). The results showed that attachment anxiety positively predicted difficulties in emotion regulation (B = .09, p <.001). In turn, difficulties in emotion regulation also positively predicted the endorsement of SNR functions of self-harm (B = .15, p <.05). There was a small, indirect effect of attachment anxiety on endorsement of SNR functions of self-harm through difficulties in emotion regulation which was significant as the confidence intervals based on 5000 bootstrap samples did not contain zero (B=.01, 95% BCI .01, .06). When accounting for the effect of emotion regulation and depression, attachment anxiety did not have a significant direct effect on endorsement of SNR functions of self-harm (B = .03, p=.12), indicating a full mediation and partially supporting hypothesis C. Depressive symptoms significantly predicted both difficulties in emotion regulation (B=.06, p<.001) and endorsement of SNR functions of self-harm (B=.01, p<.05).

Mediation Model 4

A simple mediation model was conducted to assess whether attachment anxiety predicted SPR functions of self-harm, and whether this was mediated by difficulties in emotion regulation. Additionally, the level of depressive symptoms was controlled for as a covariate. The mediation model accounted for a total of 11.8% of the variance in SPR functions of self-harm (R^2 =.12, p < .001). The results showed that attachment anxiety positively predicted difficulties in emotion regulation (B = .09, p <.001). Difficulties in emotion regulation did not statistically significantly predict the endorsement of SPR functions of self-harm (B = .07, p > .05). There was no significant indirect effect of attachment anxiety on endorsement of SPR functions of self-harm through difficulties in emotion regulation as the confidence intervals

based on 5000 bootstrap samples contained zero ($B=.01$, 95% BCI -.002, .02.) When accounting for the effect of emotion regulation and depression, attachment anxiety had a significant direct effect on endorsement of SPR functions of self-harm ($B = .09$, $p< .001$), indicating no mediation and partially supporting hypothesis D. Depressive symptoms significantly predicted difficulties in emotion regulation ($B= .06$, $p < .001$) but not SPR functions of self-harm ($B= .01$, $p= .16$)

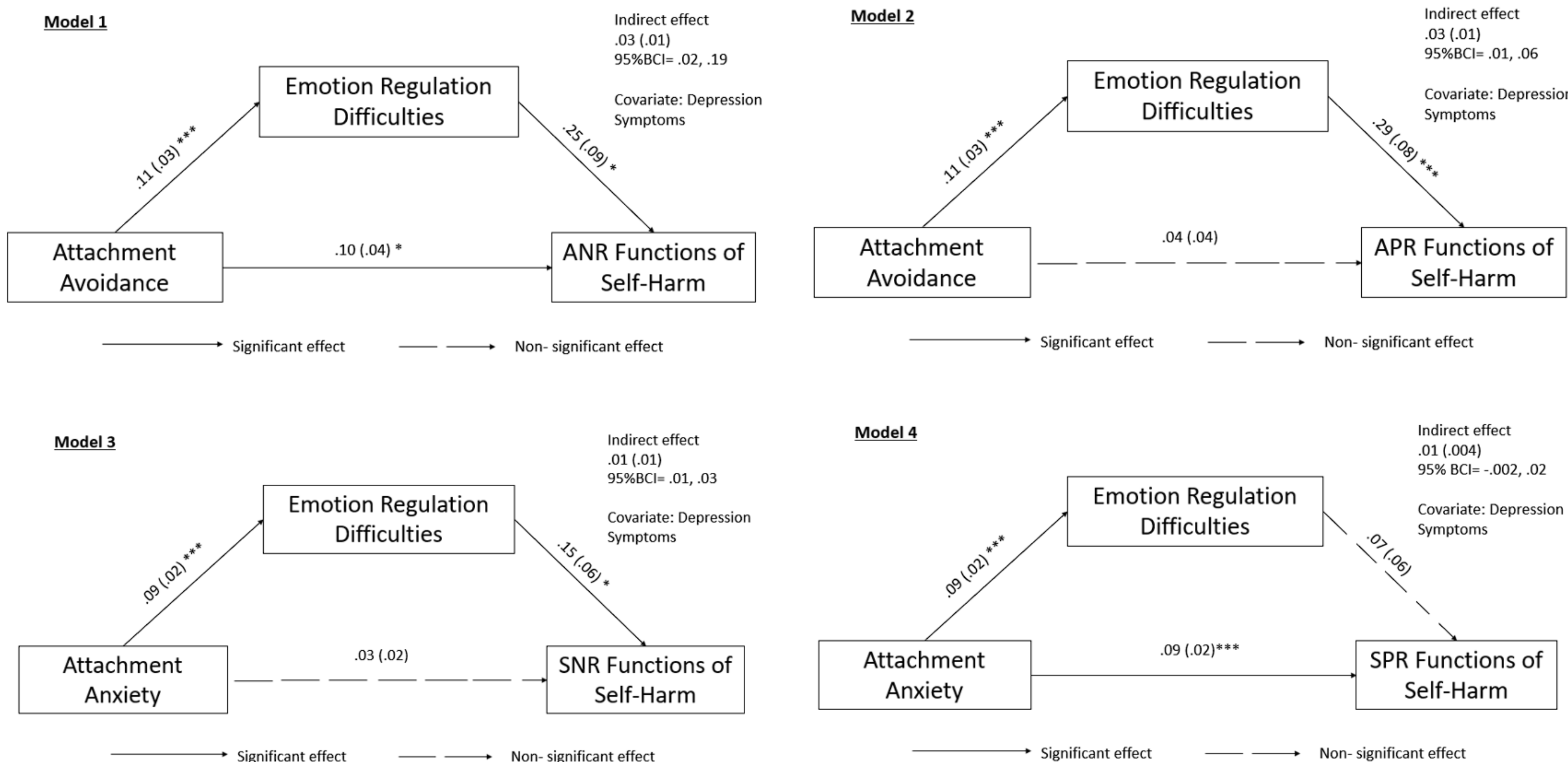

Figure 2

Mediation Models Showing the Mediating Effect of Emotion Regulation Difficulties on the Relationship Between Attachment Insecurity and Functions of Self-Harm. * p < .05 ** p < .01 *** p < .001 Effect sizes are reported unstandardised

Discussion

Self-harm in adolescents is a global concern and health priority (WHO, 2014). Prior research suggests that attachment insecurity and difficulties in emotion regulation play an important role in the development of self-harm, however little is known about why some adolescents engage in self-harm for specific functions. Understanding this could lead to more targeted interventions offering strategies which replace self-harm with adaptive strategies which serve the same functions (Bentley et al., 2014). Therefore, this study aimed to examine whether differences in attachment insecurity may explain the difference in the functions served by self-harm and whether this is mediated by difficulties in emotion regulation. Results from mediation analyses provided support for a relationship between these factors, with full or partial support found for all hypotheses. Attachment avoidance was found to be directly and indirectly positively related to ANR functions of self-harm via emotion regulation difficulties, in full support of hypothesis A. However, attachment avoidance was only significantly positively associated with APR functions of self-harm indirectly via emotion regulation difficulties, in partial support of hypothesis B. Attachment anxiety was significantly and positively indirectly associated with on SNR functions of self-harm, but was not directly associated with this function, in partial support of hypothesis C. No indirect association between attachment anxiety and SPR functions of self-harm was obtained, though attachment anxiety was significantly and positively associated with both emotion regulation difficulties and SPR functions, in partial support of hypothesis D.

Attachment Insecurity, Emotion Regulation and Functions of Self-Harm

The finding that attachment avoidance was associated with difficulties in emotion regulation and ANR functions of self-harm is expected given previous research that suggests individuals with high attachment avoidance are likely to be more reluctant to seek help from others (Danquah & Berry, 2013; Gillath et al., 2016) and therefore would be more likely to engage in self-harm to manage their emotions without having to rely on others. This pattern of associations may suggest that efforts to reduce self-harm should focus on promoting attachment security alongside alternative emotion regulation, or secondary attachment strategies. While attachment avoidance was only associated with APR functions of self-harm via mediation, this result also supports the idea that individuals with high attachment avoidance will be likely to use self-harm to manage their emotions rather than for interpersonal reasons. In this case, the full mediation may suggest that emotion regulation difficulties play a stronger role for those who self-harm to generate positive feelings or cognitive states, for instance if they are feeling numb or disconnected. This makes sense given these can be signs of emotional overregulation which is common among individuals high in attachment avoidance (Holmberg et al., 2010; Messina et al., 2024) and overregulation is an indicator of emotion regulation difficulties (Kaufman et al., 2016).

The finding that attachment anxiety was associated with SNR functions of self-harm, via emotion regulation indicates that emotion regulation difficulties play an important role when individuals self-harm to reduce unwanted interpersonal situations. While this association has not yet been fully explored and warrants further investigation, this is in line with previous research that suggests that individuals with high attachment anxiety experience a hyperactivation of emotions in stressful situations and utilise others to meet

these needs as they may feel they cannot cope or self-regulate (Messina et al., 2024; Mikulincer & Shaver, 2019; Mukulincer et al., 2003; Stevens, 2014). It is therefore likely that interpersonal conflict leads to intense emotional state and that people may turn to self-harm as a way to manage these conflicts, for instance by eliciting care. Again, this finding may highlight the need for the promotion of attachment security and greater understanding of an individual's attachment history alongside emotion regulation strategies in order to reduce self-harm.

The finding that attachment anxiety was associated with SPR functions of self-harm, but that this was not mediated by difficulties in emotion regulation was unexpected but may suggest that using self-harm to elicit desirable social responses or interactions may be more related to cognitive or other complex interpersonal reasons, rather than simply managing emotions and could be seen as distinctly different in nature than SNR, where emotion dysregulation does appear to play a role. Further research may wish to explore individuals who strongly endorse SPR functions of self-harm to better understand this function.

Both attachment anxiety and attachment avoidance were significantly positively associated with emotion regulation difficulties, which is consistent with previous research that suggested a strong association between attachment insecurity and emotion regulation difficulties (Woo et al., 2022). This again suggests that initiatives focused on improving attachment security could reduce emotion regulation difficulties and in turn may reduce the frequency of self-harm.

Frequency of Endorsement of Functions of Self-Harm

Consistent with previous research, automatic functions of self-harm were more commonly endorsed than social functions (Klonsky 2007; Nock & Prinstein, 2004). In this particular sample, however, automatic functions were endorsed even less than expected based on previous research (Nock & Prinstein,2004). There appears to be some degree of variability as to the extent to which social functions are endorsed among available studies, with Lloyd-Richardson (2007) finding that social functions within her sample were endorsed with similar frequency to automatic functions. It is unclear what accounts for the low endorsement of social functions of self-harm among this sample, however it is suggested that interpersonal functions may be underreported in the available research (Hagen, Watson, & Hammerstein, 2008; Nock, 2008) due to a social-desirability bias, as intrapersonal functions may be seen as more acceptable (Bentley, 2014). However, there is strong evidence to support than automatic functions are consistently more commonly endorsed by young people (Tang et al., 2025) and that this therefore may represent a genuine disparity in which functions are endorsed. This may be important to highlight in psychoeducational resources and self-harm reduction or prevention campaigns, particularly for family members of young people who self-harm as parental explanations for self-harm often focus disproportionately on social factors of self-harm, particularly that self-harm typically a means to elicit care or gain attention (Duarte et al., 2019).

Clinical Implications

The results of this study support a number of key areas being prioritised in order to reduce self-harm. Given the that attachment insecurity was linked to emotion regulation and endorsement of functions of self-harm, preventative strategies aimed at helping develop a secure attachment may lead to increased emotion regulation abilities and adaptive coping

strategies, consistent with other recommendations from research in this area (Woo et al., 2022). Given the role of difficulties in emotion regulation in self-harm, targeted interventions helping adolescents to improve their ability to regulate emotions would be an effective way to reduce self-harm. Additionally, understanding the specific functions and motivations of an individual's self-harm is important in being able to provide targeted interventions which specifically address these functions. An example of how this may look is provided in Table 5, with specific interventions proposed for each function of self-harm (Bentall et al., 2014).

Table 5

Proposed Interventions for Different Functions of Self-Harm

Function	Suggested Intervention
Automatic Negative Reinforcement (ANR)	Mindful emotional awareness Distress tolerance training Cognitive restructuring, reappraisal
Automatic Positive Reinforcement (APR)	Mindful emotional awareness Cognitive restructuring, reappraisal Behavioural activation
Social Negative Reinforcement (SNR) and Social Positive Reinforcement (SPR)	Interpersonal skills training Distress tolerance training Problem-solving skills training
All Functions	Identifying and rehearsing functionally equivalent, adaptive behaviours

Note: Adapted from *Bentley et al. (2014)*

Strengths, Limitations and Future Directions

The current study was a novel area of research and addressed a critical gap in the self-harm literature. It had a strong sample size and was able to recruit a relatively equal balance of genders allowing for a representative sample in relation gender.

A limitation of the study was that the mean age of the sample was 18.75 and we were unable to recruit any participants below the age of 16. This means that some caution should be taken when generalising the results to adolescents as a whole, and further research is needed into the factors which can predict functions of self-harm endorsed by children under the age of 16.

Additionally, the explanatory power of the mediation models was limited, only accounting for between 14% and 25% of total variance in endorsement of specific functions of self-harm. This suggests that while attachment insecurity, emotional regulation difficulties, and symptoms of depression are important predictors of functions of self-harm, this can only partially explain the endorsement of specific functions of self-harm. In order to develop a more comprehensive model of why specific functions of self-harm are endorsed, future research should try to include attachment insecurity measures as well as other factors thought to be related to self-harm, including but not limited to: reflective functioning (Kennedy-Turner et al., 2023); low self-esteem (Forrester et al., 2017); familial expressed emotion (Kennedy-Turner et al., 2025); and exposure to adverse childhood experiences (Usmani et al., 2024)

Another limitation was that the Chronbach's alpha values for the functions of self-harm subscales suggested by Nock and Prinstein (2004) were low among this sample, suggesting

poor interrelatedness on some items. This means that results should be interpreted with caution and replication using another measure is desirable. While the FASM is a well-established measure of functions of self-harm, it has been criticised for not including a number of functions which have been reported in the literature, such as sensation-seeking, coping with suicidal thoughts, and maintaining interpersonal boundaries (Klonsky, 2007; Klonsky & Glenn, 2009; Klonsky & Weinberg, 2009). Using another questionnaire, such as the Inventory of Statements about Self-Injury (ISAS; Klonsky & Glenn, 2009) with built in subscales, rather than subscales developed post-hoc may be more appropriate for future research, alongside capturing a broader and more nuanced range of self-harm functions.

Finally, the study focussed on UK Adolescents only, and may not be applicable to other cultural contexts. As such, replication of this research in other contexts may be helpful in understanding if and how endorsement of functions of self-harm are different across cultures.

Future research should be conducted in order to examine whether interventions targeted specifically to an individual’s endorsed function of self-harm is more efficacious than treatment as usual, as this may be a way to improve treatment for self-harm.

Summary

In conclusion, this study examined whether attachment insecurity could predict specific functions of self-harm among adolescents, and whether this relationship was mediated by difficulties in emotion regulation. The results showed strong supporting evidence that attachment anxiety predicted greater endorsement of social (interpersonal) functions of self-harm, and that attachment avoidance predicted greater endorsement of automatic

(intrapersonal) functions of self-harm. There was also supporting evidence that these relationships can be mediated by difficulties in emotion regulation. These findings are supportive of current research and theory into the role of attachment and emotion regulation in self-harm and it suggests that interventions to reduce self-harm should consider the development of emotion regulation skills, alongside targeted interventions aimed at replacing self-harm with adaptive strategies that meet the specific function served by self-harm. It is also suggested that interventions and education that promotes secure attachment may also reduce the prevalence of self-harm.

Further research should replicate these results with a younger sample; consider replicating these results with a more comprehensive measure of functions of self-harm; and replicate this research within different cultural contexts.

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Appendices

Appendix A

Child Psychiatry and Human Development Submission Guidelines

Can be viewed online at: https://link.springer.com/journal/10578/submission-guidelines

Appendix B

Enhancing transparency in reporting the synthesis of qualitative research: ENTREQ Checklist

Item No.	Guide and Description	Report Location
1. Aim	State the research question the synthesis addresses	Introduction Section
2. Synthesis methodology	Identify the synthesis methodology or theoretical framework which underpins the synthesis, and describe the rationale for choice of methodology (e.g. meta-ethnography, thematic synthesis, critical interpretive synthesis, grounded theory synthesis, realist synthesis, meta-aggregation, meta-study, framework synthesis)	Methods Section
3. Approach to searching	Indicate whether the search was pre-planned (comprehensive search strategies to seek all available studies) or iterative (to seek all available concepts until they theoretical saturation is achieved)	Method Section, Protocol
4. Inclusion criteria	Specify the inclusion/exclusion criteria (e.g. in terms of population, language, year limits, type of publication, study type)	Methods Section, Protocol
5. Data sources	Describe the information sources used (e.g. electronic databases (MEDLINE, EMBASE, CINAHL, psycINFO), grey literature databases (digital thesis, policy reports), relevant organisational websites, experts, information specialists, generic web searches (Google Scholar) hand searching, reference lists) and when the searches conducted; provide the rationale for using the data sources	Methods Section. Protocol
6. Electronic Search strategy	Describe the literature search (e.g. provide electronic search strategies with population terms, clinical or health topic terms, experiential or social phenomena related terms, filters for qualitative research, and search limits)	Methods Section. Protocol
7. Study screening methods	Describe the process of study screening and sifting (e.g. title, abstract and full text review, number of independent reviewers who screened studies)	Methods Section. Protocol, Appendices
8. Study characteristics	Present the characteristics of the included studies (e.g. year of publication, country, population, number of participants, data collection, methodology, analysis, research questions)	Results Section
9. Study selection results	Identify the number of studies screened and provide reasons for study exclusion (e.g. for comprehensive searching, provide numbers of studies screened and reasons for exclusion indicated in a figure/flowchart; for iterative searching describe reasons for study exclusion and inclusion based on modifications to the research question and/or contribution to theory development)	Results Section

10. Rationale for appraisal	Describe the rationale and approach used to appraise the included studies or selected findings (e.g. assessment of conduct (validity and robustness), assessment of reporting (transparency), assessment of content and utility of the findings)	Introduction Section
11. Appraisal items	State the tools, frameworks and criteria used to appraise the studies or selected findings (e.g. Existing tools: CASP, QARI, COREQ, Mays and Pope [25]; reviewer developed tools; describe the domains assessed: research team, study design, data analysis and interpretations, reporting)	Methods, Appendices
12. Appraisal process	Indicate whether the appraisal was conducted independently by more than one reviewer and if consensus was required	Methods Section
13. Appraisal results	Present results of the quality assessment and indicate which articles, if any, were weighted/excluded based on the assessment and give the rationale	Results Section
14. Data extraction	Indicate which sections of the primary studies were analysed and how were the data extracted from the primary studies? (e.g. all text under the headings "results /conclusions" were extracted electronically and entered into a computer software)	Results Section
15. Software	State the computer software used, if any	Methods Section
16. Number of reviewers	Identify who was involved in coding and analysis	Methods Section
17. Coding	Describe the process for coding of data (e.g. line by line coding to search for concepts)	Methods Section
18. Study comparison	Describe how were comparisons made within and across studies (e.g. subsequent studies were coded into pre-existing concepts, and new concepts were created when deemed necessary)	Methods Section
19. Derivation of themes	Explain whether the process of deriving the themes or constructs was inductive or deductive	Methods Section, Results Section
20. Quotations	Provide quotations from the primary studies to illustrate themes/constructs, and identify whether the quotations were participant quotations of the author's interpretation	Results Section
21. Synthesis output	Present rich, compelling and useful results that go beyond a summary of the primary studies (e.g. new interpretation, models of evidence, conceptual models, analytical framework, development of a new theory or construct)	Results Section, Discussion Section

Appendix C

Prospero Protocol

Can be accessed online at: https://www.crd.york.ac.uk/PROSPERO/view/CRD42024555018

Appendix D

Data Extraction Tool

Reference

e.g. Author, Author & Author (2001)

Title

Title of paper

Aim of study

Brief summary of the stated aims of the study.

e.g. "To explore parents' responses to self-harm by their child to understand their concerns, experiences and support needs in order to inform education and training about self-harm for health professionals."

Participant Characteristics

e.g. "Nine parents of seven young people (aged 16-24 years old). Two instances where mother and father were interviewed together, three mothers interviewed alone, and two fathers interviewed alone."

Country in which the study was conducted

Design and Analysis

e.g. "Qualitative study using interpretative phenomenological analysis."

Key themes/findings

e.g.

"Four themes:
(1) The process of discovery
(2) Making sense of self-harm
(3) Psychological impact on parents
(4) Effect of self-harm on parenting and family"

Additional Comments

Any additional comments you think would be helpful to note

Quality Assessment Rating

++ - very good
+ good
- poor
-- very poor

Appendix E

NICE 2023 'Methodological Checklist: Qualitative Studies'

Section 1: theoretical approach		
Is a qualitative approach appropriate?	Appropriate Inappropriate Not sure	Comments:
Is the study clear in what it seeks to do?	Clear Unclear Mixed	Comments:
Section 2: study design		
How defensible/rigorous is the research design/methodology?	Defensible Not defensible Not sure	Comments:
Section 3: data collection		
3.1**How well was the data collection carried out?**	Appropriate Inappropriate Not sure/ inadequately reported	Comments:
Section 4: validity		
4.1**Is the context clearly described?**	Clear Unclear Not sure	Comments:

4.2 **Were the methods reliable?**	Reliable Unreliable Not sure	Comments:
Section 5: analysis		
5.1 **Are the data 'rich'?**	Rich Poor Not sure/not reported	Comments:
Is the analysis reliable?	Reliable Unreliable Not sure/not reported	Comments:
5.3 Are the findings convincing?	Convincing Not convincing Not sure	Comments:
5.4 Are the conclusions adequate?	Adequate Inadequate Not sure	Comments:
Section 6: ethics		
Was the study approved by an ethics committee?	Yes No Not sure/not reported/not applicable	Comments:

6.2 **Is the role of the researcher clearly described?**	Clear Not clear Not sure/not reported	Comments:
Section 7: Overall assessment		
As far as can be ascertained from the paper, how well was the study conducted (see guidance notes)	++ + −	Comments

Appendix F

NHS Ethical Approval

North West - Greater Manchester West Research Ethics Committee

Please note: This is an acknowledgement letter from the REC only and does not allow you to start your study at NHS sites in England until you receive HRA Approval

11 March 2024

Mr Michael Young

Dear Mr Young

Study title:	**Attachment Insecurity, Emotion Regulation, and Functions of Self-Harm: A Quantitative Study of UK Adolescents**
REC reference:	**24/NW/0048**
Protocol number:	**CAHSS2310/03**
IRAS project ID:	**331057**

Thank you for your letter of 07/03/2024. I can confirm the REC has received the documents listed below and that these comply with the approval conditions detailed in our letter dated 07 February 2024

Documents received

The documents received were as follows:

Document	*Version*	*Date*
Copies of materials calling attention of potential participants to the research [Poster (Parent Carer) V2]	V2	26 February 2024

Copies of materials calling attention of potential participants to the research [Poster 16-21 V2]	V2	26 February 2024
Participant information sheet (PIS) [PIS (Parent-Carer) V2]	V2	26 February 2024
Participant information sheet (PIS) [PIS (12-15)]	V2	26 February 2024
Participant information sheet (PIS) [PIS 16-21 V2]	V2	26 February 2024
Research protocol or project proposal [Protocol V2.0 26 Feb 2024]	V2	26 February 2024
Response to Additional Conditions Met [Response to Additional Conditions Met]	1	11 March 2024

Approved documents

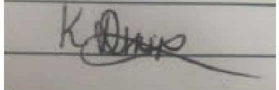
The final list of approved documentation for the study is therefore as follows:

Document	*Version*	*Date*
Copies of materials calling attention of potential participants to the research [Poster (Parent Carer) V2]	V2	26 February 2024
Copies of materials calling attention of potential participants to the research [Poster 16-21 V2]	V2	26 February 2024
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [UoE Insurance]	V1	01 December 2023
IRAS Application Form [IRAS_Form_18122023]		18 December 2023
Participant consent form [Consent Form (age 12-15) V1.0 01 Dec 2023]	V1	01 December 2023
Participant consent form [Consent Form (age 16-21) V1.0 01 Dec 2023]	V1	01 December 2023
Participant consent form [Consent Form (parent-carer) V1.0 01 Dec 2023]	V1	01 December 2023
Participant information sheet (PIS) [PIS (Parent-Carer) V2]	V2	26 February 2024
Participant information sheet (PIS) [PIS (12-15)]	V2	26 February 2024
Participant information sheet (PIS) [PIS 16-21 V2]	V2	26 February 2024
Research protocol or project proposal [Protocol V2.0 26 Feb 2024]	V2	26 February 2024
Response to Additional Conditions Met [Response to Additional Conditions Met]	1	11 March 2024
Summary CV for Chief Investigator (CI) [Chief Investigator CV V1.0 01 Dec 2023]	V1	01 December 2023
Summary CV for student [Student CV]	V1	01 December 2023
Summary CV for supervisor (student research) [Supervisor CV]	V1	01 December 2023
Validated questionnaire [Validated Measures V1.0 01 Dec 2023]	V1	01 December 2023

You should ensure that the sponsor has a copy of the final documentation for the study. It is the sponsor's responsibility to ensure that the documentation is made available to R&D offices at all participating sites.

IRAS Project ID: 331057	**Please quote this number on all correspondence**

Yours sincerely



Katie Atkin – Approvals Administrator

E-mail: gmwest.rec@hra.nhs.uk

Copy to: Mr Michael Young

Appendix G

University of Edinburgh Ethical Approval

School of Health in Social Science Research Ethics Application

The supervisor or primary investigator must complete and sign this form after checking that all relevant sections are completed, and relevant documents are attached. For all undergraduate (UG) and MSc student projects, it is the supervisor's responsibility to submit this form and all attachments. Please note that failure to do this will result in the application being returned (and not processed) causing your research to be delayed.

Supervisor (name and UUN: Dr Jamie-Kennedy Turner (N/A)	
Primary Investigator (name and UUN): Michael Young	
List of all collaborators (with affiliated institutions in brackets):	
Student's programme of study (if applicable): Doctorate in Clinical Psychology	
Project Title: Attachment, Emotion Regulation, and Functions of Self-Harm	
Case Number (if known – assigned by Administrator at time of 1st submission):	
Proposed Project Start Date: June/July 2024	**Proposed Project End Date: May 2025**

Please indicate whether the primary investigator on this project is staff or student and select your subject area:

☐ Staff ☐ UG or MSc Student ☒ DClin Student ☐ PhD Student
☐ CPASS ☐ Clinical Psychology ☐ Nursing Studies

This is a:

☒ New application for ethical review – first submission
☐ Resubmission following reviewer comments
☐ Resubmission with requested amendments

Has been reviewed by an external ethical board, such as NHS IRAS or a UK HEI (multi-site studies only) with a favourable opinion? Level 1 *

☒ IRAS (NHS research ethics) ☐ Other: ____________________

Please tick one option that best describes your application:

☐ Collecting or generating new data involving other people: Level 2
☐ Extracting, re-coding and analysing existing data that contains sensitive information (i.e. identifiable information): Level 2
☐ Analysing secondary (archival) data that is routinely collected or is an existing anonymised dataset: Level 1
☒ Collecting new data BUT an external ethical review board (such as NHS IRAS; UK HEI – for multi-site studies; etc) has fully reviewed this project and generated a favourable opinion: Level 1

This application is complete with the following attachments (tick all that apply):

Advert/flyer ☒	Caldicott application stating what data was requested ☐	Caldicott signed approval ☐		Consent form/s ☒
Data collection tools (e.g. interview guides) ☐	Debrief with signposting ☐	IRAS application ☒	IRAS opinion letter ☒	NGO or local authority letters ☐
Participant Information Sheet/s ☒	Participant Information Sheet (young person version) ☒	R&D application ☐	R&D approval ☒	Researcher Checklist (C-19) ☐

**If your project has been reviewed and generated an opinion by an external agency with a full ethics board, for example IRAS approval from the NHS, you only need to complete the questions related to university regulations covered in the Level 1 section of this form to ensure you are following University policies and guidelines. Please also attach the externally reviewed application and decision letter. Please note that your project will not undergo a full additional ethical review by the School of Health in Social Sciences REC, however we need to ensure your project is adhering to university regulations before you begin collecting data.*

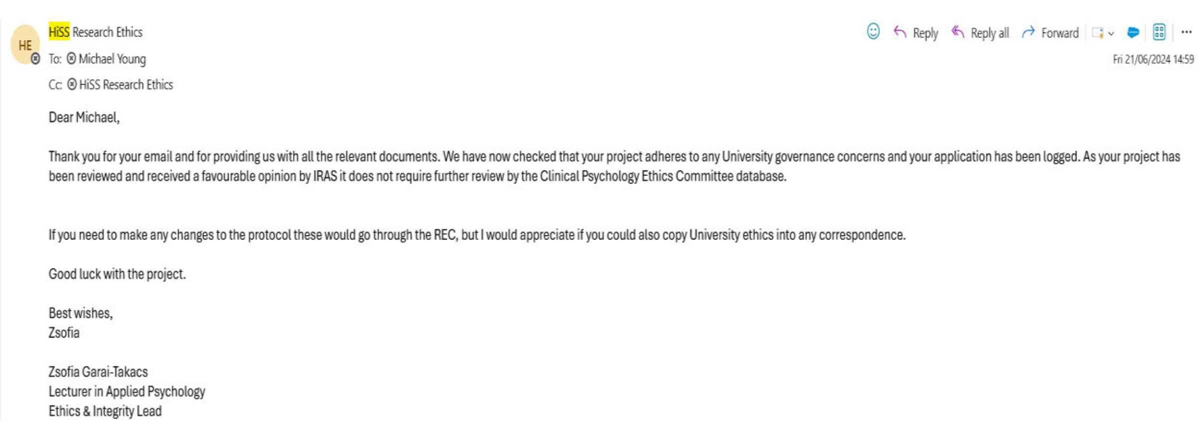
Risk assessment ☐	Standardised recruitment email ☐	Sponsorship Letter OR Email to confirm no sponsorship needed / statement explaining why sponsorship is not needed. ☒

Other attachments (please specify):

To be completed by primary investigator or project supervisor
By signing this front sheet, I confirm that I have prepared and/or reviewed this ethics application and related documents in accordance with ethical guidelines. I also confirm I have checked that all relevant sections of the application form are completed and relevant documents are attached. **Supervisor or/PI Signature:** **Student signature:** ***M. Young*** **Date: 20/06/2024**

On completion, this Word document along with the relevant attachments should be submitted to ethics.hiss@ed.ac.uk.

Note: **Please note all undergraduate and MSc applications MUST been signed and submitted by the project supervisor.**



HiSS Research Ethics
To: Michael Young
Cc: HiSS Research Ethics
Fri 21/06/2024 14:59

Dear Michael,

Thank you for your email and for providing us with all the relevant documents. We have now checked that your project adheres to any University governance concerns and your application has been logged. As your project has been reviewed and received a favourable opinion by IRAS it does not require further review by the Clinical Psychology Ethics Committee database.

If you need to make any changes to the protocol these would go through the REC, but I would appreciate if you could also copy University ethics into any correspondence.

Good luck with the project.

Best wishes,
Zsofia

Zsofia Garai-Takacs
Lecturer in Applied Psychology
Ethics & Integrity Lead

Appendix H

Participant Information Sheet

PARTICIPANT INFORMATION SHEET
ADOLESCENT 16-21

Attachment Insecurity, Emotion Regulation and Functions of Adolescent Self-Harm

You are being invited to take part in research on adolescent self-harm, quality of relationships and emotions. Definitions for some of these key words will be provided at the bottom of this page.

The research is being completed by lead researcher Michael Young (Clinical Psychologist in Training), at the University of Edinburgh. In order to take part, it is important that you understand what the research will involve. Please read to following information carefully. It is advised to take a screenshot of this page for future reference.

What is the purpose of the study?
Self-harm is a term used when someone hurts themselves on purpose. Research has shown that people may self-harm for many different reasons. This can include managing difficult emotions such as stress, anger, sadness, emptiness, or numbness. Some people may self-harm in order to help show other people how distressed they are to receive increased care and support. Self-harm may also be used to manage difficult social interactions, for example, during an emotional argument someone may self-harm to show that they are distressed in order to change or stop the interaction.

As self-harm can be dangerous and upsetting, it is important to learn more about who may be most at risk of self-harming. It is also important to understand if different types of people self-harm for different reasons. This will help people who self-harm, their families and the professionals who work with them. This project will ask people questions to find out about how they manage emotions and relate to others, to learn if this may be connected to why they self-harm.

Do I have to take part?
No – you don’t have to take part if you don’t want to. Participating in this study is voluntary, this means that you can decide whether you want to take part or not and you should not feel pressured into this by anyone else. Deciding not to take part or withdrawing from the study will not affect you or the care you receive in any way.

If I start the study, do I have to finish it?

No - if you decide to take part but then change your mind, you can stop at any time.

What does the study involve?
The study will consist of 6 online questionnaires, which we will ask you to complete anonymously online. The questions will be about things like your general wellbeing and how you manage emotions, how you feel in close relationships, whether you engage in any risky behaviours (such as sex, alcohol or drug use), whether you have engaged in self-harm and (if you have self-harmed) the reasons for this. We will also ask you some non-identifiable information about yourself – this means asking for things like your age, gender. However, we won't ask you to provide your name, address or any other information that could allow people to know who provided the information.

Before you begin the study, we need you to read this Participant Information Sheet fully, and answer some questions to make sure you fully agree to take part.

How long will the study take?
The study is estimated to take between 20 and 40 minutes to complete.

Can I take part if I have never self-harmed?
Yes. While the study is focussed on self-harm, we would still like to have individuals who have never self-harmed take part. This is often known as a 'control group' and is an important part of scientific research.

Can I take part if I regularly self-harm, or have self-harmed in the past?
Yes, however please consider whether you may find the study to be distressing, as one of the questionnaires will ask detailed questions about your self-harm.

We would also ask you to keep a copy of contact details of mental health support lines. These numbers will also be provided throughout the online survey.

It is important to remind you that this is a research study and not a medical/psychological intervention to reduce self-harming. Please consider reaching out to your local GP or other healthcare staff for further support.

What should I do if I become distressed?
It is understandable that you may become distressed when answering questions about topics such as self-harm and wellbeing. While this is understandable, if you become very distressed you should pause the survey or stop completely.

<u>If you are experiencing thoughts of ending your life it is important that you contact someone.</u>

Some suggested contact numbers will be included at the end of this page and details on how to get help or support will be visible throughout the survey.

What are the benefits of taking part?
By taking part you are helping us to increase our understanding of the types of people who may engage in self-harm and why. This may allow psychologists and other mental health staff to develop new treatments to help individuals prevent self-harm.

What are the disadvantages of taking part?

As the questions we will be asking are relating to personal and possibly distressing topics, you may experience some discomfort answering some of these questions.

Will I be financially compensated for taking part?

Unfortunately, we are unable to offer payment to everyone who takes part in the survey.

Will my taking part be kept confidential?

All the information we collect during the course of the research will be kept confidential and there are strict laws which safeguard your privacy at every stage.

HOW WILL WE USE INFORMATION ABOUT YOU?

We will need to use information from you for this research project. This information will include your age, gender. We will not ask you for your name or location in the main survey. People will use this information to do the research or to make sure that the research is being done properly.

We will keep all information about you safe and secure.

Once we have finished the study, we will keep the anonymous data so we can check the results. We will write our reports in a way that no-one can work out that you took part in the study.

What are your choices about how your information is used?

- You can stop being part of the study at any time, without giving a reason, but we will keep information about you that we already have.
- We need to manage your records in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you.

Where can you find out more about how your information is used?

You can find out more about how we use your information at
https://www.ed.ac.uk/records-management/privacy-notice-research

- by asking one of the research team
- by sending an email to the University of Edinburgh Data Protection Officer at dpo@ed.ac.uk

The University of Edinburgh is the sponsor for this study based in the United Kingdom. We will be using information from you in order to undertake this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. The University of Edinburgh will keep the full information about you for 6-12 months after the study has finished and your anonymised data for a minimum of 10 years. Your anonymised data may be used in future ethically approved research.

What will happen to the results of this study?
The results of this study may be summarised in published articles, reports and presentations. You will not be identifiable from any published results. These results will be shared and publicly available on University of Edinburgh online database (https://era.ed.ac.uk/handle/1842/2204) and will be submitted for publication in academic journals. Any relevant results will be shared with third sector organisations.

Who has reviewed this study?
The study proposal has been reviewed by the School of Health in Social Science at the University of Edinburgh.
All research in the NHS is looked at by an independent group of people called a Research Ethics Committee. A favourable ethical opinion has been obtained from <insert REC name>. NHS Management Approval has also been given.

Where can I get further information about this study?
If you have any further questions about this study, please contact Michael Young by emailing s2464497@ed.ac.uk

If you would like to discuss this study with someone independent of the study team, please contact Gemma Brown, Clinical Psychologist, by emailing .

Where can I make a complaint about this study?

If you would like to make a complaint about this study to the University of Edinburgh, you can email the Head of the School of Health in Social Science at University of Edinburgh, Professor Matthias Schwannauer at hos.health@ed.ac.uk, or the Research Governance Team: cahss.res.ethics@ed.ac.uk

If you would like to make a complaint about this study to the participating NHS Boards, the Patient Experience Teams are responsible for addressing any compliments, concerns or complaints within the NHS. If you wish to make a complaint about the study, please contact one of the below depending on your local board:

NHS Dumfries and Galloway
Patient Services
Mountainhall Treatment Centre
Bankend Road
Dumfries
DG1 4AP
Telephone: 01387 272 733
Email: dg.patientservices@nhs.scot

NHS Borders
NHS Borders Patient Experience Team
Borders General Hospital
Melrose
TD6 9BS
Telephone: 01896 826719
Email: patient.experience@borders.scot.nhs.uk

Who can I contact if I am distressed?

A list of possible support contacts are listed below. You can also contact your GP, another medical professional, or speak with someone you trust.

- **NHS 24 Mental Health Hub:** (All ages)
  - Call 111 and choose the mental health option
- **Samaritans**: (All ages)
  - Call 116 123 to talk to someone;
  - Or email: jo@samaritans.org for a reply within 24 hours
- **SHOUT Crisis Text Line:**
  - (19 and older) Text "SHOUT" to 85258;
  - (Under 19) Text "YM" to 85258
- **Childline:**
  - (Under 19s) Call 0800 1111

    - Online chat or email support www.childline.org.uk/get-support/
- **Anxiety UK:**
    - (All ages) Call 03444 775 774 between 9.30am – 5.30pm, Monday – Friday;
    - Online chat www.anxietyuk.org.uk,
- **Breathing Space:**
    - (16 and older) Call 0800 83 85 87. Monday – Thursday 6pm – 2am, or from Friday 6pm to Monday 6am.
- **Papyrus HOPEline:** A young suicide prevention helpline.
- Call 0800 068 4141, open 9am-midnight every day.

Definitions

Adolescent: In this study, an adolescent means a person aged between 12 and 21 years old.
Attachment: A deep emotional bond between two individuals (for example, between a parent and a child).
Attachment Insecurity: A term used when attachment is not felt to be 'secure'.
Anonymous: Someone who cannot be identified.
Capacity: The ability to make choices based on information provided.
Confidentiality: Keeping something private.
Emotion Regulation: The ability to manage emotions.

Self-Harm: Deliberately hurting yourself.
Questionnaire: A set of questions.

Please feel free to take a break now should you wish to think about your participation in the study or if you would like to ask any questions. Click ''Next' when you are ready to proceed, or close the webpage if you do not wish to take part. Thank you!

Appendix I

Consent Form

PARTICIPANT CONSENT FORM – ADOLESCENT (16-21)
PLEASE TAKE A SCREENSHOT OF THIS FORM FOR YOUR RECORDS

Study Title: Expressed Emotion, Self-Compassion, and Adolescent Self-Harm and Risk-Taking

Researcher's name and contact details:
Michael Young, University of Edinburgh. S2464497@ed.ac.uk

Thank you for reading the participant information sheet. Press the "previous" button at the bottom of this page if you would like to read it again.

Please read each consent point carefully and then click "agree" if you consent. Not ticking "agree" means that you do not consent. Consent means that you agree to these things.

Please tick the box if you agree with these statements

1. I confirm that I have read and understood the Participant Information Sheet version 4.0 24/Sept/2024 (information on the previous page) for this study.
   ☐
2. I have been given the opportunity to consider the information provided, ask questions and have had any of my questions answered.
   ☐
3. I understand that my participation is voluntary and that I can withdraw (stop being in the study) from the study at any time without giving any reason and without my care being affected.
   ☐
4. I understand that my anonymised data will be stored for a minimum of 10 years and may be used in future ethically approved research.
   ☐
5. I understand that relevant sections of my data collected during the study may be looked at by individuals from the Sponsor (University of Edinburgh), or the relevant NHS boards). I give permission for these individuals to have access to my survey responses.
   ☐
6. By ticking this box I agree to take part in the above study.
   ☐

Programming:
(The answers to the above questions will lead to one of the following pages).

If all agree: Thank you for agreeing to the above. Pressing "Next" will begin the survey.

If one or more is not ticked: Thank you for your interest in the study. As you did not confirm agreement to all of the above points, you cannot take part in the research.

If this was an accident, press "Previous" to access the consent form again.

If this was not an accident, pressing "Next" will end the survey. Thank you for your time.