Friendships and self-harm in young people:
An exploration of lived experience and social mechanisms

by

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Abstract

Self-harm, or intentional self-injury and self-poisoning regardless of intent, is a key health concern among young people (NICE, 2023). Self-harm is intrinsically tied to its social context, of which friendships are an important aspect. Our understanding of social and friendship aspects of self-harm in young people is fragmented. Historically, the role, influence and impact of friends has been explored either as a source of risk for self-harm or protective factor, while the experiences of friends have rarely been considered. Friendships are reciprocal and mutual relationships in which friends influence one another, and should be studied accordingly. The present thesis considers the perspectives of young people who self-harm and friends of young people who self-harm, thereby extending our understanding of friendships in the context of self-harm from multiple perspectives.

Four studies were conducted for the present thesis using a sequential mixed-methods multi-informant approach. Chapter 3 presents a novel overview of existing knowledge around the relationship between friendships and self-harm in young people (11-25 years old) through a systematic review and narrative synthesis of the literature on a) young people who self-harm and b) friends of young people who self-harm. Chapter 4 presents a qualitative study of the experiences of young people who self-harmed in adolescence, with a particular emphasis on the importance, role and influence of friendships in their experiences of self-harm. Qualitative Chapter 5 focuses on the experiences of friends of young people who self-harmed during adolescence, highlighting their processes of sense-making, the importance and consequences of their supportive role for themselves, their friend and the friendship. Chapter 6 is a quantitative social network study which gathered longitudinal, temporally high-resolution

data from a social network of adolescents to investigate causal relationships between supportive peer interactions and daily mood.

Overall, findings in this thesis enhance our understanding of the interrelated and complex nature of friendship and self-harm experiences, and their contribution to distinct outcomes among young people who self-harm and friends of young people who self-harm. Evidence suggests that young people who self-harm may be exposed to friends' negative influence, yet they may also rely on friends for support. Friends hold a unique position and role as supporters, yet this may come at a personal cost. Self-harm represents a unique experience impacting friendships, whereby these acquire distinct meanings, characteristics and dynamics. Finally, the complex nature of peer social support is a key finding from the present thesis, emerging as a conduit for both protective and risk effects occurring at the individual, friend and friendship level. The evidence generated in this thesis proposes the careful integration of adolescent friends and friendships in self-harm research and intervention development. The developmental and potential clinical relevance of adolescent peer support in self-harm calls for expanding research in this direction.

To my grandma, for the last candle you could not light

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Bilello, D., Townsend, E., Broome M. R., Burnett Heyes S. (Accepted). Friendship and self-harm: A retrospective qualitative study of young adults' experiences of supporting a friend who self-harmed during adolescence. *Front. Psychol.* DOI: 10.3389/fpsyg.2023.1221661

Bilello, D., Townsend, E., Broome M. R., Burnett Heyes S. (2023). Friendship and self-harm: A retrospective qualitative study of young adults' experiences of supporting a friend who self-harmed during adolescence. *Psyarxiv.* https://osf.io/preprints/psyarxiv/khw9f

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Bilello, D., Townsend, E., Broome M. R., Burnett Heyes S. "People in my life just play different roles": A retrospective qualitative study of friendships among young adults' who self-harmed during adolescence. Celebrating Research and Impact Conference. Oral presentation. 3 July 2023

Bilello, D., Block, P., Burnett Heyes S. Relationship between mood and social interactions in adolescent school-based social networks: An RSIENA longitudinal social network study of peer support. Reading Emotions Conference. Oral presentation.16 June 2023.

Bilello, D., Townsend, E., Broome M. R., Burnett Heyes S. Friendship and self-harm in young people: A retrospective study of friends' experiences. UoB Postgraduate Research Festival. Poster Presentation. 17 June 2022

Bilello, D., Townsend, E., Broome M. R., Burnett Heyes S. Friendship and self-harm: A retrospective qualitative study of young adults' experiences of supporting a friend who self-harmed during adolescence. 6th Suicide and Self-harm Early and Mid-Career Researchers' Forum. Oral presentation. 14 June 2022

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CHAPTER 1.

INTRODUCTION TO FRIENDSHIPS AND SELF-HARM

1.1. OVERVIEW OF SELF-HARM AND FRIENDSHIPS

Self-harm, which refers to any intentional behaviour to harm oneself regardless of intent, is a public health concern worldwide (The National Institute for Health and Care Excellence; NICE, 2022). Self-harm is one of the strongest predictors of suicide ideation, attempt and death, the latter considered the fourth leading cause of death among young people globally (18-25 years old; Hawton et al., 2015; WHO, 2023). Self-harm rates have risen in recent years across community and clinical settings. In the UK, 2-4 % of young people reported having tried to harm themselves in the previous four weeks in a recent nationally representative survey (NHS Digital; Newlove-Delgado et al., 2022). Of this number, only 3-9 % reported having disclosed and talked about the behaviour in the same four week period (Newlove-Delgado et al., 2022). Self-harm is rarely discussed, especially within formal and healthcare settings. Consequently, the behaviour remains concealed in the community, and many young people rely on informal sources of support (Geulayov et al., 2022; Michelmore & Hindley, 2012). If and when disclosure occurs, friends are often the receivers and primary confidants (Gillies et al., 2018). Despite their developmental relevance, friends are considered a 'forgotten' population in the field of self-harm, the impact and experiences of which are seldom acknowledged (Heath, 2016). It is important to explore and understand the friendship context of self-harm among young people.

1.2.1. What is Self-Harm?

In the UK, self-harm is a broad term encompassing suicidal and non-suicidal behaviours intended to harm oneself (NICE, 2022). The definition includes a continuum of behaviours, ranging from self-injury (e.g., cutting, biting, scratching) and self-poisoning (i.e. voluntary ingestion of dangerous objects and substances) to suicidal attempt. Self-injurious stereotypical behaviours are excluded from this definition (NICE, 2022).

The same nomenclature is not uniformly applied worldwide, and differences in the definition of self-harm emerge across countries (Silverman, 2016). These are rooted in multiple research traditions, cultural and societal views about its nature (Jacobson & Gould, 2007). For example, in the US self-harm is divided into specific behaviours, each underpinning different intent, severity and characteristics. For instance, non-suicidal self-injury (NSSI) refers to self-injurious behaviours without intent to die, whereas suicidality is the term encompassing all thoughts and behaviours with suicidal intent. These include suicidal ideation, suicidal attempt (or parasuicide) and suicide death (Jacobson & Gould, 2007). Recent research has also highlighted the importance of self-harm thoughts and urges as predictors and antecedents of self-harm behaviour (Turner, Baglole, Chapman, & Gratz, 2019; Hamza & Willoughby, 2015). Theoretically, some experts suggest all these dimensions can be placed along a continuum of increased severity (Kapur, Cooper, O'Connor, & Hawton, 2013). In this case, either approach to terminology can confer advantages, from providing a broad understanding of the phenomenon to a more refined and detailed view of the range of self-harm thoughts and behaviours. However, others suggest that despite their shared similarities, these phenomena are distinct, and the language of choice may influence the rates, estimates and the findings obtained, rendering comparisons

more difficult (Jacobson & Gould, 2007; Muehlenkamp, Claes, Havertape, & Plener, 2012).

Regardless of definition, self-harm is fundamentally understood as a behavioural manifestation of emotional distress, with underlying cognitive and affective components (Straiton, Roen, Dieserud, & Hjelmeland, 2013).

The present thesis uses the UK term 'self-harm' in reference to both suicidal and non-suicidal behaviours, given it offers some theoretical and methodological advantages for the topic being explored. First, given the exploratory nature of the research conducted, it is considered beneficial to adopt a broad definition that can encompass a wider range of behaviours, cognitions and feelings, rather than reducing these to specific manifestations of self-harm. Similarly, qualitative methodology and its philosophical underpinnings, call for adopting more inclusive definitions. Throughout the chapters, differences in nomenclature will be pointed out. For instance, Chapter 3 will consider self-harm ideation and behaviour – encompassing self-harm (or NSSI), suicidal ideation (thoughts, urges and plans) and suicidal behaviours (including suicidal attempt and suicide death) - given their strong links to one another and with the topic being explored, i.e., friendships.

1.3.2. Self-Harm profile and characteristics

While anyone can self-harm, evidence indicates the behaviour has a typical developmental profile, common characteristics and specific risk factors. Self-harm (specifically self-injury) typically onsets around 12-14 years (Gillies et al., 2018; Griffin et al., 2018). However, evidence of earlier onset among children has been observed in recent years (Geulayov et al., 2022). Prevalence rates among young people range from 10-20%, yet these depend on country, gender and the self-harm definition adopted (Lim et al., 2019). Following early adolescent onset, self-harm typically increases in intensity, frequency and severity up to late

adolescence, then plateaus or diminishes with time on entry into young adulthood (Griffin et al., 2018; Plener, Schumacher, Munz, & Groschwitz, 2015). In some cases, self-harm may persist, and is associated with an increased risk of long-term negative emotional, psychological, social and relational outcomes as well as increased risk of suicide (Mars et al., 2014; Borschmann et al., 2017). Evidence indicates suicidal behaviour is numerically rare, yet still significant among young populations. Lifetime prevalence rates indicate 10-20% young people experience suicide ideation, and 3-10% attempt suicide (O'Connor et al., 2018; Mortier et al., 2018).

In terms of gender, there is evidence that females are around three times more likely to self-injure than males, while suicide is more prevalent among young males (Bresin & Schoenleber, 2015; Miranda-Mendizabal et al., 2019). However, this is still an area showing mixed findings, especially since the gender gap has grown smaller in recent years (Ruch et al., 2019). Gender minorities, such as transgender and non-binary individuals, and sexual minorities (LGBTQ+), show a three-fold increased risk of self-harm and suicide relative to cisgender and heterosexual youth (Rimes, Goodship, Ussher, Baker, & West, 2020; Oginni, Robinson, Jones, Rahman, & Rimes, 2019).

Beyond demographic risk factors, other individual risk factors include psychiatric and psychological symptoms. In the UK, recent surveys suggests that around 70% of young people with a probable mental health disorder self-harm (NHS Digital; Newlove-Delgado et al., 2022). Relevant mental health issues include depression, anxiety, low self-esteem and substance abuse (Hawton, Saunders, & O'Connor, 2012). Instead, common environmental predictors of the behaviour include childhood adversity, such as trauma and abuse, and exposure to concurrent negative life events (Liu, Scopelliti, Pittman, & Zamora, 2018;

Russell et al., 2022). Bullying, interpersonal difficulties (e.g., interpersonal conflict, isolation) and exposure to self-harm have also been identified as key contributors to self-harm (Fisher et al., 2012; Jarvi, Jackson, Swenson, & Crawford, 2013; Hawton et al., 2012).

While statistics provide an informative depiction of self-harm, rates are consistently underestimated (Borschmann & Kinner, 2019). Overreliance on hospital admission data, low rates of help-seeking, and difficulties in capturing rates in the community may contribute to underestimation of self-harm. This presents barriers to our understanding of self-harm and its associated risk factors, and stresses the importance of understanding self-harm among at-risk populations which typically remain hidden, such as adolescents and young people.

1.3.3. Theories of Self-Harm: The Integrated Motivational-Volitional Model of Suicidal Behaviour

Several theories have emerged over the years to explain the aetiology of self-harm. Early theorists focused on individual-level explanations, describing self-harm as a way to avoid unwanted negative emotions (i.e., the Experiential Avoidance Model; Chapman, Gratz, & Brown, 2006). Elsewhere, sociological and socially oriented theories were developed, including Durkheim's seminal theory of suicide (1987) which proposed self-harm arose due to an individual's dysfunctional integration within their social environment. Recent empirical theories combine individual and social-level explanations (Durkheim, 2005). One key theory reflecting this shift is the Integrated Motivational Volitional (IMV) Model of Suicidal Behaviour (O'Connor, 2011; O'Connor & Kirtley, 2018; see Figure 1). This comprehensive model was developed primarily to understand suicide risk, yet given similar aetiologies, it is also applied to self-harm (Kapur et al., 2013; Cleare et al., 2021). The IMV model is a tripartite model which considers three phases leading up to self-harm, namely

vulnerability/risk
(background factors and
triggering events),
ideation/intention
formation, and behavioural
enaction. These correspond
to the pre-motivational,
motivational and volitional
phases respectively.
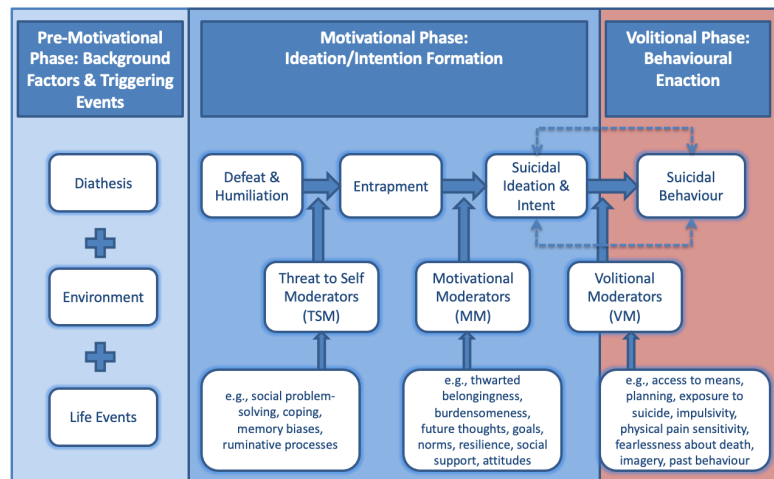
Figure 1: Integrated Motivational-Volitional Model of Suicidal Behaviour (O'Connor & Kirtley, 2018)

First, the Pre-Motivational Phase, based on a diathesis-stress model, suggests that the interaction between certain individual characteristics and negative experiences or environments, may increase the risk of self-harm. Relevant individual characteristics include the presence of psychopathology (including depression, anxiety or substance use) and personality traits such as neuroticism (Hafferty et al., 2019) and perfectionism, specifically socially prescribed perfectionism (O'Connor, Rasmussen, & Hawton, 2010). The impact of negative environments may differ across individuals, ranging from traumatic events to sustained negative daily adversities (e.g., conflict with peers, bullying, isolation). Second, the Motivational Phase, i.e. ideation, is characterised by the experience of passive and active self-harm thoughts and intentions. These are thought to occur sequentially, starting with individuals feeling defeated (powerless) or humiliated, followed by feelings of entrapment. Entrapment, or the feeling there is no other way out nor solution, is considered the key driver of self-harm ideation (O'Connor & Portzky, 2018). Together, these feelings are dependent on a series of individual, social, relational and societal mediators and moderators. Among them, coping struggles and difficulties with emotion regulation have been extensively investigated

(Brereton & McGlinchey, 2020). Lack of social support, feelings of burdensomeness, and thwarted belongingness from social relationships such as family and friends, highlight the importance of the social environment for self-harm risk (McClay, Brausch, & O'Connor, 2020). Finally, the Volitional Phase represents the transition from intention to action. This hypothesised phase has sparked most debate, given known difficulties in predicting who will eventually enact their self-harm thoughts (Klonsky, Saffer, & Bryan, 2018). Despite this, a series of common elements have been identified. Consistent with previous self-harm theories, fearlessness of death and insensitivity to pain appear to contribute to enaction (Joiner, Van Orden, Witte, & Rudd, 2009) alongside access to means and exposure to others' self-harm (Florentine & Crane, 2010; Jarvi et al., 2013). Finally, the strongest predictor for self-harm is past self-harm behaviour, emphasising cyclical transitions from thoughts to action.

The IMV model highlights that self-harm behaviours, and associated thoughts, feelings, events and risk factors, are dynamic and multifaceted. Importantly, the model reaffirms that self-harm has a distinct social nature, whereby social aspects are at the centre of self-harm protection and risk (O'Connor, 2021).

A second theoretical stance on self-harm which also emphasises social dimensions is the Four-Function Model (FFM) proposed by Nock and Prinstein (Prinstein, 2005). As opposed to the IMV model which focuses on the self-harm trajectory and risk factors, the FFM considers the functions or reasons why individuals engage in self-harm. The authors propose that self-harm occurs primarily in relation to the events that precede and follow it. The model posits that functions can fall on two sets of dimensions, a) individual or intrapersonal, and b) social or interpersonal; as well as c) positive reinforcement or receipt of positive stimuli and d) negative reinforcement or removal of aversive stimuli. For example, individuals may self-

harm to regulate their emotions, including increasing positive mood, reducing negative mood or to feel something altogether (Horne & Csipke, 2009); in these examples, motivations stem from the individual. On the other hand, social functions of self-harm include using the behaviour to communicate feelings and receive support from others, to fit in with a group or to gain social approval (Edmondson, Brennan, & House, 2016). Intrapersonal aspects are typically more commonly reported among individuals, justifying their larger presence in the literature. However, both intra- and interpersonal functions can emerge in response to an individual's social environment, justifying the importance of investigating these functions in the contexts in which they emerge.

Altogether, theoretical models of self-harm emphasise a complex picture. Our understanding of self-harm has been historically limited by a focus on descriptive information and individualistic explanations (Heilbron, Franklin, Guerry, & Prinstein, 2014). However, self-harm has a distinctive social nature and is often determined, driven by and occurring within its social environment. This justifies the exploration of social aspects of self-harm in the present thesis.

1.3.4. Social Dimensions of Self-Harm: Friendships

As presented in the aforementioned sections, there are social components to self-harm each operating throughout the distinct phases of the behaviour, for example as proposed in the IMV (O'Connor & Kirtley, 2018). Distinct social aspects may uniquely contribute to self-harm risk, ideation and enaction, as well as possible cessation. It is essential to identify relevant social dimensions to better understand their contribution and impact on the behaviour.

In discussing the social dimensions of self-harm, research has traditionally focused on the family given its pivotal role in young people's wellbeing, mental health and long-term

outcomes (Fortune, Cottrell, & Fife, 2016). There is evidence that family plays an important role in distally increasing risk or protecting against vulnerability to self-harm. During self-harm, family and particularly parents continue to play a role, either as proximal contributors to the behaviour (e.g., maltreatment, familial conflict) or as protective influences, through secure attachment, family cohesion and support (Fortune et al., 2016). It should be noted that provision of explicit parental support around self-harm is often limited, given that young people tend to avoid confiding in parents and keep the behaviour secret (Baetens et al., 2014). Instead, young people typically disclose and discuss self-harm with friends, these becoming primary confidants and sources of support (Geulayov et al., 2022). The developmental and clinical relevance of friends justifies the importance of focusing on and investigating this population.

During adolescence young people become increasingly independent from parental caregiving, while friends become a major source of influence and companionship (Blakemore & Mills, 2014). Young people spend a considerable proportion of their time with friends, within school settings, as well as outside of school and online. For this reason, gaining a better understanding of other aspects of young people's social lives, and specifically friendships, is necessary. Friendship dynamics, role and influence on young people who self-harm, as well as friends' perspectives and experiences, warrant further investigation. Adopting a mixed-methods approach through the integration of quantitative and qualitative methods can facilitate a holistic, multi-perspective understanding of the topic. The following sections will briefly review the extant literature on this topic.

Friends' Role in Self-harm: The 'self' perspective

Research on the role of peers in young people's self-harm has generally taken two directions, mirroring the friendship literature, where friends are conceptualised either as negative contributors and risk factors for self-harm, or as protective influences and sources of support (Copeland, Siennick, Feinberg, Moody, & Ragan, 2019).

A long-standing tradition in adolescent research is the viewpoint that friendships increase the likelihood of engagement in antisocial, risk-taking and health-risk behaviours (Berndt, 1992). This view has also been adopted in the field of self-harm research, where the focus on studying self-harm 'contagion' has prevailed, given the evidence of self-harm clustering in clinical and community adolescent samples (Benson et al., 2022). Contagion in this context is understood as the process whereby self-harm is socially transmitted within friendship groups (Jarvi et al., 2013). It is considered one of the primary forms of friends' negative influence on young people's self-harm, yet its exact mechanisms remain elusive and poorly understood (Jarvi et al., 2013).

A second dimension of negative peer influence stems from the victimization and bullying literature. Whilst running counter to the concept of friendship, bullying/victimisation within peer relationships, particularly in school, have been found to relate to and predict adolescent self-harm (Heerde & Hemphill, 2019; Fisher et al., 2012). Bullying can be considered a a) significant backdrop or distal factor creating vulnerability to the development of self-harm thoughts and behaviours (e.g., negative life event; Wadman et al., 2018), b) proximal contributor to self-harm thoughts, impacting motivational moderators (e.g., thwarted belongingness, social exclusion; Khaki, El-Salahi, & Cooper, 2022) or a c) volitional factor or immediate antecedent to self-harm (e.g., daily conflict, reduced pain sensitivity; Khaki et al.,

2022). Furthermore, irrespective of bullying, there is evidence that an individuals' position within their friendship network, and the structural properties of the latter, can be sources of risk for self-harm. For instance, low popularity (status or influence) or having intransitive friendships (i.e., having friends who are not friends with each other) are examples of social risk factors (Copeland et al., 2019; Wyman et al., 2019).

At the same time, adolescent friendships can also confer positive, protective effects. For instance, perceived popularity (i.e. status or influence), sociometric popularity (i.e. being liked by many peers), having high quality friendships, and reporting high levels of perceived support are protective factors against self-harm (Latina, Giannotta, & Rabaglietti, 2015; Copeland et al., 2019). Following self-harm onset, friendship quality and support have been related to increased likelihood of disclosure, and possible self-harm reduction (Armiento, Hamza, & Willoughby, 2014; Kruzan, Whitlock, Bazarova, Bhandari, & Chapman, 2022). However, quantitative evidence of positive friend variables such as friend support, is limited and mainly focuses on the consequences of their absence (i.e., impact of a lack of or poor quality support; Heilbron et al., 2014). Instead, the perceived benefits of friend support are best represented and evidenced in young people's subjective accounts within qualitative studies (Shepherd, 2020; Smithson et al., 2011). While qualitative evidence confers a series of advantages for exploring the nature of support, its mechanisms and particular dynamics, it cannot be neatly translated into evidence of declining self-harm rates. Combining quantitative and qualitative approaches can complement the unanswered questions raised by one another, altogether allowing these friendship processes to be identified, tested and explained.

Overall, the literature indicates that friendships are an important aspect of young people's self-harm experiences. However, research on friends remains divided (into positive and

negative aspects), cross-sectional and focused on one 'side' of the friendship. Research should identify relevant positive and negative aspects contributing to the transition across phases of self-harm, through prospective and temporal investigations. These should be accompanied and informed by the lived experiences and perspectives of the individuals participating in the friendship, that is, young people who self-harm and their friends.

'Forgotten grievers': The 'other' perspective

Considering the prevalence of self-harm, it is likely that a significant proportion of young people will know, be friends with and potentially offer support to someone that self-harms. Beyond friends' influence on young people who self-harm, the behaviour is said to have a 'ripple effect' impacting and extending to friendships (Heath, 2016). This calls for a focus on self-harm from the perspective of friends, as this can shed light on a) the social environment of young people who self-harm, particularly regarding friends' influence; b) the perspectives and experiences of friends of young people who self-harm and how they are impacted by the behaviour, and c) the dynamic interpersonal processes within friendships and how they reinforce outcomes among both populations.

Friends have historically been overlooked in the field of self-harm and suicide, these being considered a 'forgotten' population (Heath, 2016). The emotional closeness and intimacy characteristic of adolescent friendships makes this population an important part of the self-harm experience, consequently being heavily impacted by it. However, as opposed to more stable and externally defined relationship roles (e.g. family, teacher), the informal, fluid, and intuitive nature of friendships may contribute to their impact not being recognised. Within the bereavement literature, evidence suggests friendships are the relationship type most exposed to suicide death, yet are not always included in research (Looijmans et al., 2021; Cerel &

Sanford, 2018). This is important given that friends bereaved by suicide report not feeling 'able' to grieve the young person and experiencing negative outcomes including psychopathology, grief and persistent negative feelings (Sklar & Hartley, 1990; Brent, Perper, Moritz, Allman, Schweers, et al., 1993; Cerel, Roberts, & Nilsen, 2005).

Self-harm and suicide are behaviours falling on a continuum (Kapur et al., 2013). However, as opposed to their bereaved counterparts, equivalent research on friends supporting a young person who self-harms (or self-injures) is relatively scarce (Hall & Melia, 2023). Despite limited evidence, some areas of study show consistent and compelling findings. On one hand, friends become primary confidants and show willingness to provide support to their friends (Shepherd, 2020; Gayfer, Mahdy, & Lewis, 2020). On the other hand, adopting the role of supporter is associated with a range of unfolding and negative consequences, which may often develop into long term outcomes such as grief and mental health issues (Fisher, Fitzgerald, & Tuffin, 2017; Shilubane, Ruiter, Bos, Reddy, & van den Borne, 2014).

It is apparent that friends have unique contributions to young people's wellbeing and self-harm, yet this may come at a personal cost. Evidence show similar patterns of negative feelings and outcomes emerging across friends bereaved by suicide and friends concurrently supporting a peer. Yet, research on the latter is comparatively limited despite their expected higher prevalence. This suggests an urgent and important area for research to inform intervention development.

1.2. THE PRESENT THESIS

The literature around self-harm suggests the behaviour is characterised by its *"distinctly social nature"* (p. 1506; Copeland et al., 2019). Social dimensions, functions and processes have been highlighted across theoretical models, yet remain considerably overlooked in

favour of individual explanations. The behaviour can occur within, be a result of, and impact the social environment in which it occurs. The role of the social environment throughout the stages of self-harm (risk, ideation, enaction) and its long-term trajectory (onset, maintenance, cessation) warrants further investigation.
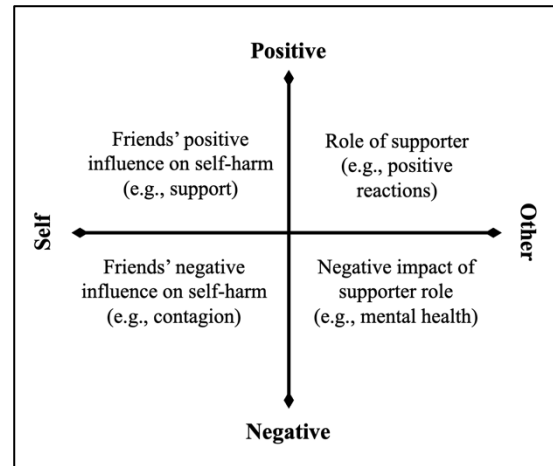
Figure 2: Representation of research on friendships and self-harm

An integral social aspect of self-harm is friends, whose experiences are embedded within and evolve alongside their peers' trajectories. Previous research on friendships and self-harm remains divided along two dichotomous dimensions: a) positive versus negative effects; and b) individual versus other perspectives (see Figure 2).

First, research adopts either a negative view of friendships as sources of risk for antisocial and health-risk behaviours, including self-harm onset and maintenance, or as confidants and sources of support, offering protective and buffering effects against self-harm. Second, research has separately considered the experiences of young people who self-harm, and those of friends of young people who self-harm (i.e., supporters), with very limited evidence regarding the latter. These dichotomous views fail to account for how these dimensions interact and interrelate to one another, thus missing emergent processes of risk and protection occurring within the friendship. Furthermore, it is important to understand 'how' and 'why' friendships relate to self-harm and the mechanisms underlying these relationships.

The present thesis adopts a mixed-methods approach to investigate the social (peer) context of self-harm in young people, integrating the perspectives of the 'two sides' of friendships. A

sequential exploratory mixed-methods structure is adopted, starting from a broad exploration of the topic to gather increasingly specific knowledge and inform concrete directions of research. Chapter 2 discusses the approach undertaken in the present investigation, reflecting on the philosophical and methodological decisions to align with the goals of the research. Chapter 3 presents a systematic review of the extant literature on young people's friendships and self-harm, which will help identify significant relationships between the two constructs. Chapter 4 and 5 consist of two parts of a qualitative investigation exploring the lived experiences of young people who self-harm in adolescence (and their friendship context) and of friends of young people who self-harmed in adolescence (and their experiences and perspectives). Chapter 6 aims to quantitatively test mechanistic explanations underlying the relationship between peer supportive interactions and daily mood in an adolescent sample. Concrete hypotheses explored in this study were informed by prior chapters. Finally, Chapter 7 presents a general discussion of the findings, their unique contribution, relevance and implications for research and practice.

The overarching research questions are:

a) What is the relationship between friendships and self-harm in young people?

b) How are friendships experienced within the context of adolescent self-harm, both from the perspectives of young people who self-harmed, and that of friends of young people who self-harmed?

c) What are the social mechanisms whereby supportive friendships contribute to adolescents' daily mood and wellbeing?

CHAPTER 2.

METHODOLOGY AND MIXED-METHODS RESEARCH

The previous chapter highlighted social factors in self-harm, in particular the role of friends. These are relatively understudied in research and remain a forgotten population in the context of self-harm.

The present research took a dual lens mixed-methods sequential approach to explore friendships and their role, influence and experiences in the context of self-harm. The overarching aim was to gain a nuanced understanding of young people's friendships in relation to self-harm. This chapter offers an in-depth consideration of the methodologies used to address this primary aim and associated research questions.

2.1. OVERVIEW OF STUDIES

A sequential mixed-methods approach was used to address the research questions. Four studies utilising three different methods were conducted sequentially, each encapsulating and addressing one specific research question. Yet, in practice, the conduct of the studies overlapped, enabling them to mutually and synergistically inform one another. This results in significant overlap across the focus, content and knowledge produced across studies and corresponding chapters.

2.1.1 Systematic Review

The first empirical chapter is a systematic review of the literature on the relationship between friendships and self-harm in young people, including evidence from 'both perspectives' i.e. studies examining the friendship context of young people who self-harm, as well as studies

conducted with friends of young people who self-harm. Quantitative and qualitative studies were considered. Results from the systematic review are presented through a narrative synthesis, providing an up-to-date overview of current research, enabling identification of evidence gaps and important areas for future research (see Chapter 3). The systematic review study addressed the first research question:

a) What is the relationship between friendships and self-harm in young people?

2.1.2 Qualitative Studies

Chapter 4 and 5 present two linked retrospective qualitative interview studies which were conducted as part of a larger investigation of friendships and self-harm over time in young people, specifically the period from adolescence to young adulthood. Each study focused on a different perspective and population – young people who self-harmed in adolescence (Chapter 4) and young people who had a close friend who self-harmed during adolescence (Chapter 5). Both studies used semi-structured interviews prompted by an adapted version the Card-Sort Task for Self-Harm (Townsend et al., 2016). By considering each population separately we were able to explore the thoughts, feelings and experiences of self-harm and friendships from both perspectives. Findings were analysed using thematic analysis to answer the second research question:

b) How are friendships experienced within the context of adolescent self-harm, both from the perspectives of young people who self-harmed, and that of friends of young people who self-harmed?

2.1.3 Social Network Analysis

The final empirical study, presented in Chapter 6, built on the previous findings to test hypothesised mechanisms underpinning relationships between social interactions and wellbeing in adolescence. This quantitative study collected data on supportive peer interactions and mood from a school year group network each day across four consecutive days. Stochastic Actor Oriented Models (SAOMs) were used to model peer influence on mood (e.g., mood contagion) and mood influence on peer relationships (e.g., mood homophily), to answer the final research question:

c) What are the social mechanisms whereby supportive friendships contribute to adolescents' daily mood and wellbeing?

2.2. MIXED-METHODS RESEARCH AND PRAGMATISM

The choice of methods utilised in the present thesis is informed by the sequential mixed methods approach adopted. Mixed-method approaches emerged in the late 20th century and offered a novel framework to explore complex social phenomena (Denscombe, 2008). It is considered the 'third' methodological approach, to contrast with the established dichotomy of quantitative and qualitative research (Anderson, 2016). Mixed methods advocate for flexibility, multiplicity and combination of methods and methodologies, each with its own advantages, and capable of addressing out each other's limitations.

Rather than being in opposition, quantitative and qualitative methods are complementary within a mixed methods approach, and both are necessary to gain in-depth understanding of the object of study (Ivankova, Creswell, & Stick, 2006). Inherently, the framework does not commit to particular ontological and epistemological orientations, and often adopts those

corresponding to each approach – qualitative and quantitative – at different stages of the research process (Subedi, 2016). Defying traditional rigidity and dualism, the use of mixed methods inherently encourages methodological flexibility to fit the objective of the research. That is, methods are used to answer specific research questions and to explore different perspectives of the same phenomena. Depending on the aims of the research, the combination of methods may adopt various configurations. For instance, methods can be used in parallel within the same study, or they may be used sequentially, each informing the next. Altogether, these characteristics make this framework suitable for interdisciplinary research, having utility and real-world relevance at its forefront (Cameron, 2011).

2.2.1. Philosophical Stance and Pragmatism

The methodological paradigm of choice is shaped by the researcher's philosophical stance[1], or way of seeing the world, and the phenomenon of study (Holden & Lynch, 2004). Pragmatism is typically the philosophical undercurrent behind mixed methods research, the two being closely interrelated to one another (Cameron, 2011). This stance is often placed at the intersection between realist paradigms – advocating for a single, objective and measurable reality – and idealism, emphasising a subjective worldview. Whilst these two philosophical stances are typically seen as epistemologically incompatible, their use may be reconciled within pragmatism.

First, pragmatism does not reject the existence of universal truths about the world, but rather acknowledges that these can exist within subjective experience and be shared across individuals (Morgan, 2014). Hence, subjective, unique experiences can still create stable

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[1] Philosophical stances refer to *"pragmatically justified metaphysical perspectives or ways of seeing the world"* p. 2319 (Boucher, 2014)

patterns of reality. At the centre of this philosophical approach is 'actions', which shape human experience, reality and knowledge. Individuals' actions are guided by past experiences and beliefs about their possible consequences. Upon taking said actions, these can reinforce or generate new beliefs and knowledge based on the resultant outcome (Dewey, 2002). Beliefs and actions help individuals navigate the world, thus creating human experience and reality which can be studied as individual and/or socially shared experiences (Kaushik & Walsh, 2019;Morgan, 2014). To understand this, consider a relevant example. Individuals may hold past beliefs about the importance of seeking support from friends, as a helpful strategy to cope with their struggles. The action of help-seeking may reinforce this belief, provided positive responses are obtained, or it may generate new beliefs if the outcome is different to individuals' preconceived understandings e.g., if dismissive responses are received. In turn, these beliefs and subjective experiences can shape individuals' future actions, for example encouraging or precluding future help-seeking.

It follows that instead of one objective reality, pragmatists believe in single and multiple realities alike. For that reason, rather than focusing on ontological problems about their nature – which cannot ever be solved – pragmatism focuses on the knowledge that can be obtained about these realities, in order to solve specific real-world problems (Morgan, 2014). This alludes to one of the core tenets of pragmatism, utility. That is, this approach and its corresponding methods are used as long as they have a utility or fit a certain purpose, which in research entails the understanding and exploration of phenomena. And since reality cannot be accessed through one sole approach, plurality and mixture of methods is prioritized. This is particularly relevant for the present thesis, whereby adopting a mixed-methods framework, composed of qualitative and quantitative methods, affords different types of knowledge and perspectives to explore the phenomena of interest.

2.3 MIXED METHODS IN CONTEXT: QUALITATIVE EXPLORATIONS AND QUANTITATIVE TESTING

The use of sequential mixed methods in the present thesis involved a series of considerations prior to the research taking place. First, the very nature of sequential designs entails decisions about the order in which each method is utilised, a topic of debate within the field (Subedi, 2016; Anderson, 2016). Various configurations have been proposed, each with different purposes and advantages (Cronholm & Hjalmarsson, 2011). The decision-making process informing the research presented in this thesis is discussed below.

The approach adopted aimed to generate increasingly specific knowledge about friendships and self-harm driven primarily by the lived experiences of young people who self-harm and friends. Young people's perspectives explored in qualitative research can be used to inform the focus and measurement of friendships and self-harm alongside complimenting and expanding the interpretation of findings in quantitative research. This informed the decision to start from an exploratory approach and move towards an explanatory approach by adopting an exploratory sequential design (Creswell, Shope, Plano Clark, & Green, 2006). This configuration entailed that qualitative research would precede its quantitative counterpart. This is consistent with recommendations which suggest starting with qualitative approaches when the primary researcher has limited knowledge about the construct of interest (often the case at the beginning of a doctoral programme and given the topic of choice), when the phenomenon of interest is abstract (e.g., friendships), and when there is uncertainty about the right questions to ask, especially the case for stigmatised topics such as self-harm (Cronholm & Hjalmarsson, 2011). These are briefly discussed given their relevance in the context of the present thesis.

On one hand, our understanding of friendships typically relies on lay definitions of the term, shared across contexts, age groups and cultures, and thus rarely questioned (Brent, Chang, Gariepy, & Platt, 2014). Despite shared understandings, friendships are abstract, multidimensional and often difficult to operationalise (Hojjat & Moyer, 2017). Starting from a qualitative and subjective approach allows the researcher to consider individual meanings and understandings of the term, within the context and population in which it is being studied. On the other hand, self-harm encompasses feelings, cognitions and behaviours. Whilst these can be objectively measured, the study of self-harm is challenging given its sensitivity. Self-harm is typically misunderstood, stigmatised and misconceived (Long, 2018). Hence, there is uncertainty in research and practice regarding the most sensitive ways to ask questions about self-harm, that will be informative but will not cause additional distress to individuals (Ford, Thomas, Byng, & McCabe, 2021). As previously mentioned, starting with a qualitative approach can prove suitable for this purpose. Engaging with participants can provide experiential knowledge about self-harm, which can be used to inform the topics and variables of interest as well as guide the development of ethically appropriate, relevant and informative measurements. These can be used in subsequent quantitative investigations to generate and test concrete hypotheses.

The two primary empirical methods adopted in this thesis are discussed in the following sections alongside a detailed explanation for their integration.

2.3.1. Qualitative Research and Thematic Analysis

Qualitative research is one of the main methodological approaches to research used across disciplines from sociology, psychology and education to applied fields such as public health and medicine (Flick, Von Kardorff, & Steinke, 2004). It focuses on exploring and

understanding human experiences, thoughts, feelings and behaviours (Pathak, Jena, & Kalra, 2013). It is considered an umbrella term for a variety of approaches to data collection, analysis and interpretation which consider textual, verbal, visual, or spatial data – in their unchanged form – as opposed to quantitative approaches which rely solely on numbers derived from raw data (Carrera-Fernandez, Guardia-Olmos, & Peró-Cebollero, 2014). Each qualitative method draws from distinct philosophical stances, paradigms, methodologies and methods, to explore different research questions (e.g., case-studies, ethnography, grounded theory; Yilmaz, 2013; Dodgson, 2017).

Given its subjective focus, qualitative research inherently accepts the existence of multiple subjective realities dependent on the context, individuals and researcher investigating it (Pascale, 2010). Hence, the study of social phenomena is conducted in the context in which they occur, and from the perspectives of those who are experiencing them (Almalki, 2016). Consequently, qualitative research offers a holistic and emergent perspective on phenomena of interest. This knowledge is obtained through responsive engagement, co-construction and ethical exchange with participants who become active agents in the research process (Knapik, 2006).

In particular, mixed method approaches greatly benefit from the use of qualitative methods, despite initial criticism that these were often auxiliary and secondary to its quantitative counterparts (Creswell et al., 2006). Some of their applications are a) hypotheses generation, b) measure/instrument development and c) offering 'dialogic explanations' for quantitative findings (Creswell et al., 2006). Their use holds strong ties to pragmatism, given that qualitative research is known to be driven by and to contribute to theoretical knowledge as

well as having practical applications and utility (Ritchie & Lewis, 2003; Pistrang & Barker, 2012).

The present thesis utilises Thematic Analysis (TA) to explore young people's experiences of friendships and self-harm (for more detail, see Chapters 4 and 5). TA aims to identify, analyse and interpret patterns across the data (Braun & Clarke, 2014; Braun & Clarke, 2019). Generic TA does not hold specific ontological or epistemological positionings, but rather offers a method or tool to explore specific research questions. More specifically, the overarching goal of TA is to establish common patterns whilst recognising individuality and differences across participants (Braun & Clarke, 2019), mirroring the key principles of pragmatism.

Overall, the qualitative approach taken in the current thesis is suitable to the present research in three particular ways: a) it offers a way to observe interesting patterns, relations and experiences within a relatively poorly understood topic; b) it facilitates research on sensitive topics in an ethical, personal and responsive way; and most importantly c) it allows research to be driven and shaped by young people's experiences, whereby their voices and needs are at the forefront of the research (Ritchie & Lewis, 2003; Pistrang & Barker, 2012). This is particularly relevant for the present investigation on friendships and self-harm as it promotes a person-centred process of meaningful sensitive communication on topics of relevance and concern for participants (Crowther & Lloyd-Williams, 2012).

2.3.2. Social Network Analysis

Social Network Analysis (SNA) is an approach originating in sociology focused on understanding social structures and relations (Serrat & Serrat, 2017). This approach advocates for the study of phenomena of interest by considering the social context in which they occur. Similar to pragmatism, the social environment and relationships are necessary characteristics

embedded within and influencing the social world and an individual's behaviour (Marin & Wellman, 2011).

SNA frameworks provide a series of methods and tools to explore social relationships. Primarily, these consider social structures and dynamic patterns of interactions, as well as the characteristics and qualities of individuals and their relationships (Froehlich, Van Waes, & Schäfer, 2020). Despite there being a variety of approaches within SNA methods, these share common assumptions. First, the network is the primary object of study, consisting of a structure of interrelated individual actors (or nodes) connected through ties (or edges) (Marin & Wellman, 2011). In principle nodes refer to individuals although, in practice, any set of connected units could be studied through SNA (Marin & Wellman, 2011). As for ties, four distinct types of connections have been proposed (Borgatti, Mehra, Brass, & Labianca, 2009): a) similarities (shared characteristics connecting individuals, i.e., group membership), b) social relationships (relations with defined roles, e.g., friendships), c) interactions (behaviour-based connections e.g., having an argument) and d) flows (exchange-based relations e.g., mutual support). By collecting data on actors and ties, it is possible to gather information about individuals and their characteristics, the nature and direction of relationships and how these exist within and create social structures or networks.

The primary assumption of SNA is that reality is relational, emphasising the importance of the context in shaping these realities (Bolíbar, 2016). SNA has been integrated within a mixed-methods and pragmatic context, especially given their common roots (Edwards, 2010). Both mixed methods and sociological SNA traditions emerged as rejection of mainstream approaches in the social sciences, namely the ontological dichotomy of the scientific approach and, specific to SNA, the insistent focus on individual factors (Gross, 2009). Secondly, similar

to pragmatism, SNA considers that whilst there may be universal mechanisms explaining social phenomena, these may also be bound to specific contexts (Gross, 2009). Equally, neither pragmatism nor SNA are concerned with purely ontological questions about the essence of these phenomena or the 'what'. Instead, SNA methods offer a lens through which to view and solve specific problems, by focusing on the 'why and how' (Marin & Wellman, 2011; Gross, 2009).

Furthermore, in the context of mixed methods approaches, the fusion of SNA and qualitative research is perceived as epistemologically compatible (Yousefi, Sale, Marin, & Ross, 2018; Marin & Wellman, 2011). Researchers argue that their respective paradigms are complimentary and particularly useful within exploratory configurations. The combination of SNA and qualitative research creates an iterative dialogue where qualitative findings can inform network measurements (or the dimensions and questions being investigated) as well as the choice of indicators (or parameters to test hypotheses). Additionally, it can provide an explanatory narrative and meaning to make sense of numerical patterns and data. The application of SNA in the present thesis will be discussed in depth in Chapter 6.

2.3.3. A brief note on mechanisms

Relatedly, the present thesis, and its exploratory configuration, aimed to identify and establish mechanisms and mechanistic-based explanations of phenomena, namely the underlying processes explaining the relationship between friendships and self-harm.

Mechanisms are defined as processes generating changes in the components of a system to explain its functioning (Hedström & Ylikoski, 2010; Hogan & Bolhuis, 1994). The topic of mechanisms is a suitable target of inquiry to be studied through mixed-method approaches of exploratory nature. The use of a sequential design allows the researcher to gain specific

knowledge about complex phenomena to build upon and inform subsequent steps. In the present thesis, self-harm is a complex behaviour, the mechanisms of which remain relatively unexplored (Crudgington et al., 2023). Starting with a review of the literature can help identify well-established emergent mechanisms for further exploration. Additionally, qualitative research can provide further support for well-established mechanisms and explanations for their occurrence, as well as introducing additional mechanisms to be considered. Together and through the fusion of methods, causal mechanisms can be hypothesised and later tested within quantitative frameworks. The hypotheses, measurement and specific questions can be developed based on findings identified in prior steps. Finally, as often proposed within SNA, qualitative accounts can also help make sense and offer narrative explanations for proposed mechanisms as well as generating new questions for future research based on the latter.

2.3.4. Integration of Mixed Methods

Consistent with an exploratory sequential design, the present thesis initially obtained a broad understanding of the primary constructs, as studied within the literature and as experienced among young people. For this, a systematic review and narrative synthesis of the literature were conducted alongside two qualitative studies. This revealed pertinent relationships between the two constructs, together with many unanswered questions and evidence gaps particularly around friend support, friends' experiences and causal mechanisms (Crudgington, Wilson, Copeland, Morgan, & Knowles, 2023; Hall & Melia, 2023) . Both components informed the research questions, hypotheses and design of the quantitative study. This final study considered social network mechanisms of social influence and support provision in adolescence, the findings of which were interpreted in reference to the prior studies.

Integration of findings within the present sequential mixed-methods framework employed various approaches (Fetters, Curry and Creswell, 2013; Skamagki, King, Carpenter, & Wåhlin, 2024). First, the systematic review and qualitative studies were conducted *concurrently*. This allowed for findings to be *embedded,* i.e., findings from each study informed interpretations of the other studies. Together, these three chapters provide a *complementary* overview and exploration of the relationship between friendships and self-harm, as researched in the literature and as experienced by young people. Second, these were integrated with the quantitative component through *building,* whereby findings from Chapters 3-5 were used to determine the focus of the study in Chapter 6 (including mechanisms of interest), generate hypotheses and inform the development of survey items. In addition, findings from Chapters 3-5 were *embedded* with findings from Chapter 6 quantitative findings to contextualise and explain numerical data.". See Figure 3 for visual representation of integration approach.
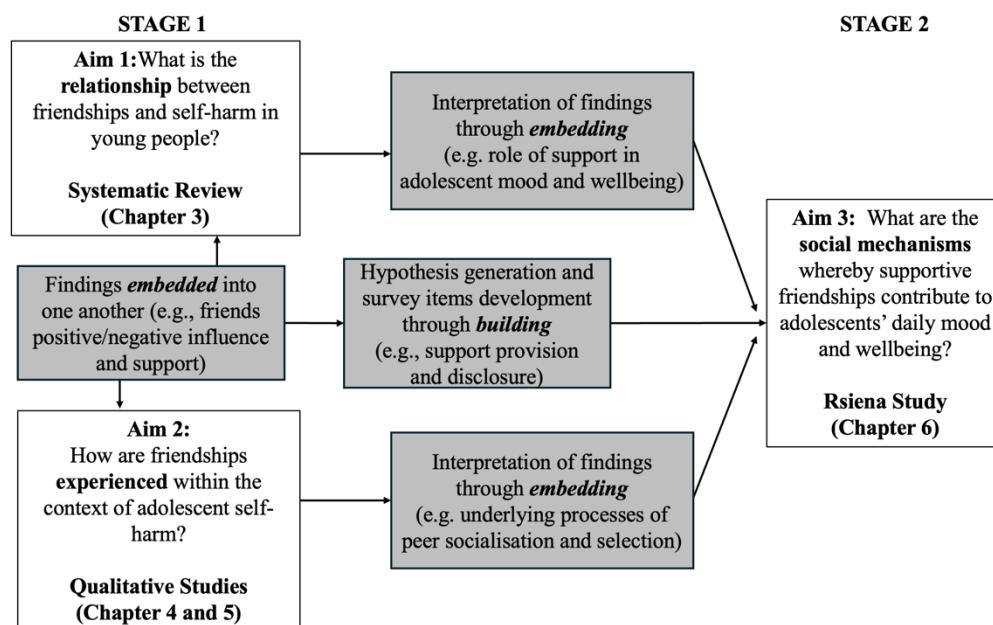
Figure 3: Mixed-methods integration approaches in the present thesis

CHAPTER 3.

SYSTEMATIC REVIEW OF FRIENDSHIPS AND SELF-HARM IDEATION AND BEHAVIOUR IN YOUNG PEOPLE

The present chapter comprises a detailed exploration of the extant literature on friendships and self-harm ideation and behaviour (SHIB) in young people. The present systematic review aims to provide a novel overview of the literature to understand the relationship between the primary constructs, its direction and strength as well as its underlying mechanisms. It does so by adopting a dual lens i.e., the evidence gathered consists of studies focusing on young people with SHIB, and studies of friends of young people with SHIB.

Overall, this represents the first systematic exploration of the relationship between friendships and SHIB. A narrative synthesis of the findings considers and organises the current literature in order to identify well-established trends and patterns alongside key knowledge gaps. It also critically considers the measurement and assessment of the primary constructs. This study provides the basis for the conceptualisation and development of subsequent studies, as well as offering evidence to frame and contextualise their results.

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ABSTRACT

Friendships have an important role in the experience of self-harm ideation and behaviour (SHIB) in young people, yet they typically remain overlooked. The present systematic review and narrative synthesis explore the extant literature on this topic to identify important relationships between these constructs. A keyword search of studies relating to friendships and SHIB in young people (11-25 years old) was conducted across 11 databases. A total of 3,513 papers were screened and 75 articles have been included in the present review, presenting evidence primarily from high-school adolescents (11-18 years old), mixed-gender (with a slight overrepresentation of females), White samples. Findings highlight significant, substantive relationships between the key constructs, organised via the following categories: (a) *studies of young people with SHIB*; and (b) *studies of friends of young people with SHIB*. Within the first category, evidence indicates that 1) characteristics of friends, including friend SHIB, relate to and predict SHIB; 2) friends are important sources of support with potential protective effects; and 3) evidence on causal mechanisms is limited, but points at peer selection and peer influence processes. Within the second category, findings highlight that 1) friends' attitudes towards SHIB influence response to their peers; and 2) friends supporting young people with SHIB experience negative outcomes. Finally, among both populations, evidence of effective interventions is limited. Despite significant heterogeneity across samples, study designs and conceptualisation of the primary constructs, the current review represents an initial step in organising a complex literature on a critically important topic. Future research should clearly define and consistently measure friendships (offline and online) and SHIB, as well as identifying, exploring and replicating key mechanisms through prospective designs. Finally, evidence-based interventions around friendships and SHIB should be tailored, developed and evaluated across both populations.

A systematic review and narrative synthesis of the relationship between friendships and self-harm ideation and behaviour among young people

3.1 INTRODUCTION

Self-harm is defined as the intentional act of harming oneself regardless of underlying intent (NICE, 2013), is associated with a series of negative health, social and psychological negative outcomes as well as being the strongest predictor of suicide (Mars et al., 2014; Mars et al., 2019). These are considered a major public health concern, especially among young people (11-25 years old). In this group, rates of self-harm range from 10-20% worldwide, while suicide is more numerically rare (3-10%) (Glenn et al., 2020). During adolescence and young adulthood, the social environment becomes increasingly important (Blakemore & Mills, 2014). This is especially true for friendships and peer relationships which become salient during this period of life and are known to influence health-related behaviours (Prinstein, Boergers, & Spirito, 2001; Fletcher & Ross, 2018). Current theories of self-harm generally focus on individual factors to describe, explain and predict self-harm ideation and behaviour (SHIB). Social and relational dimensions of self-harm and suicide are important, yet rarely investigated (Hilt, Nock, Lloyd-Richardson, & Prinstein, 2008). Evidence suggests that friendships and peer relationships, and self-harm and suicide, are mutually influential (Hall & Melia, 2023). However, the nature, direction and strength of these relationships remain unclear, highlighting the need to synthesise available evidence.

Definitions of self-harm, suicidal ideation and suicidal behaviour generally differ across countries. In the US a clear distinction is made between non-suicidal self-injury (NSSI), suicidal ideation (SI), suicidal attempt (SA) and suicidal behaviour (SB) (Jacobson & Gould, 2007). Instead, in the UK self-harm refers to behaviours intended to harm oneself with and

without suicidal intent (NICE, 2013). In the present systematic review, the term self-harm ideation and behaviour (SHIB) will be used to encompass self-harm (and NSSI), suicidal ideation and suicidal behaviour (and SA).

3.1.1. Friendships and self-harm

Friendships are important throughout life, and especially for young people. They exert a strong influence on development, well-being and behaviour, including self-harm ideation and behaviour (Blakemore & Mills, 2014; Hall & Melia, 2023). However, evidence is nascent and inconclusive, where friendships are considered both risk and protective factors (Copeland et al., 2019).

Lay and scientific understandings of friendship seem to agree on a series of key dimensions describing the latter, namely mutual influence, closeness and disclosure (Bagwell & Schmidt, 2013; Amichai-Hamburger, Kingsbury, & Schneider, 2013). These core qualities have been observed in offline and online friendships, yet certain affordances of online spaces (e.g., anonymity) may facilitate distinct social dynamics and processes (Yau & Reich, 2018). Evidence suggesting that friendships are important sources of support for young people with SHIB emphasise how these key dimensions may exert a protective influence (Rowe et al., 2014; Michelmore & Hindley, 2012). Nevertheless, these as well as specific friend characteristics, such as friends' own SHIB, have also been associated with increased risk of SHIB among young people (Jarvi et al., 2013). This results in high rates of SHIB clustering among young people, in clinical and community settings (Benson et al., 2022). Altogether, these findings suggest that the very nature of friendships creates a particular context where SHIB can potentially impact individuals within a friendship and be impacted by these, in both positive (protective) and negative (risk) ways (e.g., (Fisher et al., 2017; Gayfer et al., 2020).

The developmental relevance of friendships and peer relationships for young people's self-harm ideation and behaviour calls for attention to this topic. This is significant given that, despite the existence of intuitive understandings of friendships, these may be experienced differently within a context of self-harm and suicide. Exploring the interdependent nature of these constructs will advance knowledge and highlight avenues for intervention.

3.1.2. Goals of the present review

The present systematic review aims to explore friendships and peer relationships and self-harm ideation and behaviour (SHIB). By synthesising the evidence linking these constructs and by considering both perspectives, i.e., that of young people with SHIB and that of friends, relationships and evidence gas will be identified. The main goals are to:

1) Provide a qualitative synthesis of the literature investigating SHIB and friendships/peer relationships, by considering studies of young people with SHIB and studies of friends of young people with SHIB

2) Explore and identify the factors and mechanisms influencing the relationship between SHIB and friendships

3) Critically evaluate the conceptualisation, measurement and assessment of SHIB and friendships and their interrelationship

3.2 METHODS

3.2.1. Search Strategy Selection Criteria

We conducted a broad literature search of studies relating to friendships and peer relationships and self-harm ideation and behaviour (SHIB) in young people across 11 databases

(MEDLINE, Embase, PsycINFO, Web of Science, SCOPUS, PubMed, Cochrane Library, CINAHL, Sociology Database, International Bibliography of the Social Sciences and Sociological Abstracts) from database inception to January 2021 with the assistance of a librarian. The search was updated in October 2022. Reference lists of relevant articles and reviews were also searched for relevant publications. The search strategy included the main constructs of interest and their derivatives: self-harm or "self harm*" or self-injur* or "self injur*" or "self-cut*" or cut* or self-destruct* or "self destruct*" or "nonsuicidal self-injur*" or "non-suicidal self injur*" or NSSI or "deliberate self-harm" or "deliberate self harm" or DSH or "self mutil*" or overdos* or "self-inflicted injur*" or "self inflicted injur*" or "para suicid*" or para-suicid* or suicid* AND peer* or "peer relation*" or "peer connect*" or "peer network" or "social group" or friend* or "friend* group" or "peer group" or "social network*" or "social relation*" or "social connect*" or "peer support" AND teen* or child* or kid* or "young people" or "young person" or youth or adolesc* or pupil* or juvenile or "young adult*" or "minor" or "university student" or "student" or "11-24 year*" or "12-25 year". This systematic review was performed in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) 2020 guidelines (Page et al., 2021). The systematic review protocol was registered on PROSPERO (CRD42020224223) prior to data extraction.

Studies included in the present systematic review were peer-reviewed empirical articles which 1) considered self-harm ideation and behaviour (SHIB) including self-harm (SH and/or NSSI; behaviours intended to harm oneself, with and without suicidal intent; NICE, 2013), suicidal ideation (SI; active, passive suicidal thoughts or plans; Sarkhel, Vijayakumar & Vijayakumar, 2023) and suicidal behaviour (SB; any behaviour intended to end one's life including suicidal

attempt and death; NICE, 2022): 2) explored friendships and peer relationships characterised by mutual influence, closeness and disclosure (Sullivan, 1953; Bagwell & Schmidt, 2013); however, studies were included regardless of whether they provided a researcher definition, participant self-definition, or assumed common understandings of the construct); 3) included samples of young people between 11-25 years old (studies including participants outside this age range, e.g., 18-30, were excluded unless they separated findings by age group) and 4) were in English language, irrespective of geographical location. Quantitative and qualitative articles (as well as mixed-methods studies) were included; grey literature articles were excluded. Articles exploring peer victimization and bullying, familial and romantic relationships in relation to self-harm were excluded from the present review due to existing reviews on the topic (e.g., Heerde & Hemphill, 2019; John et al., 2018; Fortune et al., 2016). Articles were not restricted to a specific date range. Full Inclusion criteria are presented in Table 1.

Several changes were implemented throughout the systematic review process resulting in differences from the original protocol; these are noted in the following section.

Table 1: Full-list of Inclusion and Exclusion criteria applied during abstract and full-text screening process

Inclusion Criteria	Exclusion Criteria	Justification
Peer-reviewed empirical articles	Non-peer reviewed empirical articles	Focus only on empirical literature
Articles in English language (Irrespective of geographical location)	Articles not in English language	English is the working language of reviewers
Empirical quantitative studies (e.g., cross-sectional, prospective, case-control and intervention studies)	Grey literature (e.g., theses, dissertations, conference papers, commentary and review articles)	This criterion allows for a comprehensive review across evidence-based research only
Empirical qualitative studies (e.g., narrative, content, case-studies, ethnography and phenomenological studies)		
Studies must focus on self-harm ideation and behaviour (SHIB) (i.e., NSSI, self-harm, suicidal ideation/ planning, suicidal attempt and suicide death)	Studies which do not focus on self-harm (inc. thoughts, urges and behaviour) or whose definition of self-harm falls outside established definition (e.g., substance abuse, eating behaviour)	This criterion is justified by the review questions
Studies must consider friendships or peer relationships (e.g., characteristics of friends, peer environment, dynamic peer processes (e.g., contagion, homophily), lived experience with/of friends)	Studies which do not consider friendships or peer relationships	This criterion is justified by the review questions
Participants must be young people (i.e., 11–25 years old)	Participants who are not young people (i.e., adults above 26 years or children below 10 years)	This criterion is justified by the review questions

3.2.2. Study Selection and Data Extraction

Overall, the initial search yielded a total of 9,528 results, of which 6,215 duplicates were removed. Title and abstract screening was performed independently by DB and SBH on EndNote v20, whereby articles were separately classified into three folders (excluded, full-text, unsure); uncertainty and disagreement was resolved by discussion.

A revision to the inclusion criteria was agreed with the research team and applied to full-text articles. Friendships/peer relationships needed to be the primary focus of the paper, whether these were explicitly mentioned or whether a significant relationship was explored (i.e., studies of individuals sharing the same space e.g., prison inmates were excluded, however for school-aged adolescents there is a considerable agreement that friendships typically occur with same-aged school peers (Bagwell & Schmidt, 2013) so these studies were retained). This process yielded 257 full-text articles assessed for eligibility. A second updated search yielded 2,994 results, of which 1,973 were duplicates. Title and abstract screening provided 55 full-text studies to be assessed for eligibility. Full-text eligibility was performed independently by DB and SBH using a Microsoft Excel form created by DB in line with the eligibility criteria. Disagreements were resolved by discussion between the two raters, and input from a third independent rater was not considered necessary. Data extraction was performed by DB on a designated Microsoft Excel form collecting data on each article's a) authors, b) year of publication, c) location of study, d) sample characteristics (total sample, sample type e.g., community, clinical) and demographic information (e.g., age, gender), e) variables of interest (i.e., characteristics of friends and peers, relationships with friends and peers, exposure to friends' SHIB), f) outcomes (e.g., ego SHIB, friend and peer mental health outcomes) and g) risk of bias rating.

3.2.3. Risk of Bias Assessment

To assess the suitability and quality of eligible studies, the Newcastle Ottawa Scale (NOS; (Wells et al., 2014) and the Newcastle Ottawa Scale for cross-sectional studies (Herzog et al., 2013) were used for quantitative studies, and the JBI Critical Appraisal Checklist for Qualitative Research (Lockwood, Munn, & Porritt, 2015) was used to evaluate qualitative

studies. Quality criteria were developed for the present review based on comparable reports (Lockwood, Daley, Townsend, & Sayal, 2017), whereby articles are rated as low (0 – 4 points), moderate (5 – 7 points) or high quality (8 – 10 points). Studies were independently rated by DB and SBH (who rated 25% of included articles) with 90% agreement. Any disagreement was discussed.

3.2.4 Data Analysis

Given the substantial variability in focus, methodology and the variables measured we present the findings through a narrative synthesis, where common factors identified across studies afforded grouping and summarising findings in themes or categories (Melendez-Torres et al., 2017).

Figure 4: PRISMA diagram showing study selection process of original and updated search
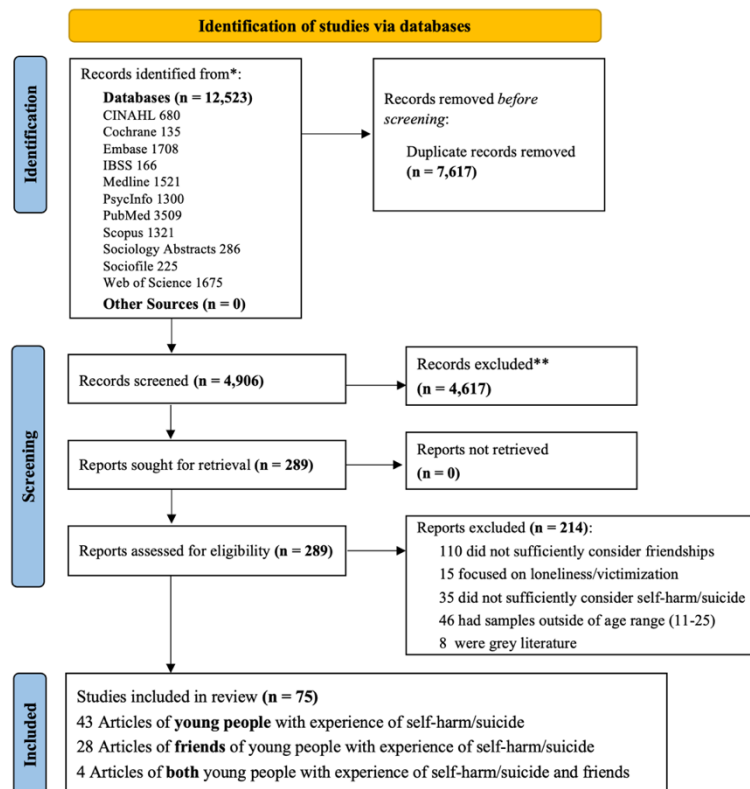
3.3 RESULTS

The initial search yielded 65 primary articles, across 64 studies. The updated search yielded 11 primary articles. Thus, a total of 76 studies across 75 articles are included in the present systematic review. These were primarily quantitative studies (n=64), with fewer qualitative articles (n=11). The quality of studies was mainly high (n=36), moderate (n=37) and few were of low quality (n=2). Studies were performed across 13 countries, including the USA (n=39), Australia (n=8), China (n=8), Canada (n=6), the UK (n=5), South Korea (n=2), Finland (n=1), Israel (n=1), New Zealand (n=1), Saudi Arabia (n=1), South Africa (n=1), and Sweden (n=1) and Taiwan (n=1).

Articles showed substantial variability in focus, methodology and the variables measured. Therefore, it was considered appropriate to present the findings through a narrative synthesis, as opposed to a meta-analysis. Studies were categorised based on the target population and focus of the study, i.e., studies focusing on young people with SHIB (n=43; Table 2) and studies of friends of young people with SHIB (n=28; Table 3). Four studies focusing equally on both populations are described separately (n=4; see Table 4) and their findings are integrated into both categories where relevant. The sample across studies primarily consisted of adolescents (11-17 years old; n=55) and the remainder consisted of young people (18-25 years old; n=20). In terms of gender, the majority of articles recruited a mixed-gender sample (n=71), except for fours studies, of which three recruited exclusively females and one exclusively recruited a male sample (see Appendix B).

As for the measurement of primary constructs, namely SHIB and friendships, a great variety of standardised and non-standardised measures have been utilised. First, across studies of young people with SHIB, specific behaviours (e.g., suicidal behaviour, suicidal ideation,

NSSI) were typically considered through non-standardised or single-item measures (n=22), including qualitative studies which relied on participants self-definition and accounts of SHIB (n=6). In studies of friends of young people with SHIB, exposure to peer's SHIB was a sampling characteristics, and SHIB was rarely assessed as an outcome variable in this population (n=6).

The measurement of friendships presented important variations across studies, mainly given the focus of the research. Within the first category of studies (i.e., young people with SHIB), friends' SHIB was considered through non-standardised or single-item measures (n=22). Other dimensions considered included friendship quality (n=2) and support (n=3) primarily assessed through standardised scales, while disclosure and help-seeking was assessed using standardised (n=2) and non-standardised (n=2) measures alike. Instead, across all studies of friends of young people with SHIB, friendship was established through participant self-definition given it was a sampling characteristic. Only few studies considered friendship closeness through standardised (n=10) and non-standardised measures (n=6).

Language used to present the results consists of self-harm ideation and behaviour (SHIB) – broadly referring to all self-injurious behaviours with and without suicidal intent, and where appropriate, the specific behaviour being discussed (e.g., NSSI, suicide ideation, suicidal attempt). As for friendships, young people with SHIB are referred to as participants, ego or ego SHIB, whereas the word "friends" is used to refer to friends of young people with SHIB only. In practice, in the first theme of results, friends are factors influencing participants' SHIB, whereas in the second theme friends are the participants in the study. Finally, friendships across studies typically referred to offline friendships, except for six studies which exclusively considered online friendships.
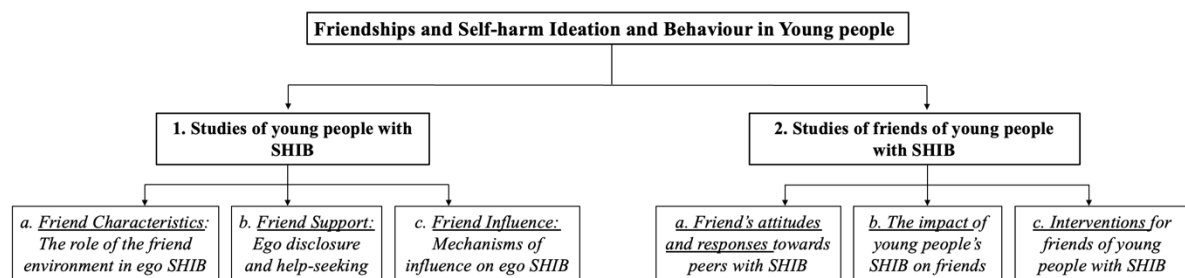
Figure 5: *Visual map of systematic review findings*

3.3.1 Studies of young people with Self-Harm Ideation and Behaviour (SHIB)

The present section discusses the literature focused on young people with SHIB and their friendship context. A breakdown of the characteristics of the studies included in the present section can be found in Table 2 and 3 and Appendix B.

Table 2: *Characteristics of included studies of young people with SHIB (ego SHIB)*

Authors/ Location/ Quality	Study Design	Population		Measures		Results
		Source	Demographic Information	Outcome Variables	Friendship Variables	
Abbott et al., (2019) USA Moderate	Cross-sectional	Prospective Clinical sample of adolescents (n = 129)	M 23 (18%)/ F 106 (82%) 12–18 years old (M=14.96, SD=1.67) Black /African American (49%)	**Suicide Ideation/ Behaviour.** Columbia Suicide Severity Rating Scale (Posner et al., 2011)	**Important Peer Nominations.** Important People Interview (IPI; Rosenthal & Kobak, 2010)	Having deviant peers was significantly associated with higher intensity of suicide ideation.
Abrutyn & Mueller (2014) USA High	Prospective	High School adolescents (n = 9,309)	M 5,042/ F 5,694 11-19 years old (M=15.18, SD=1.61) – Males only (M=15.37, SD=1.71) – Females only	**Suicide Ideation.** Single-item measure (past 12 months) **Suicide Attempt.** Single-item measure (past 12 months)	**Friend suicide attempt.** Single-item measure (past 12 months) – Ego report	Friend's suicide attempt significantly increases the likelihood of suicidal thoughts and attempts among girls, and suicidal thoughts only among boys (at 1-year follow-up). No significant effect of friend suicide attempt and suicidal thoughts at 6-year follow up were observed.
Armiento et al., (2014) Canada Moderate	Cross-sectional	University Students (n = 268)	M 80 (29.7%)/ F 188 (70.3%) 17-24 years old (M = 19.07)	**NSSI.** Inventory of Statements about Self-Injury (ISAS; Klonsky & Glenn, 2009) **Suicide Ideation.** Suicide Behaviours Questionnaire-Revised (SBQR; Osman, 2002)	**Disclosure of NSSI.** Single-item measure **Friendship Quality.** Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987)	73.1% of individuals with history of NSSI disclosed their self-harm to friends. Self-injurers reporting greater a) physical pain, b) severity of NSSI, c) suicidal ideation, d) interpersonal influence motivations for NSSI and e) greater friendship quality were more likely to disclose their NSSI to others
Bailey et al., (2021) Australia Moderate	Qualitative	Clinical Sample of Young People (n = 15)	M 5 (3%)/F 9 (60%) Transgender 1 (7%) 17-24 years old (M=21.3, SD = 2.7)	Semi-Structured Interviews		Four themes described participants' experiences of the peer networking feature of the Affinity Interventions: 1) a safe and supportive environment; 2) the importance of mutual experiences; 3) difficulty engaging and connecting and 4) the pros and cons of banning discussions about suicide
Baller & Richardson (2009) USA High	Prospective	High School adolescents (n = 2,084)	M (50%)/ F (50%) 12-20 years old (M=16.25, SD = 1.48)	**Suicide Ideation.** Single-item measure (past 12 months)	**Best friend Nominations**. Single-item measure (5 male and 5 female best friends) **Friend/ Friend-of-friend suicide attempt.** Single-item measure (past 12 months) – Friend report	Friends-of-friends' suicide attempt (and having more friends-of-friends) and friends' suicide attempt significantly increased likelihood of ego suicidal ideation in at-risk sample at 1-year follow-up

Bearman & Moody (2004) USA High	Cross-sectional	High School adolescents (n = 13,465)	M (50%) F (50%) 11-21 years old (M=15.82, SD = 1.75)	**Suicide Ideation.** Single-item measure (past 12 months) **Suicide Attempt.** Single-item measure (past 12 months)	**Best friend Nominations.** Single-item measure (5 male and 5 female best friends) **Friend suicide attempt.** Single-item measure (past 12 months) – Ego report	Friend's suicide attempt significantly increased likelihood of ego suicidal ideation and attempts in boys and girls. Having more friends-of-friends significantly increased ego suicidal ideation (only among girls). High school social network density (i.e., strong friendship ties) significantly decreased odds of suicidal ideation in girls and suicide attempt in boys.
Calear et al. (2021) Australia High	RCT	High School Adolescents (n = 594)	M 594 (100%) 16-18 years old	**Suicidal Ideation.** Single-item measure from Youth Risk Behaviour Survey (Centre for Disease Control & Prevention, 2010)	**General Help-Seeking.** General Help-Seeking questionnaire (GHSQ; Wilson et al., 2005) **Actual Help-Seeking.** Actual Help-Seeking Questionnaire (AHSQ; Wilson et al., 2005) **Confidence Supporting Peers.** Two-item measure	At follow-up, the Silence is Deadly intervention significantly increased boys' intentions to seek help from a friend compared to the control group. Staff reported improvements in males' attitudes, understanding and intention to seek information about sources of support.
Copeland et al., (2019) USA High	Cross-sectional	High School Adolescents (n = 11,160)	M (48%) F (52%) 16-18 years old	**Self-cutting frequency.** Single-item question (past 12 months)	**Friend Nominations.** Single-item measure (Up to 2 best friends and five close friends)	Having friends who report cutting is significantly associated with ego cutting. Being in a bridging position (i.e., connecting friend groups) is significantly related to higher self-cutting in girls/boys High sociality (i.e., nominating more people as friends) is significantly related to lower cutting for boys.
Copeland et al., (2021) Saudi Arabia High	Cross-sectional	High School Adolescents (n = 545)	M (50%) F (50%) 15-19 years old (M=16.8)	**Suicidality.** Two-item measure of suicidal ideation and attempt (past 12 months)	**Friend Nominations.** Single-item measure (up to six closest friends) **Nominated friends' depression.** Single-item measure – Ego report **Nominated friends' self-harm.** Single-item measure–Ego report	Friends' disclosures of depression and self-harm are positively associated with ego's suicidality. Friends' depression disclosure, but not self-harm disclosure, and ego's suicidality are negatively moderated by levels of school attachment.
Eisenlohr-Moul et al., (2018) USA High	Prospective	Community Adolescents (n = 220)	F 220 (100%) 12–16 years old (M=14.69, SD=1.37) White (64%)	**Suicide Ideation/ Behaviour.** The Self-Injurious Thoughts and Behaviours Interview (SITBI; Nock et al., 2007)	**Psychosocial Stressor.** Trier Social Stressor Test (TSST; Kirschbaum et al., 1993) **Chronic Peer Stress.** Child Chronic Strain Questionnaire (CCSQ; Rudolph et al., 2001)	CORT AUCi (HPA axis stress response) moderated the relationship between elevated chronic peer stress and suicidal ideation/ behaviour (across 18 months). Higher-than-normal peer stress predicted suicidal behaviour only in subjects with blunted/lower CORT AUCi

Feigelman & Gorman (2008) USA High	Prospective	High School Adolescents (n = 20,740)	M (50%) F (50%) 12-19 years old	**Suicide Ideation.** Single-item measure (past 12 months) **Suicide Attempt.** Single-item measure (past 12 months)	**Friend suicide attempt.** Single-item measure (past 12 months) – Ego report **Friend death by suicide.** Single-item measure (past 12 months) – Ego report	Friend's suicide death significantly predicted ego suicidal thoughts and attempts at 1-year follow-up; but lost significance at 6-year follow-up after controlling for other suicide risk factors
Giletta et al., (2013) USA High	Prospective Network	High school adolescents (n = 348)	M (45%) F (55%) (M=15.02, SD=0.53) White/ Caucasian (47.8%)	**NSSI Frequency.** Six-Item measure (past 6 months/ past 12 months)	**Friendship Nominations.** Single-item measure (unlimited number of best friends) **Friend's NSSI Frequency.** Six-Item measure (past 6 months/ past 12 months) – Friend report	Adolescents did not select friends with NSSI nor they reported increases in NSSI when having friends with higher NSSI, i.e., no significant selection nor direct socialisation effects were observed Having friends with higher depressive symptoms and impulsivity was significantly related to increases in ego NSSI over time, the latter only among boys, i.e., indirect socialization effects
Hasking et al., (2013) Australia High	Prospective	High School Adolescents (n = 1,973)	M 560 (28%) F 1415 (72%) 13-19 years old (M=14.9)	**NSSI/ Suicidal Behavior.** Self-harm Behavior Questionnaire (SHBQ; Gutierrez et al., 2001)	**Friends' NSSI.** Three-item measure – Ego report	Adolescents reporting NSSI were significantly more likely to have at least one friend and having more friends who self-injured. Friend self-injury significantly increased the likelihood of ego reporting NSSI at follow-up, but only among group experiencing more adverse life events
Hasking et al., (2015) Australia High	Prospective	High School Adolescents (n = 3,143)	At Baseline M 844 (32%) F 1,793 (68%) 12-18 years old (M=13.93, SD=.99)	**NSSI/ Suicidal Behavior.** Self-harm Behavior Questionnaire (SHBQ; Gutierrez et al., 2001)	**Actual Help-seeking.** Actual Help-Seeking Behaviour Questionnaire (AHSQ; Rickwood et al., 2005) **General Help-Seeking.** General Help-Seeking Questionnaire (GHSQ; Wilson et al., 2005) **Perceived Social Support.** Multidimensional Scale of Perceived Social support (MSPSS; Zimet et al., 1988)	68.83% of adolescents who reported NSSI sought help from friends. Adolescents who disclosed their NSSI were more likely to have and have more friends who self-injured. Disclosure to friends vs adults was related to more non-productive coping and more perceived social support from friends, which decreased over time. Disclosure to adults was related to increase in friend perceived support at T2 which stabilised at T3 and reduced severity of NSSI
Heath et al., (2009) Canada Moderate	Case-Control	University Students (n = 46)	NSSI Group - M 2 (9%) F 21 (91%) Control Group - M 3 (13%) F 20 (87%) 18-24 years old (M=20.22, SD=1.76)	**NSSI Frequency/ Motivations.** Deliberate Self-Harm Inventory (Gratz, 2001)	**Social Support.** Child and Adolescent Social Support Scale (CASSS; Malecki & Demaray, 2002) **Social Influence.** Ten-item measure	Young people who self-harm reported that they talked with friends about NSSI (65%). Of those, 52% shared similar NSSI methods, 58.8% indicated that a friend had been the first to engage in NSSI and 17.4% had self-injured in front of friends. Young people not engaging in NSSI reported higher levels of friend support than those engaging in NSSI

Ivanich et al., (2022) USA Moderate	Cross-sectional	Community young people (n = 46)	M (30%) F (70%) (M = 16.33) American Indian (100%)	**Suicide Ideation/ Suicide Attempt.** Cases reported to the surveillance system for suicide ideation/attempt	**Peer Nominations.** Single-item question (Up to 23 friends) **Peer Expressed Suicide.** Single-item question (past 6 months) – Ego report	Participants with suicidal ideation report significantly fewer alters in their network who use drugs and alcohol compared with those reporting suicide attempt. Participants with suicidal attempt reached to alters for help significantly more than those with suicide ideation.
Kim & Chang (2018) South Korea High	Prospective	High School Adolescents (n = 2,643) 14-15 years old	M (50%) F (50%)	Suicidality. Single-item measure of feeling suicidal	**Friends' delinquency.** Two-item measure	Having a higher number of delinquent peers is positively associated with suicidal ideation after controlling for baseline suicidality. This relationship is stronger in neighbourhoods with higher average household income and better-quality neighbourhoods and weakened in neighbourhoods with high suicide prevalence
Kruzan et al., (2022) USA Moderate	RCT	Community Young People (n = 131) 16-25 years old (M=20.32, SD = 2.52)	M 24 (18.3%) F 89 (67.9%) Non-Binary 15 (11.5%)	**NSSI Frequency.** The Non-Suicidal Self-Injury Assessment Tool (Whitlock et al., 2014) **NSSI Urges.** Two-item measure from the Alexian Brothers Urge to Self-injure Scale (Washburn et al., 2010)		Participants in the intervention group (peer support app) reported significantly lower NSSI frequency and greater readiness to change their NSSI over the course of the study and at 2-month follow-up compared to controls
Lavis & Winter (2020) UK High	Qualitative	Online users (n = 10) 18-24 years old	F 10 (100%)	**Self-Harm.** Relevant hashtags across online platforms	Semi-structured interviews	Results identify three themes: 1) From offline to online: motivations for seeking self-harm content on social media; b) Online interactions: giving and receiving peer-support; 3) From online to offline: the value, impact and ambivalence of peer-support
Liu (2006) China High	Prospective	High School Adolescents (n = 5,589) 12-20 years old	M 2698 (48%) F 2891 (52%)	**Suicide Ideation.** Single-item measure (past 12 months) **Suicide Attempt.** Single-item measure (past 12 months)	**Friend suicide attempt/ behaviour.** Single-item measure (last 12 months) – Ego report	Friend's suicide attempt significantly predicted ego suicide attempt in both boys and girls. For boys, the relationship is inversely moderated by ego depressive symptoms, i.e., the influence of friend's suicide attempt is stronger for boys with low or no levels of depression than high levels

Liu et al. (2022) China High	Prospective	High School Adolescents (n = 436)	At baseline M 208 (48%) F 228 (52%) (M=12.83, SD=0.89)	**NSSI.** Deliberate Self-Harm Inventory (DSHI; Gratz, 2001)	Friend Support. Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988)	Friend support at T1 moderated the link between maltreatment at T1 and NSSI at T3 (12-month follow-up) and between behavioural problems at T2 and NSSI at T3. Friend support buffered the relationship between maltreatment and NSSI while low levels of friend support exacerbated the association between behavioural problems and NSSI.
Mueller & Abrutyn (2015) USA High	Prospective Network	High School Adolescents (n = 13,482)	M (49%)/ F (51%) (M = 15.58) African/American (21.3%)	**Suicide Ideation.** Single-item measure (past 12 months) **Suicide Attempt.** Single-item measure (past 12 months)	**Friendship Nomination.** Single-item measure (5 male/ 5 female best friends) **Friend suicide attempt/ behaviour.** Single-item measure (past 12 months) – Friend report **Disclosed Friend suicide attempt/ death.** Single-item measure (past 12 months) - Ego response)	Friends' disclosed suicide attempt/ death by suicide (but not friends' undisclosed suicidal ideation, attempt and emotional distress) significantly predicted ego's suicide ideation and attempt. Friends' disclosed suicidal attempt and emotional distress is significantly related to ego emotional distress.
Nesi et al., (2021) USA High	Cross-sectional	Clinical Sample of Adolescents (n = 589)	M (35%)/ F (56%) Transgender (4%) Other (5%) 11-18 years old (M=14.88, SD=1.83) White (68%)	**Suicidal Ideation.** The Suicide Ideation Questionnaire – Junior (SIQ-Jr; Reynolds & Mazza, 1999) **Suicide Attempt.** Single-item measure from SITBI; Nock et al., 2007) **NSSI.** Single-item measure from SITBI (Nock et al., 2007)	**Online Self-Injury Activities/ Functions/ Perceived Consequences.** Twenty-three item measure	Sharing and viewing content related to self-injury was positively associated with history of NSSI, whereas the latter two were positively related to suicide ideation severity. Talking about self-injury with people known only online was significantly associated with history of suicide attempt.
Prinstein et al., (2010) USA High	Prospective Network	Community Adolescents (n = 377)	M (50%) F (50%) 11-14 years old White/ Caucasian (86%)	NSSI Frequency. Single-item measure (past 12 months)	**Friend nominations.** Single-item measure (Unlimited number of closest friends and one very best friend)	Best friend's reported NSSI frequency at T1 was significantly associated with ego NSSI at T2 only among girls and younger students.
	Prospective	Clinical sample of Adolescents (n = 140)	M 39 (28%) F 101 (72%) 12-15 years old (M=13.51, SD=0.75) White/ Caucasian 104 (74%)	NSSI Frequency. Five-item measure (past 12 months) (Prinstein et al., 2008)	**Perceptions of Friends' Depressive/ Self-injurious thoughts and behaviours.** Three-item measure adapted from Peer Behavior Inventory (PBI; Prinstein et al., 2001)	Ego self-injury at baseline was associated with higher levels of perceptions of friends' self-injury and suicidal thoughts/behaviours at 9-month follow-up which was associated with ego NSSI at 18-month follow-up only among girls.

Randall et al., (2015) Canada High	Prospective	High School adolescents (n = 4,834)	M (50%) F (50%) 11-20 years old	**Suicide Attempt.** Single-item measure (past 12 months)	**Friend suicide attempt.** Single-item measure (past 12 months) – Ego report	Exposure to friend's suicide attempt was significantly associated with ego reporting suicide attempt at baseline and 1-year follow-up.
Schlagbaum et al., (2021) USA High	Case-control	Clinical sample of adolescents (n = 118)	M (27%)/F (73%) 13- 18 years old (M=15.41, SD = 1.39) White/ Caucasian (67.8%)	**Suicidal Ideation/ Attempt.** Columbia University Suicide History Form (SHF; Oquendo et al., 2003)	**Peer Nominations.** Single-item measure (Up to five closest friends) **Peer engagement in deviant/ prosocial/ suicidal behaviour/ substance use.** Peer Behaviour Inventory (Prinstein et al., 2001) – Ego report	Affiliation with peers with suicidal ideation and attempts was only significantly related to ego reporting suicide attempt (but not ideation) after controlling for individual risk-factors.
Schwartz-Mette & Lawrence (2019) USA High	Prospective	Community Adolescents (n = 186)	M 56 (30%) F 130 (70%) 13-18 years old (M=15.68, SD = 1.49) White/Caucasian 163 (87.6%)	**NSSI Frequency.** Seven-item measure (adapted from Prinstein et al., 2008)	**Friendship Status.** Single-item measure **Friendship Quality.** Revised Friendship Quality Questionnaire (FQQ; Rose, 2002)	Friends' NSSI frequency at T1 and T2 significantly predicted ego NSSI frequency at T2 and T3 respectively (i.e., direct socialization effects) after controlling for similarity effects. Socialisation effects of NSSI were moderated by ego emotion regulation difficulties (only at T1 for high levels of emotion regulation difficulties).
Snir er al., (2017) Israel Moderate	Prospective	High School Adolescents (n = 1,285)	At Baseline M 1,023(80%) F 233 (18%) 14-17 years old (M=15.9, SD = .76) Jewish (74.4%)	**NSSI.** Deliberate Self-Harm Inventory (DSHI; Gratz, 2001)	**Peer support.** 10-item measure from Strength and Difficulties Questionnaire (SDQ; Goodman, 1997) and Global School-based Student Health Survey (GSHS; WHO, 2010)	Negative linear association between perceived peer support and self-injury (D-SIB) was found was mediated by negative affect (NA). A positive quadratic association between perceived peer support and D-SIB was observed. Peer support moderated the relationship between D-SIB and later NA. For low peer support, increases in D-SIB predicted increases in NA. For high support, increases in D-SIB predicted decreases in NA.
Syed et al., (2020) Canada Moderate	Cross-sectional	Adolescents (n = 1,483)	M 740 (50%) F 743 (50%) 14-17 years old	**NSSI.** Single-item measure (SITBI; Nock et al., 2007) **Suicide Ideation.** Single-item measure (past 12 months) from CIDI (Kessler et al., 2004) **Suicide Attempt.** Single-item measure (past 12 months) from CIDI (Kessler et al., 2004)	**Friends NSSI.** Single-item measure from Self-Injurious thoughts and behaviours interview (SITBI; Nock et al., 2007) – Ego report	Knowledge of friends' self-injury positively associated with ego self-injury, suicide ideation and suicide attempt.

Tseng & Yang (2015) Taiwan High	Cross-sectional	High school students (n = 391)	M (45%) F (55%) 12-18 years old Minnan (80%)	**NSSI.** Self-injurious thoughts and behaviors interview (Nock et al., 2007)	**Perceived Social Support**. The Multidimensional scale of perceived social support (Chou, 200) **Internet Platform Utilization and Web Communication Network.** Twenty-item measure	Higher web communication was significantly associated with all forms of self-injurious behaviours (suicidal ideation, planning, gestures and attempts, NSSI and NSSI thoughts) among boys only. Friend support protected against suicide planning among girls only.
Tyler et al., (2022) USA High	Intervention	Young People in residential program (n = 1,118)	M 693 (63%) F 410 (37%) 12-19 years old (M=15.97, SD=1.15) White/ Caucasian (46.6%)	**Suicide Risk.** The Suicide Probability Scale (SPS; Cull & Gill, 1988) **Suicide Ideation Incidents.** Daily Incident Report (DIR; Handwerk et al., 2006)	**Peer Relations Skills Training.** Youth and Family Service Plans (FFBH, 2012)	Peer relations training moderated the relationship between trauma symptoms at intake and suicide ideation while in care i.e., the relationship between trauma symptoms and suicide ideation was stronger for those not receiving peer relations training.
Victor and Klonsky (2018) USA Moderate	Cross-sectional	High School Adolescents (n = 89)	M 29 (33%) F 60 (67%) 13-17 years old White/Caucasian (53%)	**NSSI.** Eight-item measure **NSSI Functions.** The Self-Injurious Thoughts and Behaviours Interview (Nock et al., 2004)	**Friend self-harm.** Three-item measure – Ego report **NSSI Social Characteristics.** Four-item measure	71.60% of adolescents who reported NSSI also reported having friends who self-injured. Females were significantly more likely to report friends' NSSI Knowledge of friends' NSSI was significantly related to using more NSSI methods, ego cutting, and serious suicidal ideation.
Wei et al., (2021) China Moderate	Cross-sectional	High School Adolescents (n = 854)	M 269 (32%) F 585 (68%) (M=16.35, SD=1.15) Chinese (100%)	**NSSI.** Non-suicidal self-Injury Scale (You et al., 2013)	**Deviant Peers.** Deviant Peer Affiliation Scale (Zhou et al., 2014)	Deviant peer affiliation, ego depression and sensation-seeking were positively associated with ego NSSI. Depression partially mediated the association between deviant peer affiliation and NSSI.
Wei et al., (2022) China Moderate	Cross-sectional	High School Adolescents (n = 854)	M 269 (32%) F 585 (68%) (M=16.35, SD=1.15) Chinese (100%)	**NSSI.** Non-suicidal self-Injury Scale (You et al., 2013)	**Social Characteristics of self-harm.** Seven-item measure	Deviant peer affiliation positively predicted ego NSSI and partially mediated the pathway between stressful life events and ego NSSI. Gratitude moderated the association between deviant peer affiliation and ego NSSI (only for individuals with lower gratitude).

Winterrowd et al., (2010) USA Moderate	Cross-sectional	Community adolescents (n = 338)	M 151 (45%) F 187 (55%) 14-19 years old (M=16.51, SD=1.15) Mexican American (100%)	**Suicide Ideation.** Single-item measure (last 12 months) (Oetting & Beauvais, 1984) **Suicide Attempt.** Single-item measure (last 12 months) (Oetting & Beauvais, 1984)	**Friendship Quality.** Six-item measure (Oetting & Beauvais, 1984) **Friends' School Disconnection.** Seven-item measure (Oetting & Beauvais, 1984) **Friends' Delinquency.** Nine-item measure (Oetting & Beauvais, 1984)	Friends' school disconnectedness significantly predicted ego suicidal ideation only among girls in good academic standing.
Winterrowd et al., (2011) USA Moderate	Cross-sectional	Community young people (n = 648)	M (47%) F (53%) 14-20 years old (M=16.58, SD=1.12) Mexican American 338 (52%)/ European-American 310 (48%)	**Suicide Ideation.** Single-item measure (last 12 months) (Oetting & Beauvais, 1984) **Suicide Attempt.** Single-item measure (last 12 months) (Oetting & Beauvais, 1984)	**Friendship Quality.** Six-item measure (Oetting et al., 1984) **Friends' School Disconnection.** Seven-item measure (Oetting et al., 1984) **Friends' Delinquency.** Nine-item measure (Oetting et al., 1984)	Friends' school disconnectedness significantly predicted ego suicidal ideation among Mexican American girls. Friends' delinquency significantly predicted suicidal behaviour among European American girls and boys. These effects lost significance after controlling for risk and protective factors.
Winterrowd & Canetto (2013) USA Moderate	Prospective	Community Adolescents (n = 295)	M (41%) F (59%) 14-20 years old (M=16.50, SD=1.15) Mexican American (59%) / European-American descent 310 (41%)	**Suicide Ideation.** Single-item measure (last 12 months) (Oetting & Beauvais, 1984) **Suicide Attempt.** Single-item measure (last 12 months) (Oetting & Beauvais, 1984)	**Friendship Quality.** Six-item measure (Oetting et al., 1984) **Friends' School Disconnection.** Seven-item measure (Oetting et al., 1984) **Friends' Delinquency.** Nine-item measure (Oetting et al., 1984)	Friends' school disconnectedness significantly predicted ego suicidal ideation (among European American adolescents) and non-fatal suicidal behaviour (among Mexican American boys). These relationships were fully and partially mediated by depression respectively.
Wyman et al., (2019) USA High	Cross-sectional	High School Adolescents (n = 10,716)	M (51 %) F (49%) 15-19 years old White/Caucasian (79%)	**Suicidal Thoughts and Behaviours.** The Youth Risk Behavior Survey (Eaton et al., 2008)	**Peer Nominations.** Single-item measure (Up to 7 closest friends)	Higher ego suicide attempt and ideation rates were significantly more likely in schools with low peer integration and cohesion (fewer friends, nominations were concentrated in fewer students and lower transitivity). Schools with higher suicide attempt rates were also characterised by students with suicide thoughts and behaviours having a higher relative popularity and are clustered.

Study	Design	Sample	Demographics	Outcome Measure	Peer Measure	Findings
You et al., (2013) China High	Prospective	High School Adolescents (n = 5,787)	M (46%) F (54 %) 12-18 years old (M=14.63, SD=1.25)	**NSSI.** Seven-item measure (past 6 months)	**Peer Nominations.** Single-item measure (Up to 5 close friends) **Friend NSSI.** Seven-item measure (past 6 months) – Friend report	Best friend's NSSI at T1 significantly predicted ego NSSI at T2 (i.e., socialization effects) but not NSSI frequency/onset. Ego NSSI at T1 did not significantly predict having a best friend with NSSI at T2 (i.e., no selection effects). Friendship group NSSI at T1 did not significantly predict ego NSSI (i.e., no socialization effects). Ego NSSI at T1 significantly predicted friendship group NSSI status (i.e., selection effects) but not ego onset
You et al., (2016) China High	Prospective	High School Adolescents (n = 1,701)	M 554 (33%) F 1147 (67%) (M=15.06, SD=1.4)	**NSSI.** Seven-item measure (past 6 months)	**Peer Nominations.** Single-item measure (Up to 5 close friends) **Friend NSSI.** Seven-item measure (past 6 months) – Friend report	Friendship group NSSI at T1 significantly predicted ego NSSI at T2 (i.e., direct socialisation effects). Friendship group negative urgency at T1, but not premeditation, significantly and positively predicted ego NSSI at T2. Friendship group premeditation negatively moderated the association between ego depression and NSSI; whereas friendship group negative urgency positively moderated the relationship.
Yurkowski et al., (2015) Canada Moderate	Cross-sectional	University Students (n = 1,153)	M 248 (21%) F 905 (79%) (M=19.35, SD=1.49)	**NSSI.** Ottawa Self-Injury Inventory (OSI; Cloutier & Nixon, 2003)	**Peer Relationships.** The Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987)	Lack of trust in and feeling alienated by peers significantly predicted emotion regulation difficulties, which directly increased likelihood of NSSI. Only feeling alienated by peers indirectly predicted increases in NSSI via emotion dysregulation.
Zimmerman et al., (2016) USA Moderate	Cross-sectional	High School adolescents (n= 2,180)	M 1141 (52%) F 1039 (48%) 14- 20 years old (M=17.2, SD=1.1) White 979 (45.0%)	**Suicide Attempt.** Single-item measure (past 12 months)	**Perceived friends' suicide attempt.** Single-item measure – Ego Report **True friends' Suicide Attempt.** Single-item measure – Friend Report	Ego perceptions of friends' suicide attempt, but not friends' true suicide attempt, significantly predicted ego suicide attempt. Ego accurate or overestimation of friends' suicide attempt was significantly related to ego suicide attempt.

Table 3*: Characteristics of included studies of both young people with SHIB and friends of young people with SHIB*

Authors/ Location/ Quality	Study Design	Population		Measures		Results
		Source	**Demographic Information**	**Outcome Variables**	**Friendship Variables**	
Shepherd (2020) UK High	Qualitative	High School Adolescents (n = 6)	F 6 (100%) 14-17 years old M = 15.17 (SD = 0.75)	Semi-structured Interviews		Four superordinate themes describe friend dyads' perspectives of support provision for self-harm: 1) Direct Support; 2) Distraction; 3) Taking responsibility; and 4) Further support
Smith-Gowling et al., (2018) UK High	Qualitative	Clinical Sample of Adolescents (n = 8)	M 3 (37%) F 5 (63%) 15-17 years old	Interviews		Four themes reflect the experiences of young people exposed to others' self-harm in an inpatient setting: 1) Pre-admission exposure to self-harm; 2) Exposure on the inside: An unpleasant environment; 3) Helper vs. helped; and 4) Separation from the attention seekers: competing for authenticity
Smithson et al. (2011) UK Moderate	Qualitative Content Analysis	Online Forum Users (n = 77)	M 4 (5%) F 73 (95%) 16-25 years old M = 19 White/ Caucasian 74 (96.10%)	Posts on online forum *("SharpTalk")*		Five themes reflect the nature of providing and asking for support in an online forum: 1) Introducing a problem by asking for advice; 2) Responding to problem presentation; 3) Responses to advice or support: Acceptance, rejection or ignoring; 4) Reciprocity in support and advice giving and receiving and 5) Mundane Nature of Advice
Yip et al (2002) China Low	Qualitative	High School Adolescents (n = 6)	Adolescents who self-harm (n = 3) M 1 F 2 14-16 years old No information about friends (n = 3)	Semi-structured Interviews		Friends play different roles: 1) Friends as the target of self-injury; 2) Friends as encouraging self-injury; 3) Friends who also self-injured with the young person; 4) Supportive friends

3.3.1.1. Friend Characteristics: Role of the friend environment in ego SHIB

A total of 20 studies considered friends' characteristics, namely friends' SHIB and deviance, as well as characteristics of the friendship environment, and their association with ego SHIB.

The majority of studies focused on friends' SHIB (n=13). Friend suicide attempt has been found to significantly relate to and predict ego suicidal ideation (Abrutyn & Mueller, 2014; Baller & Richardson, 2009; Bearman & Moody, 2004) and ego suicidal attempt (Abrutyn & Mueller, 2014 (girls only); Bearman & Moody, 2004; Liu, 2006; Randall, Nickel, & Colman, 2015; Schlagbaum et al., 2021) above and beyond individual risk factors. Friend suicide death was observed to significantly predict ego suicidal ideation and attempt in one study (Feigelman & Gorman, 2008). Friend NSSI was observed to significantly relate to and predict ego NSSI (Copeland et al., 2019; Hasking, Andrews, & Martin, 2013; Prinstein et al., 2010; Syed, Kingsbury, Bennett, Manion, & Colman, 2020; Victor & Klonsky, 2018), ego suicidal ideation (Victor & Klonsky, 2018) and ego suicidal attempt (Syed et al., 2020). Two studies only examined or reported cutting, but not other methods of NSSI (Copeland et al., 2019; Victor & Klonsky, 2018).

Effects were observed at one-year follow-up (Abrutyn & Mueller, 2014; Baller & Richardson, 2009; Liu, 2006; Randall et al., 2015; Hasking et al., 2013), but lost significance at six-year follow-up in two studies (Abrutyn & Mueller, 2014; Feigelman & Gorman, 2008). In turn, synthesis of findings across studies indicates that these effects were influenced by certain ego characteristics, such as ego gender and mental health issues. For instance, girls and young people with mental health issues, such as depression or anxiety, were twice or three times more likely to report having friends with SHIB (Syed et al., 2020; Liu, 2006; Randall et al., 2015; Victor & Klonsky, 2018).

Second, characteristics of the friendship environment were also a significant factor. For instance, reporting a higher number of friends with SHIB was significantly related to adolescents' own SHIB (Hasking et al., 2013; Copeland et al., 2019) whereas higher number of friends in general (i.e., high sociality) was negatively related to self-cutting among boys (Copeland et al., 2019). Similarly, being in a bridging position (i.e., connecting friend groups) and having intransitive friendships (i.e., having friends that are not friends with each other) were associated with higher self-cutting (Copeland et al., 2019) and suicide ideation among girls (Bearman & Moody, 2004) and individuals at-risk (Baller & Richardson, 2009). Wyman et al. (2019) considered additional social network structures and found that suicide attempt was higher in schools with lower peer integration (fewer friend nominations generally concentrated in fewer students) and where individuals with SHIB were more popular and clustered together.

Six studies focused on peer deviance. First, a significant positive association between having deviant/ delinquent friends and ego NSSI (Wei et al., 2021; Wei et al., 2022) and between having deviant/ delinquent friends and ego suicide ideation was found across clinical (Abbott, Zisk, Bounoua, Diamond, & Kobak, 2019) and community adolescent samples (Kim & Chang, 2018; Winterrowd, Canetto, & Chavez, 2010; Winterrowd & Canetto, 2013). These effects were mainly observed for friend school disconnectedness, a sub-dimension of deviance (Winterrowd et al., 2010; Winterrowd & Canetto, 2013). Ivanich et al., 2022) also found that individuals with suicidal ideation, but no suicide attempts reported significantly fewer friends who use drugs and alcohol compared to those who had attempted suicide. Across studies, ego gender, mental health issues, ethnicity and affluence were significant factors contributing to the aforementioned relationships (Kim & Chang, 2018; Winterrowd et al., 2010; Winterrowd & Canetto, 2013). Instead, including suicide risk and protective factors

made the relationship lose significance in one study (Winterrowd, Canetto, & Chavez, 2011). Differences in the conceptualisation and measurement of peer deviance and its sub-dimensions may have contributed to differences in results.

Overall, the results highlight that friends' behaviour, mainly SHIB and school disconnectedness, was significantly related to and predicted ego SHIB. In turn, the peer environment showed protective and risk effects on SHIB.

3.3.1.2 Friend Support: Ego Disclosure and Help-seeking

Seventeen studies explored friends as sources of support for young people with SHIB. This section includes studies focusing on ego disclosure to friends (n=3), and help-seeking and peer support from offline (n=8) and online friends (n=6).

Three articles focused on disclosure of NSSI to friends. All studies found that among individuals who disclosed their NSSI, approximately 60-70% confided in friends across adolescence (Hasking, Rees, Martin, & Quigley, 2015) and young adulthood (Armiento et al., 2014; Heath, Ross, Toste, Charlebois, & Nedecheva, 2009). Disclosure was related to greater interpersonal influence motivations for NSSI and greater friendship quality (Armiento et al., 2014), and to having more friends who also self-injured (Hasking et al., 2015).

Eight studies considered ego help-seeking and peer support from offline friends and their influence on ego SHIB with mixed results (n = 8). First, studies suggested potential buffering effects of peer support, which was observed to be negatively related to suicidal planning among girls in one study (Tseng & Yang, 2015) and to moderate the relationship between childhood maltreatment and NSSI in another study (Liu, Liu, Wang, & Gao, 2022). The positive effects of peer support were also observed and utilised in two interventions. Calear et

al. (2021) found that a psychoeducational intervention promoting early help-seeking for emotional problems improved boys' intentions to seek help from a friend. Similarly, peer relations training (social skills training) was found to moderate the relationship between trauma symptoms at intake and suicidal ideation in a residential care programme (Tyler, Hillman, & Ringle, 2022). In contrast, Hasking and colleagues (Hasking et al., 2015) found that even if adolescents felt more supported (i.e., reported more perceived support) when confiding in friends, this perceived friend support decreased over time and had no effect on NSSI severity. Snir et al. (Snir et al., 2018) observed that both high *and* low levels of perceived peer support were related to increased self-injury, suggesting that some dimensions of support may contribute to self-harm risk.

Qualitative findings show a similar picture where offline friendships had a positive impact on SHIB through support provision, whilst also provided interpersonal motivations for SHIB, which in some cases occurred with and in the presence of friends (Yip, Ngan, & Lam, 2002). Smith-Gowling, Knowles and Hodge (2018) observed that physical proximity and intense exposure to others' self-harm exacerbated ego self-harm and the transmission of methods between individuals as ways to help each other. In turn, norms of "authenticity" of self-harm created a benchmark of struggle and need for support, which contributed to competition, social comparison and ultimately further self-harm.

Six studies exclusively considered online interactions with friends and support among clinical (Bailey et al., 2021; Nesi et al., 2021), community (Kruzan et al., 2022; Smithson et al., 2011; Tseng & Yang, 2015) and online samples (Lavis & Winter, 2020). First, Nesi and colleagues (2021) found that viewing and sharing content, and using technology to talk about self-injury with off-line friends was positively related to history of NSSI and suicidal ideation. In

addition, talking about self-injury with online-only friends was the only factor significantly related to history of suicide attempts. Tseng et al., (2015) observed that importance placed on web communication was associated with increased risk of self-harm among boys only. Conversely, Kruzan et al., (2022) used an RCT design and found that using a moderated peer support app was related to lower NSSI frequency throughout the intervention and at 2-months follow-up. This alludes at the potential importance of online peer support when monitored and moderated, also suggested in qualitative accounts (Lavis & Winter, 2020; Bailey et al., 2021; Smithson et al., 2011). Studies observed that online communities show reciprocal, empathetic and supportive responses, and provide practical information and advice as well as the possibility of sharing experiences. These may be particularly helpful when there is a perceived lack of support and negative experiences offline. However, conversations in non-moderated forums were observed to, in some cases, normalise self-harm, be emotionally difficult and trigger urges in others, thus creating a cycle of increasingly severe displays of self-harm and preventing offline support (Lavis & Winter, 2020). In turn, difficulties in connecting with others given fear of negative evaluation, concern about causing harm and the short-term nature of the moderated forums created for the intervention were also mentioned (Bailey et al., 2021).

The evidence presented indicates that young people with SHIB rely on friends for help and support. Friend support, offline and online, is generally shown to have protective effects on SHIB, yet more research is needed around online spaces.

3.3.1.3. Friend Influence: Mechanisms of influence on ego SHIB

Ten articles explicitly considered causal mechanisms and moderators. A total of eight studies investigated mechanisms of peer influence on ego SHIB (Copeland et al., 2021; Giletta, Burk,

Scholte, Engels, & Prinstein, 2013; Mueller & Abrutyn, 2015; Schwartz-Mette & Lawrence, 2019; You, Lin, Fu, & Leung, 2013; You, Zheng, Lin, & Leung, 2016; Zimmerman, Rees, Posick, & Zimmerman, 2016), while two studies considered risk and protective factors (Eisenlohr-Moul et al., 2018; Snir et al., 2018).

The majority of studies sought to characterise the influence of friends' SHIB on ego SHIB using social network methods. The social network mechanisms investigated were peer socialisation (influence of peer SHIB on ego SHIB, e.g., contagion, social influence) and social selection (influence of ego SHIB on friendships, e.g., homophily), an alternative causal mechanism that could also lead to SHIB similarity between friends (e.g. friendship based on SHIB similarity) (You et al., 2013; You et al., 2016; Giletta et al., 2013; Schwartz-Mette & Lawrence, 2019). Generally, no evidence of selection effects was found at the individual level, i.e., ego NSSI did not prospectively predict having more friends engaging in NSSI at follow-up (You et al., 2013; Giletta et al., 2013; Schwartz-Mette & Lawrence, 2019). However, evidence of selection effects at the group level was found, i.e., ego NSSI predicted friendship group NSSI status (You et al., 2013), suggesting that individuals who engage in NSSI may prefer to join a friendship group engaging in NSSI. Instead, direct socialisation (i.e., peer influence) effects were observed across most studies whereby friend NSSI prospectively predicted ego NSSI at follow-up, above and beyond baseline similarities in self-harm (Schwartz-Mette & Lawrence, 2019; You et al., 2013). Friendship group socialisation effects were mixed; one study found significant effects (You et al., 2016) whereas another did not (You et al., 2013). In turn, best friend (Schwartz-Mette & Lawrence, 2019) and friendship group (You et al., 2013) NSSI frequency predicted ego NSSI frequency. One study found indirect effects of friend's depressive symptoms in ego NSSI over time and no evidence for direct selection or socialisation effects of friend NSSI and ego NSSI (Giletta et al., 2013).

Additional indirect socialisation effects explored include ego emotion regulation difficulties, which moderated the relationship between friend NSSI frequency and ego NSSI – strengthening the effect among those with high emotional regulation difficulties (Schwartz-Mette & Lawrence, 2019). Second, friends' impulsivity was positively and significantly related to increases in ego NSSI (You et al., 2013; Giletta et al., 2013). In one study this was only observed among boys (Giletta et al., 2013), whereas in another study effects were observed for negative urgency only, a subdimension of impulsivity, which translates to acting rashly in response to extreme negative emotions (You et al., 2016).

One study further considered ego characteristics and the effects of friend support (Snir et al., 2018). The study found that negative affect mediated the relationship between low peer support and NSSI. In other words, low support from friends contributed to negative feelings which led to NSSI.

Three studies theorised, yet did not longitudinally test, the causal impact of perceived, disclosed and undisclosed friend SHIB. Copeland and colleagues (2021) found that friends' disclosed, but not undisclosed, SHIB and depression were significantly related to ego suicidality (i.e., suicidal ideation and attempts). Similar findings were observed by Mueller and Abrutyn (2015) where friend disclosed suicide attempt and death were related to ego suicidality. Friend's disclosed emotional distress and suicide attempt were associated with increased ego emotional distress. By contrast, Zimmerman et al. (2016) found that young people's (i.e., ego) over-estimation or accurate perception of friends' suicidal attempts was significantly related to their own suicidal attempt (ego suicidal attempt), while friends' self-reported suicide attempt alone was not. These studies shed light on potential individual and interpersonal mechanisms underlying observed peer effects on SHIB.

Finally, only one study considered biological mechanisms. Eisenlohr-Moul and colleagues (2018) found that higher-than-usual peer stress conditions (specifically periods of higher peer stress) predicted greater risk for suicidal behaviour among females with lower cortisol response. This was interpreted as indicating that hyperreactivity of the hypothalamic-pituitary-adrenal axis stress response may create vulnerability to suicide among females exposed to prolonged periods of peer stress.

Altogether, evidence of mechanisms is still scarce, yet it points to direct peer selection at the group level and both direct and indirect peer influence mechanisms in ego SHIB.

3.3.2 Studies of friends of young people with Self-Harm Ideation and Behaviour (SHIB)

The present section discusses studies focused on the experiences and attitudes of friends of young people with SHIB and interventions developed for this population. See Tables 3 and 4 and Appendix B for further information about the included studies.

Table 4: Characteristics of studies of friends of young people with SHIB

Authors/ Location/ Quality	Study Design	Population		Measures		Results
		Source	Demographic Information	Outcome Variables	Friendship Variables	
Abbott & Zakriski (2014) USA Moderate	Case-Control	Community Young People (n = 152)	Exposed Group M 20 (23%)/F 65 (77%) (M=21.2, SD= .44) White (91%) Non-Exposed Group M 25 (37%)/F 38 (57%) Not reported 4 (6%) (M=21.5, SD = .44) White (87%)	**Grief.** Texas Revised Inventory of Grief (TRIG; Faschingbauer et al., 1977) **Attitudes Toward Suicide** Scale (ATTS; Renberg & Jacobsson, 2003) **Stigma Toward Suicide.** Six-item measure	**Closeness Questionnaire.** Two-item measure **Perceived Social Support.** Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, et al., 1988)	Number of and closeness to peers lost to suicide was associated with past and present grief. A significant interaction of closeness, peer support and grief was found. Social support from friends related to more grief among those closer to peers who died by suicide, but less grief for those who were less close.
Bartik et al. (2013) Australia Moderate	Qualitative	Community Young people (n = 10)	M 2 (20%)/F 8 (80%) (M=24, SD=3.43)* *16 to 24 years at time of suicide (M=19.3, SD= 2.58)	In depth-interviews		Four themes were identified: a) Meaning Making of their friends' death; b) Feeling Guilt; c) Risky Coping Behaviour and d) Relating to friends
Berger et al. (2017) Australia Moderate	Qualitative	High school adolescents (n = 2,637)	M 848 (32%) F 1789 (68%) 12–18 years old (M=13.93, SD = 1.00) Australian (89.3%)	**NSSI.** Self-Harm Behavior Questionnaire (Gutierrez et al., 2001) Two open-ended questions	**Offline/Online Friends Helping Behaviour.** Two-item open-ended measure **Friend NSSI Ideation/ Behaviour.** Two-item measure	Adolescents identified that offline/online friends could help young people who self-injure mainly by talking, listening and referring them to adults and health professionals. Befriending others, reducing bullying and stigma and increasing public awareness of NSSI were also identified.
Brent et al., (1992) USA Moderate	Case-Control	Community Young People (n = 116)	Exposed Group M 32 (55%)/F 26 (45%) (M=17.7, SD=2.6) White (97%) Control Group M 32 (55%)/F 26 (45%) (M=17.1,SD=1.7) White (100%)	**Past/Current Psychiatric Disorders.** School-age Schedule for affective disorders and Schizophrenia, present and epidemiologic version (K-SADS-P/E) (APA, 1980) **PTSD.** Post-traumatic stress disorder reaction index (Pynoos et al., 1987a) **Grief.** Texas Grief inventory (Faschingbauer et al., 1977)	**Characteristics of Exposure.** Characteristics and Exposure to Death (CED; Brent et al.,1992) **Closeness of Relationship.** Adolescent Relationship Inventory (ARI; Brent et al., 1992)	The exposed group showed a significantly higher rate of new onset or exacerbation of any psychiatric disorder 6-months after their peer's suicide death, mainly MDD and substance abuse but not suicidality. Closeness to the victim was associated with higher severity of new-onset depression, grief and PTSD.

Brent et al., (1993a) USA Moderate	Case-Control	High School Adolescents (n = 56)	Exposed Group M 15 (54%)/ F 13 (46%) (M=15.8, SD=1.1) White/Caucasian (96%) Control Group M 15 (54%)/ F 13 (46%) (M=16.1, SD=2.0) White/Caucasian (100%)	**Past/ Current Psychiatric Disorders.** K-SADS- P/E (Chambers et al., 1985; Orvaschel et al., 1982) **PTSD.** Post-traumatic stress disorder reaction index (Pynoos et al., 1987) **Grief.** Texas Grief inventory (Faschingbauer et al., 1977)	**Characteristics of Exposure.** Characteristics and Exposure to Death (CED; Brent et al.,1992) **Closeness of Relationship.** Adolescent Relationship Inventory (ARI; Brent et al., 1992)	Exposed adolescents showed significantly higher rates of depressive symptoms and higher rates and new-onset of any psychiatric disorder and anxiety disorder, compared to controls. Dimensions of closeness to the suicide victim of exposed subjects significantly correlated with PTSD symptoms and grief.
Brent et al., (1993b) USA Moderate	Cross-sectional	Community Young people (n = 146)	M 79 (54%)/ F 67 (46%) (M=18.4, SD=2) White/Caucasian (97.2 %)	**Past/ Current Psychiatric Disorders.** K-SADS- P/E (Chambers et al., 1985; Orvaschel et al., 1982) **PTSD.** The Post-Traumatic Stress Reaction Inventory (PTSDRI; Pynoos et al., 1987) **Depression.** Beck Depression Inventory (BDI, Beck et al., 1961) **Grief.** Texas Grief inventory (TGI; Faschingbauer et al., 1977)	**Exposure to suicide.** Circumstances of Exposure to Death (CED; Brent et al., 1992) **Closeness of Relationship.** Adolescent Relationship Inventory (ARI; Brent et al., 1992)	Adolescents with new-onset depression and depression prior to exposure did not significantly differ. Both experienced significantly more PTSD than the non-depressed group. Adolescents with new-onset depression showed higher levels of grief, were closer to the victim and had a higher intensity of exposure to the suicide compared to prior depressed and non-depressed groups.
Brent et al., (1993c) USA Moderate	Case-Control	Community Young people (n = 292)	Exposed Group M 79 (54%)/ F 67 (46%) (M=18.4, SD=2) White/Caucasian (97.2%) Control Group M 79 (54%)/ F 67 (46%) (M=17.5, SD=1.7) White/Caucasian (100 %)	**Past/ Current Psychiatric Disorders.** K-SADS- P/E (Chambers et al., 1985; Orvaschel et al., 1982) **PTSD.** The Post-Traumatic Stress Reaction Inventory (PTSDRI; Pynoos et al., 1987)		The exposed group was significantly more likely to present with past and new-onset or exacerbation of major depression disorder, PTSD and substance abuse as well as higher suicidality compared to controls. Friends exposed to suicide showed significantly higher rates of new-onset depression than acquaintances.
Brent et al., (1994) USA Moderate	Prospective Case-Control	Community Young people (n = 292)	Exposed Group M 79 (54%)/ F 67 (46%) (M=18.4, S D=2) White/Caucasian (97.2%) Control Group M 79 (54%)/ F 67 (46%) (M=17.5,SD=1.7) White/Caucasian (100 %)	**Past/ Current Psychiatric Disorders.** K-SADS- P/E (Chambers et al., 1985; Orvaschel et al., 1982) **Grief.** Texas Grief inventory (TGI; Faschingbauer et al., 1977)	**Exposure to suicide.** Circumstances of Exposure to Death (CED; Brent et al., 1992) **Closeness of Relationship.** Adolescent Relationship Inventory (ARI; Brent et al., 1992)	At 12-18 month follow-up, the exposed group was significantly more likely to present current substance abuse and current and new-onset of any psychiatric disorder, major depression, and generalized anxiety disorder, but not PTSD, compared to controls. Rates of MDD were highest among those who were depressed prior to exposure followed by those who were depressed after exposure.

Brent et al., (1995) USA Moderate	Cross-sectional	Community Young people (n = 146)	M 79 (54%)/ F 67 (46%) (M=18.4, SD= 2) White/ Caucasian (97.2 %)	**Past/ Current Psychiatric Disorders.** K-SADS- P/E (Chambers et al., 1985; Orvaschel et al., 1982) **PTSD Symptoms.** The Post-Traumatic Stress Reaction Inventory (Pynoos et al., 1987) **Grief.** Texas Grief inventory (Faschingbauer et al., 1977)	**Exposure to suicide.** Circumstances of Exposure to Death (CED; Brent et al., 1992) **Closeness of Relationship.** Adolescent Relationship Inventory (Brent et al., 1992)	Exposed peers who developed PTSD were more likely to report higher intensity of exposure to suicide, have a closer relationship to the victim, have higher rates of past and current psychiatric disorders (especially MDD), grief and suicidality compared to exposed peers without PTSD.
Brent et al., (1996) USA Moderate	Prospective Case-Control	Community Young people (n = 341)	Exposed Group M (51%)/ F (49%) (M=21.2, SD=1.8) White/Caucasian (96.4%) Control Group M (55%)/ F (45%) (M=20.4, SD=1.8) White/Caucasian (99.4%)	**Past and Current Psychiatric Disorders.** K-SADS- P/E (Chambers et al., 1985; Orvaschel et al., 1982)	**Closeness of Relationship.** Adolescent Relationship Inventory (ARI; Brent et al., 1992)	Exposure to a peer's suicide was significantly related to higher rates of any psychiatric disorder and of new-onset major depression, generalized anxiety disorder and PTSD at 3-year follow-up. No differences in suicide attempts were observed. Knowing the suicide victim was intending to die significantly predicted new-onset major depression and PTSD.
Bridge et al., (2003) USA High	Prospective Case-Control	Community Young People (n = 274)	Exposed Group M (54%)/ F (46%) (M=18.2, SD=2.1) White/Caucasian (97.2 %) Control Group M (54%)/ F (46%) (M=17.5, SD=1.8) White/Caucasian (100 %)	**Past and Current Psychiatric Disorders**. K-SADS- P/E) (Chambers et al., 1985; Orvaschel et al., 1982)	**Exposure to suicide.** Circumstances of Exposure to Death (CED; Brent et al., 1992)	Exposure to a peer's suicide was significantly related to the development of major depressive disorder (MDD) at 1-month follow-up. This appeared to be mediated by past history of alcohol abuse. Contact with the victim within 24 hours prior to the death and feelings of accountability significantly predicted new-onset MDD.
Cerel et al., (2005) USA High	Cross-sectional	High School Adolescents (n = 5,852)	M 2807/ F 3045 11-18 years old White/Caucasian 3757 (64.20%)	**Suicide Ideation/ Suicide Attempt.** Single-item question for each (past 12 months) **Smoking/ Marijuana use/ Drinking/ Involvement in Physical Fight/ Infliction of Injuries /Chance of living >35 years.** Single-item question for each	**Friend Suicide Ideation.** Single-item question (past 12 months) **Friend Suicide Attempt.** Single-item question (past 12 months)	Exposure to a peer's suicide attempt and death was significantly related to higher rates of smoking, marijuana use, binge drinking, involvement in a serious physical fight, inflicting injuries and suicide ideation/ attempt. Exposure to a peer's suicide death was significantly related to reporting own suicide attempt and to have been in a physical fight.

Cha et al., (2018) Korea High	Intervention	High School Adolescents (n = 956)	M 450 (47%) F 506 (53%) <u>Non-Trauma Group</u> (M=16.9, SD= 0.8) <u>Trauma Group</u> (M=17.1, SD= 0.8)	**PTSD Symptoms.** Child Report of Post-traumatic Symptoms (CROPS; Greenwald & Rubin (1999) **PTSD.** The UCLA PTSD Reaction index (UCLA-PTSD-RI; Pynoos & Steinberg, 2015) **Anxiety Symptoms.** The Korean-Beck Anxiety Inventory (K-BAI; Beck & Steer, 1990) **Depressive Symptoms.** The Korean-Beck Depression Inventory-II (K-BDI-II; Beck, Steer & Brown, 1996) **Complicated Grief.** The Inventory of Complicated Grief (ICG; Prigerson et al., 1995)	A statistically significant decline in PTSD symptoms, anxiety, depression and complicated grief was observed in the "trauma group" compared to the "non-trauma group" at five-month follow-up of a postvention for adolescents exposed to a friend's suicide.
Eskin (1999) Sweden Moderate	Cross-sectional	High School Adolescents (n = 254)	<u>Swedish Group</u> M (55%)/ F (45%) 16-20 years old (M=17.2, SD = 0.9) <u>Turkish Group</u> M (51%)/ F (49%) 14-18 years old (M=16.1, SD= 0.8)	**Reactions to friend suicide disclosure.** 20-item measure **Suicide Ideation.** Single-item measure (past 12 months)	Significant differences were observed across countries, genders and experiences on social acceptance of suicide (Swedish, females, own experience of suicidal thoughts), disapproval of disclosure (Swedish, males, no personal experience of suicidal thoughts), emotional involvement (no personal experience, Turkish), taking responsibility (Turkish) and inviting/ contacting a suicidal peer (females).
Fisher et al. (2017) New Zealand High	Qualitative	High school adolescents (n = 5)	F 5 (100%) 15 years old (M=15, SD =.00) European/ New Zealand European (100%)	Semi-structured Interviews	Four super-ordinate themes were identified regarding providing support to a peer who self-injures: 1) Helping Responses, 2) NSSI and Relationships, 3) The costs of caring and 4) Supporter needs.
Gayfer et al., (2020) Canada Moderate	Qualitative	University students (n = 104)	M 17 (16%) F 87 (84%) 17–22 years old (M=18.29, SD=0.8) White 73 (70.2%)	**Experience of peer NSSI Disclosure.** Four-item open-ended measure Open-ended survey questions	Four themes were identified to describe Individuals' experiences of a friend's NSSI disclosure: 1) Intense emotional reactions, 2) Supportive responding; 3) Impact on peer relationship; and 4) Perceived insight about NSSI

Gould et al., (2018) USA High	Case-Control	High School Adolescents (n = 5,284)	M (58%)/ F (42%) (M=15.5 years old) White (87%) – Exposed group White (77.7%) – Control group	**Depression.** The Beck Depression Inventory (BDI-IA; Beck & Steer, 1993) **Suicidal Ideation and Suicidal Behaviour.** Eight-item and six-item measures respectively **Suicide Attitudes.** Eighteen-item measure (Shaffer et al., 1991)	Friendship with suicide decedent. Four-item measure	No significant differences were found between exposed and non-exposed students on suicide ideation, behaviour and depression. A significant positive interaction between exposure, negative life events and suicidal behaviour was found. Closeness was significantly related to depression, maladaptive coping and suicide behaviour/ ideation. The risk for the latter was stronger among friends, but not close friends.
Hall & Melia (2022) UK High	Qualitative	Community Adolescents (n = 8)	F 8 (100%) 13-18 years old M = 15.5	Semi-Structured Interviews		Four superordinate themes were developed in relation to adolescent sense-making of their friends' self-harm: 1) Desperately Searching for meaning, 2) I will be there at all costs, 3) Too hot to handle and 4) Identification
Hart et al. (2020) Australia Moderate	Intervention	High School Adolescents (n = 1,605)	M 887 (55%) F 718 (45%) 15-17 years old (M=15.87.SD=0.52)	**Recognition of Suicidality.** One-item open-ended measure **Adequate Suicide First Aid Response.** Four-item measure **Transient Distress.** One-item measure and open questions		Students in the mental health intervention (tMHFA) group recognised suicidality, reported more adequate first aid responses and less negative responses significantly more than students in in the physical activity intervention group (PFA), at post-training and 12-month follow-up. Students in the tMHFA group reported short-lived distress associated with the content of the intervention.
Hazell & Lewin (1993) Australia Moderate	Case-Control	High School Adolescents (n = 798)	M 364 (46%) F 434 (54%) (M=14.74)	**Problem Behaviour.** Behaviour Scale of the Youth Self-Report (YSR; Achenbach et al., 1987) **Risk Behaviour.** Risk behaviour Questionnaire (RBQ; Martin et al., 1992) **Suicidal Ideation and Suicidal Behaviour.** Single-item measure **Drug/ Alcohol Consumption.** Ten-item measure	**Proximity to Attempted/ Completed Suicide Peer.** One-item measure	Friends of suicide attempters and completers group (AC) showed significantly more previous and current suicidal ideation and behaviour, problem behaviours, delinquency and use of drugs than the low exposure group (L), the friends of suicide completers only group (C) and the suicide attempters only group (A). Friends of suicide attempters only (A) reported significantly more current suicide behaviour than the low-exposure group

Study	Design	Population	Demographics	Measures	Exposure Measures	Findings
Ho et al., (2000) China High	Case-Control	High School Adolescents (n = 2,704)	M 1411 (52%) F 1293 (48%) (M=15.83)	**Psychiatric Disturbances.** Youth Self-Report (YSR; Achenbach, 1991a) and Child behavior Checklist (CBCK; Achenbach, 1991b) **Drug Use**. Self-Report Drug Use (Johnston et al., 1988) **Suicidal Behaviour**. One-item measure	**Relationship to suicide attempters/ completers.** One-item measure and 10-item measure **Recent Exposure to Suicides.** One-item measure.	Peers of suicide attempters and completers had higher risk of psychiatric disturbances and suicidal ideation and behaviour compared to controls. The former presented the highest risk. Closeness to the suicide attempter and to the suicide completer were significantly related to suicidal ideation/ behaviour, as well as being related to externalising and internalising problems respectively.
Kalafat & Elias (1992) USA Moderate	Cross-sectional	High School Adolescents (n = 325)	M 160 (49%) F 165 (51%) 14-17 years old Predominantly white	**Response to hypothetical suicidal peer.** Single-item open-ended measure	**Knowing friend who attempted and who died by suicide.** Single-item question **Talking to friend with suicidal ideation.** Two-item question	Females were significantly more likely than males to know and talk to peers with suicidal thoughts and behaviours. Personal experience with suicidal peers was significantly related more evenly distributed responses towards peers (talking to them, telling an adult, doing nothing) compared to those without such experience who mainly reported they would talk to their friend.
Kalafat & Elias (1994) USA Moderate	Intervention	High School Adolescents (n = 253)	M 144 (57%) F 109 (43%) 15-16 years old	**Response to hypothetical suicidal friend.** 11-item measure across two hypothetical scenarios	**Friend suicide attempt.** Single-item measure **Friend suicide behaviour.** Single-item measure	Students in the intervention group were significantly more likely to a) tell a friend about a hypothetical suicidal peer in the ambiguous vignette b) to suggest their friend to call a hotline and get advice from another friend, and less likely to suggest calling a mental health centre in the unambiguous vignette. 64% of students suggested intervention would help them dealing with their friends' problems.
Kalafat & Gagliano (1996) USA Moderate	Intervention	High School Adolescents (n = 109)	M 63 (58%) F 46 (42%) 13-14 years old White (100%)	**Response to hypothetical suicidal friend.** Three-item measure in two hypothetical scenarios		Females expressed significantly greater concern than males and students exposed to the suicide curriculum were significantly more likely to report 'telling others' responses across both high and low ambiguity vignettes.
Melhem et al. (2004) USA Moderate	Prospective	Community Young People (n = 146)	M (55%) F (45%) 11-23 years old (M =18.3, SD=2.2)	**Traumatic Grief**. The Texas Revised Inventory of Grief (Faschingbauer et al., 1987) **Complicated Grief.** Inventory of Complicated Grief (Prigerson et al., 1995) **Major Depression.** KSADS-E/P (Orvaschel et al., 1987; Chambers et al., 1985) **PTSD.** PTSD-Reaction Index (Pynoos et al., 1987)		Traumatic grief at 6 months after a peer's suicide predicted depression and PTSD at 12-18 months. Traumatic grief at 12-18 months predicted depression at 36 months.

Mueller & Waas (2002) USA Moderate	Cross-sectional	University Students (n = 334)	M 182 (55%) F 152 (45%) 18-19 years old (M=18.41) European American (70%)	**Attitudes about suicide.** Suicide Opinion Questionnaire (Rogers & Deshon, 1992) **Response to suicidal peer.** Suicide Helpfulness Scale (SHS; Mueller, Lang, & Lovejoy,1996) **Perception of suicide seriousness.** 5-item scale (Mueller & Waas, 2002)	**Hypothetical Scenario with a suicidal peer.** Two scenarios	Young people were significantly more likely to take more seriously, to inform others and to provide direct assistance to a suicidal friend in the behavioural scenario (e.g., giving away prized possessions, risk-taking). They were significantly more likely to engage in distraction in the affective scenario (e.g., depression, loneliness). High empathy/ female participants were significantly more likely to engage in verbal interactions and direct assistance.
Overholser et al., (1989) USA Moderate	Intervention	High School Adolescents (n = 471)	M 251 (46.7%) F 220 (46.7%) 14-15 years old (M=14)	**Suicide Knowledge.** Suicide Knowledge Test. 21-item scale **Attitudes towards suicide.** Eight-item scale (Spirito et al., 1988) **Subjective evaluation of intervention.** Three-item measure	**Personal experience with peer suicide.** Five-item measure (Spirito et al., 1988)	Adolescents with personal experience with a suicidal peer were significantly more likely to learn relevant information from the suicide awareness curriculum. All students, expect males with personal experience with a suicidal peer, significantly reduced negative attitudes towards suicide following the curriculum. Females showed a significant improvement in attitudes towards suicide and reduction in maladaptive coping, whereas males reported a slight increase in maladaptive coping.
Poijula et al., (2001) Finland Low	Intervention	High School Adolescents (n = 89)	M 46 (52%) F 43 (48%) 13-17 years old (M=15.4, SD=0.5)	**Reactions to school interventions following death of student.** 39-item measure (Dyregrov et al., 1999) **Impact of Suicide.** the Impact of Event Scale (Horowitz, Wilner, & Alvarez, 1979) **Bereavement.** The Hogan Sibling Inventory of Bereavement (HSIB) (Hogan, 1990)		Lower levels of high intensity grief were significantly related to receiving adequate well-timed interventions and good support.
Shilubane et al., (2014) South Africa Moderate	Qualitative	High School Adolescents (n = 56)	M 26 (46.43%) F 30 (54.57%) 13 – 19 years old		Focus Groups	Adolescents were emotionally and negatively impacted by their friends' suicide attempt and death (e.g., blame, guilt, sadness). Mixed responses emerged in terms of signs prior to the event and possible causes for their friends' suicide behaviour. Participants also reflected on available sources and ways to prevent suicide

3.3.2.1 Friend's attitudes and responses towards peers with SHIB

A total of eleven studies investigated friends' attitudes, reactions and responses towards peer self-harm ideation and behaviour (Berger, Hasking, & Martin, 2017; Eskin, 1999; Fisher et al., 2017; Gayfer et al., 2020; Hall & Melia, 2022; Kalafat & Elias, 1992; Mueller & Waas, 2002; Shepherd, 2020; Shilubane et al., 2014; Smithson et al., 2011; Yip et al., 2002).

Four quantitative studies focused on adolescents' attitudes and responses towards a hypothetical peer who self-injured or who had suicidal thoughts (Berger et al., 2017; Eskin, 1999; Kalafat & Elias, 1992; Mueller & Waas, 2002). One comparative study conducted in Sweden and Turkey found that higher social acceptance of a hypothetical suicidal peer was related to having own experience of suicidal thoughts, being Swedish and being female (Eskin, 1999). Instead, being male, not having own experience of suicidality and being Swedish was related to disapproval of a peer's suicidal disclosure (Eskin, 1999). In turn, across studies, the most common responses towards a hypothetical peer with SHIB included talking to the peer and telling an adult or health professional (Kalafat & Elias, 1992; Mueller & Waas, 2002; Berger et al., 2017). Improving peer relationships, reducing bullying and stigma, and increasing awareness were also mentioned in one study (Berger et al., 2017). Previous real-world experience with a suicidal friend (Kalafat & Elias, 1992), severity of signs observed in their friend and empathy levels (Mueller & Waas, 2002) influenced the hypothetical response observed.

Seven qualitative studies considered the lived experiences of friends who provided support to a young person who self-injured (Fisher et al., 2017; Gayfer et al., 2020; Hall & Melia, 2022; Shepherd, 2020; Yip et al., 2002; Smithson et al., 2011) or who attempted or died by suicide (Shilubane et al., 2014). Overall, these studies found common intense and often negative

reactions among friends upon disclosure including sadness, shock and worry as well as uncertainty on how to react (Gayfer et al., 2020; Hall & Melia, 2022). In one study, friends displayed differences in their attitudes and knowledge of suicidal behaviour and their recognition of warning signs prior to the suicide attempt and suicide death (Shilubane et al., 2014). Across all studies, friends recognised the importance of providing help and support to their friends (Yip et al., 2002; Fisher et al., 2017; Hall & Melia, 2022; Shepherd, 2020; Shilubane et al., 2014). Empathising, talking and listening were the primary forms of support identified and provided, followed by distraction, practical support and taking responsibility for their friend (Fisher et al., 2017; Berger et al., 2017; Hall & Melia, 2022; Shepherd, 2020; Yip et al., 2002; Smithson et al., 2011). Most friends also wanted to involve others – especially adults and professionals – yet showed hesitancy in trusting adults or institutions and wanted to respect their peers' privacy (Fisher et al., 2017, Gayfer et al., 2020, Shepherd, 2020, Berger et al., 2017; Hall & Melia, 2022; Shilubane et al., 2014). Stereotypes and judgements about the authenticity of their peers' SHIB were mentioned in a few studies albeit they represented the minority (Fisher et al., 2017; Hall & Melia, 2022).

Overall, a coherent picture across real and hypothetical scenarios can be observed, which emphasises supportive attitudes and responses, including talking and empathetically listening. In real-world situations, friends may show more complex attitudes towards their peer's SHIB and conflicting views in how to best support them.

3.3.2.2. The impact of young people's SHIB on friends

A total of 21 studies considered the impact of self-harm ideation and behaviour on friends. Of these, three studies focused on the impact of knowing a peer who self-injured (Fisher et al., 2017; Gayfer et al., 2020; Hall & Melia, 2022; Shepherd, 2020; Smith-Gowling et al., 2018)

and the rest focused on the consequences of exposure to peer suicide or suicide attempts (Abbott & Zakriski, 2014; Bartik, Maple, Edwards, & Kiernan, 2013; Brent et al., 1992, Brent, Perper, Moritz, Friend, et al., 1993a, Brent, Perper, Moritz, Allman, Liotus, et al., 1993b, Brent, Perper, Moritz, Allman, Schweers, et al., 1993c, Brent et al., 1994, Brent et al., 1995, Brent, Moritz, Bridge, Perper, & Canobbio, 1996; Bridge et al., 2003; Cerel et al., 2005; Gould et al., 2018; Hazell & Lewin, 1993; Ho, Leung, Hung, Lee, & Tang, 2000; Melhem et al., 2004; Shilubane et al., 2014).

First, studies reported a significant relationship between exposure to peer suicide and a range of negative outcomes. These included increased risk of new-onset or exacerbation of any psychiatric disorder (Brent et al., 1992; 1993a; 1994; 1996; Ho et al., 2000), major depression (Brent et al., 1992; 1993a; 1993b; 1993c, 1994; 1995; 1996; Bridge et al., 2003; Gould et al., 2018), anxiety disorder (Brent et al., 1993a; 1994; 1996), PTSD (Brent et al., 1992; 1993a; 1993b; 1993c; 1995; 1996), substance abuse (Brent et al., 1992, (Brent et al., 1993c; 1994; Cerel et al., 2005) and the experience of grief (Abbott & Zakriski, 2014; Brent et al., 1992, (Brent et al., 1993a; 1993b; 1995; Melhem et al., 2004).

Mixed findings are presented regarding suicidality. One study observed increases in suicide ideation and planning but not attempt 1-month following exposure to a peer's suicide (Brent et al., 1993c), whereas another study observed increases in suicide attempt only (Cerel et al., 2005). Hazell & Lewin (1993) and Ho et al., (2000) reported increases in both suicidal ideation and behaviour among adolescents exposed to a suicide attempt or death. However, for longer follow-up periods (i.e., more than 1-month follow-up), no significant increases in suicidal ideation nor behaviour were observed (Brent et al., 1992; Brent et al., 1995; Brent et al., 1996). One study did not find such association, but a significant mediation effect whereby

exposed adolescents who also experienced negative life events were significantly more likely to report suicidal ideation and behaviour following friend suicide attempt (Gould et al., 2018). In turn, this seemed to be dependent on exposure to different types of suicidal behaviour, namely attempt and death. Two studies suggested that exposure to peer suicide attempts was more strongly related to friends' current suicidal ideation and behaviour (Hazell & Lewin, 1993; Ho et al., 2000), whilst one study found that suicidality was more likely among friends of peers who died by suicide (Cerel et al., 2005).

All the aforementioned significant relationships were mainly observed within 1 and 6 months (Brent et al., 1992; 1994; 1996; Bridge et al., 2003). Closeness to the victim (Abbott & Zakriski, 2014; Brent et al., 1992; 1993a; 1993b, 1993c, 1995; Ho et al., 2000) and intensity of exposure (Brent et al., 1993b; 1995; 1996; Bridge et al., 2003) were the two factors which most strongly related to these negative outcomes. One exception is Gould et al. (2018) which found that friends, but not best friends, were at a greater risk of suicidal ideation and behaviour. Other factors such as pre-existing psychopathology (Melhem et al., 2004) and previous substance abuse (Bridge et al., 2003) were found to exacerbate the effects of exposure.

Qualitative studies reported similar findings. Two studies explored experiences of bereavement (Bartik et al., 2013; Shilubane et al., 2014) and four studies considered experiences of supporting a friend who self-harmed, with and without suicidal intent (Fisher et al., 2017; Hall & Melia, 2022; Gayfer et al., 2020; Smith-Gowling et al., 2018). The former reflected on friends' struggle in making sense of the suicide and questioning the strength of the relationship with their deceased friend. This was often related to complex feelings of frustration, guilt and self-blame for not recognising the signs and not feeling entitled to grieve

as a friend. Substance use, risk-taking behaviour, and forms of self-harm were also mentioned as ways to cope. Changes in their relationships with other friends were also identified, from feeling supported to feeling misunderstood (Bartik et al., 2013; Shilubane et al., 2014).

The remaining studies on supporting peers who self-injured (N = 4) identified the negative emotional impact of providing support, including intense feelings of worry, sadness, shock, anxiety and helplessness. A sense of duty and responsibility to help, despite feeling unequipped, were present across studies (Smith-Gowling et al., 2018; Fisher et al., 2017; Hall & Melia, 2022). These were in some cases accompanied by satisfaction in their role as supporters and increased knowledge (Fisher et al., 2017; Gayfer et al., 2020; Smith-Gowling et al., 2018). Friends reported experiencing a dilemma between wanting to help their peers but not wanting to compromise the friendship by telling others, leading to feelings of isolation (Fisher et al., 2017). Finally, studies emphasised friends' unmet needs and inability to cope, alluding to long-lasting emotional consequences of being a supporter (Hall & Melia, 2022; Fisher et al., 2017; Smith-Gowling et al., 2018).

3.3.2.3. Interventions for friends of young people with SHIB

Five studies evaluated the impact of interventions for friends. Three studies considered prevention strategies, through suicide awareness curricula (Kalafat & Elias, 1994; Kalafat & Gagliano, 1996; Overholser, Hemstreet, Spirito, & Vyse, 1989). Hart, Cropper, Morgan, Kelly, and Jorm (2020) evaluated an intervention to improve peer support. Finally, two studies considered postvention strategies implemented following a death by suicide from a peer (Cha et al., 2018; Poijula, Dyregrov, Wahlberg, & Jokelainen, 2001).

First, suicide curricula varied across studies but primarily consisted of interactive classes providing information about suicide, how to cope with it and how to respond to a suicidal

friend. Kalafat and colleagues (Kalafat & Gagliano, 1996; Kalafat & Elias, 1994) observed post-test increases in the intervention group in "tell an adult" (Kalafat & Gagliano, 1996) and "tell another friend" (Kalafat & Elias, 1994) responses towards a hypothetical peer thinking about suicide. Overholser et al., (1989) found that the largest improvement in scores on coping and attitudes towards suicide, following the intervention, occurred among individuals with personal experience of supporting a suicidal friend, and females.

Only one study used a Randomised Controlled Trial (RCT; (Hart et al., 2020). Adolescents in the teen Mental Health First Aid intervention (tMHFA) intervention showed a significant increase in recognition of suicidality, adequate first responses and fewer negative responses to a hypothetical suicidal peer, compared to the Physical First Aid (PFA) control group. These effects were observed at post-intervention and 12-month follow-up. Interestingly, distress from the intervention was noted, yet this was short-lived and linked to the specific materials and content discussed.

Two postvention strategies were considered. Cha et al., (2018) found that a programme to promote coping and normal grief implemented a week after a student's death by suicide, significantly decreased post-traumatic stress symptoms, depression, anxiety and grief. These effects were observed at 5-month follow-up only among the group with already pre-existing symptoms (trauma group) compared to the group with lower baseline symptomatology. Poijula and colleagues (2001) observed significantly lower scores of high intensity grief in schools with adequate well-timed crisis interventions - consisting of first talk-through and debriefing on the two days following a suicide – and among students indicating higher support received. The opposite was true for interventions not implemented in a timely manner

and with poor support provision. However, neither of these studies provide precise details of the interventions, nor used an RCT design to test their effectiveness.

3.4. DISCUSSION

The present systematic review aimed to consider the extant literature exploring the relationship between friendships and self-harm ideation and behaviour in young people. The primary aims of the review were to: 1) Provide a synthesis of the current literature on self-harm ideation and behaviour and friendships; 2) Consider the factors and mechanisms influencing this relationship; and 3) Evaluate the conceptualisation and measurement of key constructs within this literature.

A friendship is by definition an interpersonal phenomenon that subtends the contribution and experiences of one individual. This is mirrored in the research which considers both 'sides' of the friendship, i.e., young people who self-harm, and their friends. In turn, self-harm ideation and behaviour (SHIB) includes all intentionally harmful behaviours inflicted onto oneself regardless of suicidal intent (NICE, 2013). This includes but is not limited to non-suicidal self-injury (NSSI), suicidal ideation, suicidal attempt and suicide death.

3.4.1. Literature synthesis of the research on SHIB and friendships in young people

Overall, the evidence presented suggests that friendships during adolescence and young adulthood have an influence on SHIB and vice-versa. The strength, nature and direction of these effects are dependent on the population, outcome and friendship characteristics studied. Below, we summarise findings based on the target population: (1) young people with SHIB and (2) friends of young people with SHIB.

Evidence pertaining to the first population focuses on the influence of friends' characteristics (friend SHIB and deviancy) and friend support on young people's SHIB. First, the friendship variable most commonly explored across this literature is friends' own SHIB which is found to relate to and prospectively predict ego SHIB (e.g., Abrutyn & Mueller, 2014; Bearman & Moody, 2004; Prinstein et al., 2010). Differences emerge depending on the specific SHIB variable explored and the sample tested. Nonetheless, this is a striking and consistent finding, which aligns with clinical wisdom and the longstanding preoccupation within the literature around potential social transmission of SHIB (Jarvi et al., 2013; Hawton et al., 2012).

A second friendship characteristic is friends' so-called deviancy, which was found to relate to and prospectively predict ego SHIB (e.g., Abbott et al., 2019; Winterrowd & Canetto, 2013; Wei et al., 2022). Variability in measurement and the definitions of deviancy adopted (e.g., school disconnectedness, smoking and drinking, criminal behaviour) may preclude the generalisability of findings. Most concerningly, using the umbrella term 'deviancy' may lack informativeness and overlook underlying societal, social and individual stressors contributing to friends' behaviours. Additionally, such negative labelling of friends' behaviour may inadvertently assign a value judgement to the behaviour being investigated, namely SHIB. This may result in the stigmatisation and marginalisation of one at-risk group (i.e., friends), in favour of trying to understand another (i.e., young people with SHIB).

A distinct body of evidence focuses on friends' help-provision and support i.e., the protective effects of friendships on ego SHIB. Mixed findings are observed highlighting the complexity of this relationship. On one hand, evidence suggests that young people with SHIB typically confide in friends, with this having positive and protective effects on SHIB (Armiento et al., 2014; Hasking et al., 2015). Conversely, lack of peer support, negative responses from peers

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following disclosure and isolation may contribute to SHIB. Interestingly, friend support may also create a pathway for the transmission of methods and changes in relationship dynamics which may ultimately result in SHIB and its maintenance (Smith-Gowling et al., 2018; Yip et al., 2002; Lavis & Winter, 2020). Research should further explore the nature of support provided and underlying relationship dynamics and how these relate to differential outcomes.

The second portion of the review focused on evidence pertaining to friends of young people with SHIB. Studies considered friends' attitudes and responses to peer's SHIB, their experiences and the impact of the behaviour as well as the efficacy of interventions in this population. Research on friends' attitudes and responses is currently limited and mainly based on hypothetical scenarios. Across these studies, personal experience with SHIB (either their own or having previously supported someone with SHIB) is related to more accepting attitudes and more helpful responding (Eskin, 1999; Kalafat & Elias, 1992; Smithson et al., 2011). The latter include talking and empathetic listening, practical support and distraction (Berger et al., 2017; Mueller & Waas, 2002; Fisher et al., 2017; Shepherd, 2020). Whilst involving adults and health professionals is also mentioned in quantitative studies, qualitative evidence shows this is challenging in real life given expectations of trust and privacy within friendships (e.g., (Fisher et al., 2017; Hall & Melia, 2022). For this reason, research needs to move beyond experimental and hypothetical paradigms and focus on lived experience to understand the nuances and challenges of helpful responding in real-life situations (Shilubane et al., 2014). This is especially important in light of research highlighting friends' prominent role as supporters who often lack knowledge of how to respond to SHIB in real-life situations, and who may be negatively impacted by this role (Shilubane et al., 2014).

A distinct set of evidence strongly emphasises the impact of bereavement from a friend's suicide, particularly grief, depression, anxiety, PTSD and increased risk behaviours such as smoking and drinking (e.g., Abbott & Zakriski, 2014; Brent et al., 1992; 1996; 1994; Bartik et al., 2013; Bridge et al., 2003; Cerel et al., 2005). Similar strong negative feelings are consistently observed among friends of young people who self-injure (e.g., Fisher et al., 2017; Hall & Melia, 2022; Gayfer et al., 2020). Since suicidal and non-suicidal thoughts and behaviours present differences (Jacobson & Gould, 2007), it follows that they may also be experienced differently by friends and impact them in distinct ways. For instance, it is plausible that the often long-term nature and extended support provision related to self-injury may not allow friends to experience feelings of closure and post-traumatic growth observed among some individuals affected by bereavement (Labestre & Gayoles, 2021). This calls for stronger attention to be paid to the individual experiences and needs of young people to inform appropriate, tailored and helpful resources.

Finally, a small number of studies evaluated interventions both for young people with SHIB and the friends of young people with SHIB. Promising avenues of intervention involve peer relationship training, including forming relationships (e.g., Tyler et al., 2022) and providing appropriate support (e.g., Hart et al., 2020; Calear et al., 2021), as well as postventions for young people bereaved by a friend suicide (e.g. Cha et al., 2018). Notably, the substantial lack of intervention studies questions whether interventions are in place but not yet evaluated, or if these have not been developed altogether. The exception are universal mental health and suicide prevention strategies which have been fully described and evaluated through gold-standard methods (e.g., Hart et al., 2020). Yet these have highlighted short-lived negative outcomes (Hart et al., 2020) which call for a thorough evaluation of interventions. Importantly, evidence reflects how friends and friendships are rarely the target of

interventions, despite evidence of their important role. We hope that the current review will provide justification and evidence to develop and evaluate interventions for young people with SHIB and friends.

3.4.2. Factors and mechanisms of influence on the relationship between self-harm ideation and behaviour and friendships

Throughout the literature presented it becomes apparent that research on friendships and SHIB is frequently descriptive, with only a few studies testing explanatory mechanisms for the relationships observed (Crudgington et al., 2023). While some studies address factors and mechanisms of peer influence in relation to ego SHIB, mechanisms underlying friend's experiences and outcomes are rarely explored. This section discusses three factors consistently identified in across both populations, namely gender, mental health issues and relationship factors. Research suggests that SHIB among young people is more prevalent in females than males (McManus et al., 2019). Unsurprisingly, given same-sex friendships are common in this age group (McMillan, 2022), females are more likely to be exposed to and potentially influenced by friends' SHIB, as well as being more likely to be supporters and to experience the negative outcomes associated with this role (e.g., Fisher et al., 2017; Kalafat & Elias, 1992; Smith-Gowling et al., 2018). However, the findings presented in this systematic review may predominantly reflect the experiences this majority portion of the population. We note the lack of findings applicable to other genders, namely males and other gender minorities. Other understudied genders such as males and gender minorities are known to experience different friendship dynamics (e.g., males may use distancing responses to friends' self-disclosure; Leaper, 2019), trajectories of mental health struggles as well as specific barriers and challenges in accessing support (Butler et al., 2019). Yet, these same populations

can benefit substantially from peer support (Butler et al., 2019) and tailored interventions around friendships and SHIB (e.g., Calear et al., 2021). Research should aim to recruit these populations in order to better understand the relationship between friendships and SHIB within the context of identity, mental health risk and relationship dynamics.

Mental health issues also emerged as important factors mediating and moderating the relationship between SHIB and friendships. Pre-existing mental health issues, such as depression, anxiety, substance abuse or emotion regulation difficulties have been found to a) intensify peer influence on ego SHIB (e.g., Schwartz-Mette & Lawrence, 2019; Mueller & Abrutyn, 2015; Snir et al., 2018; Wei et al., 2021), b) influence outcomes experienced by friends (e.g., Brent et al., 1993c; Bridge et al., 2003) and c) amplify the potential benefits of interventions (e.g., Cha et al., 2018). Conversely, it should be noted that having personal experience of mental health issues also contributed to more supportive and appropriate responses to SHIB (e.g., Eskin, 1999; Bailey et al., 2021). This highlights how the characteristics of both the individual (i.e., ego), and the socialising agent (i.e., friends), interact to produce an outcome (Hartup, 2005). It is important to consider the role of pre-existing vulnerabilities in research and practice, particularly in terms of prevention among at-risk youth.

As for relationship factors, friendship closeness and quality are commonly investigated within the self-harm and suicide literature (Hartup, 2005). These were found to contribute to stronger interpersonal effects, namely the impact of exposure on ego SHIB (e.g., Baller & Richardson, 2009; Schwartz-Mette & Lawrence, 2019), the impact of exposure on friends' outcomes (e.g., Abbott & Zakriski, 2014; Brent et al., 1992; Brent et al., 1993c) and the impact on facilitating disclosure (Armiento et al., 2014). Closeness also contributes to different friendship roles

(e.g., best friend, friendship group and friends-of-friends) which have been proposed to exert distinct effects in SHIB (Prinstein et al., 2010; You et al., 2013; You et al., 2016). However, findings are mixed and further research in this area is needed. These important dimensions should be measured consistently and reliably in future research.

Finally, it is worth briefly mentioning that few studies have delved into potential causal mechanisms linking friendships and SHIB. The most commonly explored are peer selection (i.e., individuals befriend peers based on similar SHIB), and peer influence (i.e., friend SHIB influences ego SHIB) (e.g., Giletta et al., 2013). Whilst findings seem to suggest the existence of such processes, current research is scarce, evidence is mixed and studies lack appropriate methods to differentiate between these two processes (Crudgington et al., 2023). A second set of mechanisms that have been proposed, yet not tested through causal designs, relates to friends' perceived and real behaviours and their influence on ego SHIB (Copeland et al., 2021; Zimmerman et al., 2016). The general consensus suggests that known or disclosed SHIB is more influential than unknown or undisclosed SHIB, alluding to potential social processes at play. However, known and disclosed SHIB may each tap into different social and psychological processes. Explicit verbal communication of mental health struggles and disclosed SHIB may underlie social (e.g., rumination, mood contagion) as well as psychological processes (e.g., impact of providing social support). Instead, known SHIB may reflect awareness or exposure without interaction. In this case, processes such as imitation (e.g., copycat behaviour, Werther Effect; Saini et al., 2021) or an increase in psychiatric disturbances (e.g., Brent et al., 1993c; Hazell & Lewin, 1993) may be at play. This area of research suggests important avenues to be explored.

3.4.3. Evaluation of measurement and study design

Our overarching impression based on the present review is that, despite an extensive literature, the field lacks clarity to synthetise and understand the relationship between young people's friendships and self-harm ideation and behaviour (SHIB). Partly this is due to the variety of constructs and dimensions investigated, and partly also due to measurement issues. This section will consider heterogeneity around measurement, conceptualisation and study design.

Given the broad scope adopted in the present review, our definition of self-harm ideation and behaviour encompassed self-injury (NSSI), suicidal ideation and suicidal behaviour (i.e., suicidal attempt and death). As such, we did not limit the review to specific behaviours, but rather allowed for broad conceptualisations and individual understandings of the term. This approach is particularly appropriate for qualitative research, where SHIB is generally self-defined by participants. However, most studies included treat self-injurious and suicidal thoughts and behaviours separately. On one hand, this limits the applicability and generalisability of the findings presented. On the other hand, when synthetised such as in the present review, it is possible to observe general trends and interesting relationships between these general constructs. Breaking down and measuring SHIB in its various manifestations has theoretical and practical benefits given evidence that suicide – ideation, attempt and death – and self-injury may be distinct and distinctly relate to friendships (e.g., Shilubane et al., 2014; Jacobson & Gould, 2007). In future research, consistent measurement of broad overarching constructs can facilitate the establishment of general trends, yet this should be accompanied by more fine-grained information on thoughts, urges, intentions, and behaviours to shed light on mechanisms (Davidson, Anestis, & Gutierrez, 2017).

In terms of friendships, in most studies, these are not defined. Instead, common and lay understandings of the term are presumed, while operationalisation is informed by the measurement. Common measurements of friendships included friend nominations (e.g., Baller & Richardson, 2009; Giletta et al., 2013), questionnaires on peer relationships and closeness (e.g., Winterrowd et al., 2010; Armiento et al., 2014; Brent et al., 1992) or self-identification as a friend – which inherently implies a sampling procedure rather than a measurement (e.g., Brent et al., 1992; Fisher et al., 2017). Instead, a proportion of studies ostensively focus on friends' features (e.g., friend characteristics or behaviours; Copeland et al., 2019; Wei et al., 2022). Altogether, these differences render comparisons across studies difficult and our understanding limited. Furthermore, current conceptualisations of friendships, a multicomponent construct presenting variations across dimensions (e.g., quality, reciprocity, support) often reduces these dimensions to one single common term, in this case friendships (Anderson & Fowers, 2020). In addition, common assumptions of friendships – including roles, dynamics, expectations and norms – may be altered in the context of SHIB (e.g., Fisher et al., 2017; Hall & Melia, 2022). Re-framing friendships and revising our implicit assumptions about the nature of friendships within the context of SHIB – for instance by consulting young people through participatory research – is needed (Kitts & Leal, 2021; Anderson & Fowers, 2020).

In regards to study design is, there is a considerable lack of prospective studies exploring mechanisms and causal relationships. Some attempts can be identified (e.g., Giletta et al., 2013; You et al., 2016; Mueller & Abrutyn, 2015), yet these focus on different factors. It is essential to conduct more prospective studies to replicate existing and well-established mechanisms (e.g., peer socialisation; emotional contagion) as well as shedding light on and identifying new potential pathways of influence (e.g., known vs unknown friend SHIB). In

turn, this knowledge should be incorporated and inform the development of interventions. These should be comprehensively described and evaluated, through prospective designs and gold-standard methods such as RCTs.

Finally, it is also worth mentioning two aspects of the samples being explored. First, online friendships seem to have garnered interest in recent years, coinciding with the increase of online communication and social networking (Shabahang, Aruguete, Shim, & Chirani, 2022). Despite serving similar functions, these appear to have distinct qualities to real-life friendships and impact SHIB differently (Nesi et al., 2021; Lavis & Winter, 2020). However, there is a lack of research on the nature and norms of online friendships, as well as the experiences of online friends. These are avenues that should be further explored.

This brings up a second consideration, that is, young people who both experience SHIB and provide support to other young people with SHIB. This group may constitute a substantial proportion of young people given evidence of SHIB clustering in friendship groups (Benson et al., 2022). Having both experiences appears to influence attitudes, SHIB and friendships differently, yet it may be difficult to disentangle these intertwined experiences. Currently, few studies focus specifically on this population and do so using qualitative methods (e.g., Smithson et al., 2011; Smith-Gowling et al., 2018). This population should be studied in its own right as it can offer unique and valuable insights and may present increased or distinct profiles of risk.

3.4.4. Limitations

It is important to consider limitations when interpreting the findings of the present systematic review. First, a narrative synthesis was used to summarise findings from the included literature. Narrative syntheses are often criticised for their lack of transparency and potential

bias, as opposed to meta-analysis which provide more statistically robust findings allowing for hypotheses-development and concrete directions for research (Campbell et al., 2020). Nonetheless, narrative synthesis was considered appropriate to deal with the high degree of heterogeneity and to provide additional explanations for findings which may not be achievable through statistical methods (Melendez-Torres et al., 2017).

Heterogeneity in the methodology and inconsistencies in the definition and measurement of key constructs (i.e., friendships, self-harm ideation and behaviour) across studies may underlie a second source of bias. Whilst broad trends were identified within the findings, the inclusion of a wide spectrum of research may invertedly have led to lack of specificity, precluding a more fine-grained evaluation of effects. Particularly, studies were predominantly cross-sectional, of moderate quality and mainly relied on convenience adolescent samples. Given the exclusion of grey literature, findings should be apprehended in light of possible publication bias. Equally, we note no involvement of lived experience in the shaping and conduct of the present review. Lived experiences were also substantially underrepresented within the included studies. We suggest future studies implement qualitative co-produced designs to inform, complement, and contextualise quantitative findings and ground them in the lived experiences of individuals.

Relatedly, given our current aims, a decision was made to group findings thematically and by population (ego and friend) despite some potentially overlapping experiences (noted in section 1.1.). This may potentially have impacted the conclusions drawn and their interpretation.

3.5. CONCLUSIONS

The present systematic review found a clear relationship between friendships and self-harm ideation and behaviour (SHIB) among young people. Particularly, we observed that a) friend's SHIB is a strong factor predicting ego SHIB rates across clinical and community samples, b) friends are primary sources of support for young people with SHIB and c) friends of young people with SHIB may experience negative outcomes including depression, anxiety and grief.

However, the extant literature presents a scattered picture where evidence either considers young people with SHIB and their friendship context, or friends of young people with SHIB and their experiences. Limited evidence is presented considering both populations simultaneously, limiting our understanding of the bi-directional and dynamic context that is characteristic of friend relations. Heterogeneity regarding samples, construct definition and study design provides a compelling, yet complex picture, which may preclude our understanding of factors and causal mechanisms. It is essential for future research to consider multicomponent dynamic constructs such as friendships and self-harm in appropriate ways. First, by clarifying the dimensions of friendship (e.g., friend characteristics, friendship dynamics, friend behaviours) and SHIB being explored (e.g., SHIB broadly; specific constructs such as NSSI or suicidal behaviour; temporal phenomena such as thoughts or urges). Second, it is important to measure these relationships over time through the use of prospective study designs, in order to explore key mechanisms, mediators and moderators influencing these relationships. Finally, it is important to integrate both sides of the friendship given their influence on one another, through multi-informant approaches. Altogether, this work should be accompanied by the development and evaluation of mechanism-informed interventions both for young people with SHIB and also for their friends.

CHAPTER 4.

QUALITATIVE STUDY OF YOUNG PEOPLE WHO SELF-HARMED DURING ADOLESCENCE

This chapter presents the first part of a qualitative investigation exploring the experiences of friendships and self-harm in young people who self-harmed in adolescence. The present retrospective interview study considers young people's experiences and perspectives, particularly regarding the role, functions and impact friends had on their experiences of self-harm over time. In turn, the study also explored how individuals made sense of the behaviour, how it affected the way they related to others, and ultimately its influence on the trajectory of their self-harm and friendships.

Overall, this study applies an exploratory qualitative lens to the study of friendships in the context of self-harm. Through this approach, the relevant social and relational aspects of friendships were identified, alongside possible explanations for their influence and impact on adolescent self-harm. This knowledge contributes to a nuanced understanding of the topic through first-person accounts.

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ABSTRACT

Self-harm is a global public health concern presenting increasing rates in recent years, especially among young people. This population seldom access formal help, and typically rely on informal sources of support, mainly friends. The role, importance and meaning of friendships in the context of self-harm remains poorly understood. The present study conducted semi-structured retrospective qualitative interviews, prompted by the Card-Sort Task for Self-Harm about Friends (CaTS-AF), to explore the experiences of 11 young adults (M=19.09; SD=0.70) who self-harmed during adolescence (M=2, F=9). Data were analysed using thematic analysis. Three themes were developed which consider 1) how friendships shaped young people's self-harm over time, 2) how self-harm shaped friendships over time, and 3) the meaning of friendships in the context of adolescent self-harm. The first two themes highlight the interdependent nature of friendships and self-harm, where these two experiences influence one another. Furthermore, not only are friendships shaped by self-harm, but these acquire specific meanings, dynamics and expectations within the context of the behaviour. Overall, friends are a key part of adolescents' development and experiences, sometimes being the first point of recognition and disclosure around self-harm. It is essential to further integrate friendships, a significant aspect of young people's social experiences, into self-harm research and practice.

"People in my life just play different roles":
A retrospective qualitative study of friendships among young adults
who self-harmed during adolescence

4.1. INTRODUCTION

Self-harm, defined as any behaviour intended to harm oneself regardless of intent, is a global

health concern with steadily increasing rates especially among young people (NICE, 2022). In

the UK, around 7% of children and adolescents (7-16 years old) and 39% young people (17-

24 years old) report having ever self-harmed, with prevalence rates greater among females

(Newlove-Delgado et al., 2022). Relative to rates of self-harm, the proportion of young people

accessing formal support for self-harm is substantially lower, such that support is rarely

received or is substantially delayed (McManus et al., 2019; Lustig, Koenig, Resch, & Kaess,

2021). Instead, evidence indicates that the majority of young people who self-harm rely on

their informal networks, primarily friends, who are known to become important sources of

self-disclosure and emotional support (Armiento et al., 2014; Hasking et al., 2015). Despite

the importance of friends, this population is often overlooked in self-harm research. It is

essential to gain a better understanding of young people's social landscape, specifically the

importance and role of friendships in the context of self-harm.

4.1.1. Self-harm: Risk and protective factors

Self-harm is a complex behaviour thought to emerge from the interplay between genetic,

biological, psychological, social and cultural factors (Hawton et al., 2012). One theory

incorporating these factors is the Integrated Motivational-Volitional Model of Suicidal Behaviour (IMV), which is also applied to self-harm (see O'Connor, 2011; O'Connor & Kirtley, 2018). The IMV proposes three consecutive
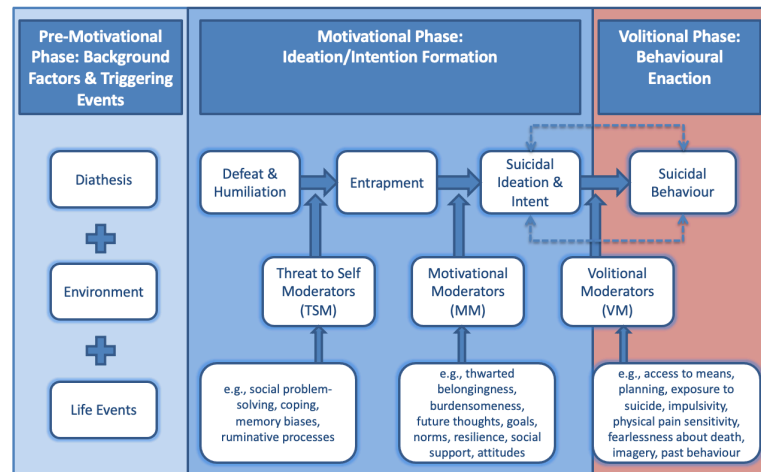
Figure 6: Integrated Motivation-Volitional Model of Suicidal Behaviour (IMV; O'Connor & Kirtley, 2018)

stages leading to self-harm: 1) the vulnerability or pre-motivational stage, characterised by background distal predisposing factors (e.g., psychopathology, negative life events), 2) the self-harm ideation or motivational stage driven by a series of psychosocial stressors and feelings of entrapment contributing to self-harm thoughts, plans and intentions, and finally 3) the enaction or volitional stage representing the transition from thoughts to action, driven by factors such as access to means, impulsivity or past self-harm (see Figure 6).

Of relevance for the current study is that self-harm has distinctly social elements. Particularly, friendship-related dimensions are significantly present across the three IMV stages, contributing differentially to the behaviour. For instance, negative social experiences, such as bullying or victimisation, are recognised as key backdrops to self-harm (Wadman et al., 2018). The availability of social support, perceived burdensomeness, and belongingness in relation to others have been extensively explored as mediators and moderators of self-harm thoughts (McClay et al., 2020). Finally, research has particularly concentrated on exposure to others' self-harm as a volitional factor that is highly prevalent in this population (Jarvi et al., 2013).

Beyond its social aspects, the IMV model highlights the temporal nature of self-harm. That is, self-harm thoughts and behaviours, their motivations and consequences may be different across different stages, from onset to maintenance to possible recovery. For this reason, adopting a temporal lens may allow researchers to capture risk and protective factors and their impact at different stages and on different dimensions of self-harm. With this in mind, Townsend and colleagues (Townsend et al., 2016) developed a tool, the Card Sort Task for Self-Harm (CaTS) to examine temporal dynamics of self-harm. This task consists of a stack of cards to be sorted along a timeline to represent the events, thoughts, feelings and behaviours leading up to and following a specific self-harm event, mirroring the IMV model structure. This prior study compared cards arranged to describe self-harm onset with a recent self-harm episode. Results highlighted common feelings directly preceding or accompanying self-harm at both times and across participants, yet the motivations, consequences and cognitions differed between early vs. recent self-harm episodes. Applying this framework to the study of friendship and self-harm enables the consideration of the temporal profile, evolution and progression of these two constructs.

Overall, a wealth of extant evidence highlights the complexity, social and temporal nature of self-harm. Furthermore, beyond offering a temporal causal framework, the IMV offers theoretical grounds through which to understand the contribution of friendships over time, and throughout the stages of self-harm.

4.1.2. Self-harm and friendships in young people

Self-harm often emerges and peaks during adolescence, a time where friendships become central to individuals' experiences (Blakemore & Mills, 2014; Gillies et al., 2018). Evidence

on the role of friendships in self-harm is constantly expanding, currently adopting two main perspectives: a) friends as contributors to self-harm; b) friends as sources of support.

Traditionally, research has viewed adolescent friendships as a major influence on health-risk behaviours, e.g., smoking, drinking and antisocial behaviours (Jeon & Goodson, 2015; Sijtsema & Lindenberg, 2018)). This has also been the predominant view within the field of self-harm, particularly through the study of social contagion. Social contagion refers to the processes through which behaviours spread across friendships (Jarvi et al., 2013; Copeland et al., 2019; Syed et al., 2020). Qualitative studies across clinical and community samples suggest possible explanations, including normalisation of self-harm, imitation and social learning (Smith-Gowling et al., 2018; Smithson et al., 2011; Lavis & Winter, 2020). Additionally, self-harm may serve interpersonal functions allowing young people to communicate distress, adhere to social norms and fit in with certain groups (Prinstein, 2005; Edmondson et al., 2016). Research suggests that friends appear primarily to contribute to self-harm onset, but may lose their influence over time (Victor & Klonsky, 2018).

In contrast, friendship quantity and quality have been observed to be key protective factors against self-harm both indirectly through increases in self-esteem and general wellbeing, and directly through support provision (Armiento et al., 2014; O'Reilly et al., 2022). Indeed, friends become primary confidants and important sources of support for many young people who self-harm, as particularly evidenced in qualitative studies. Young people emphasised the value of understanding, caring and empathetic responses from friends (Shepherd, 2020; Simone & Hamza, 2023; Smithson et al., 2011). However, the type of support provided by friends and the underlying mechanisms through which it can contribute to self-harm have been largely unexplored, suggesting the importance of adopting a qualitative approach.

Furthermore, despite the importance of friends' support, we know little about its evolution and contribution throughout the different stages of self-harm (i.e., onset, maintenance and cessation).

The present study adopted a retrospective temporal approach – through the use of an adapted version of the Card Sort Task for Self-harm (CaTS-AF) – aiming to capture the different stages of the behaviour, specifically in relation to its social context. In turn, the qualitative lens adopted will integrate the various aspects of friendship, positive and negative, with experiences of self-harm, to obtain nuanced understandings from a first-person perspective.

4.1.3. The present study

The present study explored young people's experiences of friendships and self-harm during adolescence. Retrospective qualitative interviews, prompted by the Card-Sort Task About Friends (CaTS-AF), considered experiences across the temporal profile from self-harm onset to maintenance to possible recovery. The study adopted an explicitly social focus, considering the role, influence and meaning of friendships in self-harm. Research aims were to:

a) Describe participants' perceptions of the role, importance and impact of friends on experiences of self-harm over time;

b) Explore how friendships evolved over time, and how they were shaped by self-harm.

4.2. METHODS

4.2.1. Sample and Recruitment

A purposeful sample of eleven Psychology undergraduate students (females = 9; males = 2; aged 18-20 M= 19.09, SD=0.70) from a UK university took part in the present study. They

were recruited through a university-based research participation platform, as part of a larger qualitative investigation. For the overarching study, participants were considered eligible if they identified as having self-harmed, or had a friend(s) who self-harmed, or both, during adolescence and had access to a laptop/phone for the interview. Some participants had experiences of both, but the present study only included those who indicated that they preferred to talk about their own experiences of self-harm (see Figure 7 for information on recruitment process).
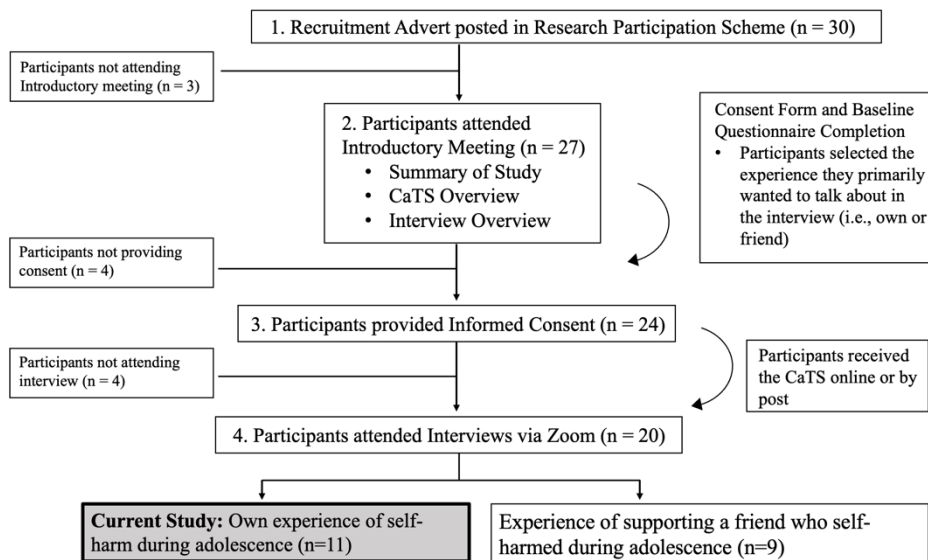
Figure 7: Recruitment Process for qualitative investigation of friendships and self-harm

The study was ethically approved by the University of Birmingham's Science, Technology, Engineering and Mathematics Ethics Review Committee *(ERN_19-1815)* and conformed to BPS guidelines for conducting research with human participants (BPS, 2006).

4.2.2. Study Materials

Baseline questionnaire. Participants completed a demographic questionnaire reporting age and gender, alongside a baseline screening question where they stated the experience they preferred to primarily talk about in the interview (i.e., their own or a friend's self-harm).

Card Sort Task for Self-Harm about Friends (CaTS- AF). The card deck of the original 117-card version of the CaTS task represents individual experiences of self-harm (Townsend et al., 2016). The current study modified this task to increase the level of focus on psychosocial and contextual elements related to friendships, in accordance with the aims of the present study. We added 18 new 'social' cards based on team discussions and relevant literature (Edmondson et al., 2016; Heath et al., 2009). Furthermore, 19 original CaTS cards were simplified or combined, resulting in a 116-card Card Sort Task about Friends (CaTS-AF). Depending on their preference, participants were given access to the CaTS-AF through a link to an online visual collaborative space (Mural), or received a paper copy by post (Figure 8).

Participants were instructed to familiarise themselves with the CaTS-AF, pick cards that were relevant to their experiences (onset and most recent self-harm) and, if needed, write their own cards for experiences that were not already represented. Participants placed the selected cards along the timeline, and used stickers on cards they did not wish to discuss (see Figure 7).

6 Months Before	1 Month Before	1 Week Before	1 Day before	1 Hour before	I self-harmed	Afterwards
I had a problem at school	I received no support from caregivers	I wanted to push people away ●	I had an ✕ argument with my parent/ caregiver	I phoned a helpline which did not help	I did it on impulse without planning	I felt worse after self-harm
I was bullied/ cyberbullied ✕	I felt worthless	I isolated myself from others	I was angry at someone	I felt there was no one to turn to for help	I had access to means to hurt myself	A + E staff were friendly and understanding
I was rejected by my friends/ peers ●	I felt sad and depressed	Someone suggested me to self-harm ●	I felt like a burden on people	I was very agitated and restless	I felt numb	I received therapy which helped
I felt rejected	I got involved with a new group of friends who self-harmed ●		I talked to a caregiver which did not help		I felt exhausted	I talked to a friend which helped
I felt like I did not belong	I discussed self-harm with my friends ●		No one listened to me or took me seriously			I felt accepted/ I felt I belonged ●
I struggled with my sexuality ✎						I felt I could change for the better in the future

Figure 8: Sample CaTS-AF on Mural. Card colour denotes the category of each card e.g., thoughts, feelings, events, behaviours, and support/services. Originally blank cards on which participants wrote their own words are represented with a pen symbol. Crosses specify experiences the participant indicated they did not wish to talk about. Red dots denote examples of novel social cards developed by the research team for the present study and added to the original CaTS.

Semi-Structured interviews. The interview schedule included questions centred around participants' self-harm experiences and trajectory. Two CaTS-AF arrangements corresponding to two key periods – self-harm onset and most-recent self-harm – were used as prompts for the discussion of participants' self-harm experiences over time. Most participants discussed experiences of cutting. The use of CaTS-AF as prompts intended to facilitate sensitive discussions in scaffolded manner, consistent with previous studies (Lockwood, Townsend, Allen, Daley, & Sayal, 2020). The following topics were discussed: a) own understanding and experience of self-harm, b) friend relationships and the role of friends, c) characteristics and evolution of the friendship, and d) advice for supporting young people who self-harm (see Appendix C).

Visual Analogue Scale (VAS). Participants verbally rated their mood before and after the interview on a three-point VAS (Bad, Neutral, Good). Information from the VAS was not collected, instead it was used by the experimenter to identify and act on potential distress. A similar approach was used in previous studies (Townsend et al., 2016).

4.2.3. Procedure

The present study and interviews were conducted between October 2021 and December 2021. Participants took part in an initial 1:1 Zoom session with the primary researcher to discuss the aims and conduct of the study and to familiarise themselves with the sensitive content (see Figure 7). If comfortable and eligible to take part, participants completed a consent form and the baseline demographic questionnaire on Qualtrics and were sent the CaTS-AF with instructions to familiarise and complete before the next session. Consenting participants were then invited to a second and final Zoom session, in which the interview took place. Following verbal affirmation of consent, participants took part in the interview for which two CaTS-AF

were separately arranged: a) participants arranged the CaTS-AF at the beginning of the interview to represent early self-harm experiences, i.e., self-harm onset which typically occurred during early adolescence, and b) participants arranged the CaTS-AF a second time, towards the end of the interview, to represent more recent experiences, i.e., recent self-harm which coincided with late adolescence to young adulthood in the majority of participants. In both cases, participants either referred to a concrete memorable instance of self-harm or they described a range of early or recent experiences. Both arrangements were used as prompts in the semi-structured interview which was audio-recorded using secure electronic and physical audio-recording devices. Interviews lasted between 45 minutes and 1 hour and 30 minutes.

Participants were debriefed and signposted to appropriate sources of support at the end of the interview. They were contacted again after two-weeks to share any thoughts or comments regarding their experiences of the study. Participants who responded emphasised positive aspects of participation (Dazzi, Gribble, Wessely, & Fear, 2014). The comments were not included in data analysis.

4.2.4. Epistemological Position

The philosophical framework adopted in the present research is pragmatism. This framework does not adopt any strict ontological or epistemological positionings. Instead, it assumes the existence of both individual and socially shared realities (Morgan, 2014). For that reason, this approach emphasises flexibility of methods, which are chosen based on their usefulness for exploring the phenomenon of interest.

Similarly, Reflexive Thematic Analysis (RTA) enables identification of common contextual factors across participants, whilst also exploring how individuals subjectively interpret and make sense of their own individual experiences (Braun & Clarke, 2019). Furthermore, whilst

useful for description, RTA is a primarily interpretative subjective activity occurring at the intersection between researcher's own positioning and subjectivity, the data and wider context (Cowie & Braun, 2022).

4.2.5. Data Analysis

Data were transcribed verbatim by the first author. Eleven transcripts, corresponding to the experiences of young people who self-harmed in adolescence and indicated they preferred to be considered in this category, were included in the analysis (see Figure 7). In some interviews, participants also mentioned friends who self-harmed. Data were analysed using Reflexive Thematic Analysis in NVivo v12 (QSR International Pty Ltd., 2017) following Braun & Clarke's guidelines (Braun & Clarke, 2019). This approach analyses and considers subjective individual experiences whilst also identifying common patterns, important for addressing concrete research questions.

The data analysis process started with an initial familiarisation with the data, which consisted of reading and re-reading all transcripts. Upon this, the first author line-by-line coded all relevant transcripts, starting with simple descriptive codes which were later classified into broader and more abstract codes and categories. The analysis then focused on social and relational aspects of the experience, specifically friendships and peer relationships, in line with the research questions. At this stage, interpretative codes were developed and applied to the transcripts, which informed the development of initial themes. Discussions with the research team, through a weekly peer-review process conducted with ET, and consultations of the literature helped make sense of and contextualise the findings. These processes helped refine and produce the final themes. A reflective diary of thoughts and observations was kept throughout the interview and analysis stages, which informed the theme-development process

and helped to reflect on the impact of the researcher during interviews, analysis and interpretation (see reflexive statement in Appendix B).

4.3 FINDINGS

Interviews explored adolescent friendships, including their role and importance, their meaning, and their evolution over time among young people who self-harmed during adolescence. Both self-harm and friendships are complex, multifaceted phenomena and are experienced differently by each individual. Yet, three common aspects were identified across interviews, encapsulated within the following themes: a) *The role of friendships in self-harm progression,* which considers the variously positive, negative or limited roles played by friends in the experience, b) *The role of self-harm in friendship evolution,* which describes how self-harm influenced individuals' perceptions and experiences of friendships over time, and *c) The meaning of friendships in the context of young people's self-harm* is an overarching theme discussing the nature and meaning of friendships for young people who self-harmed (see Figure 9). The themes and corresponding quotes are presented herein.
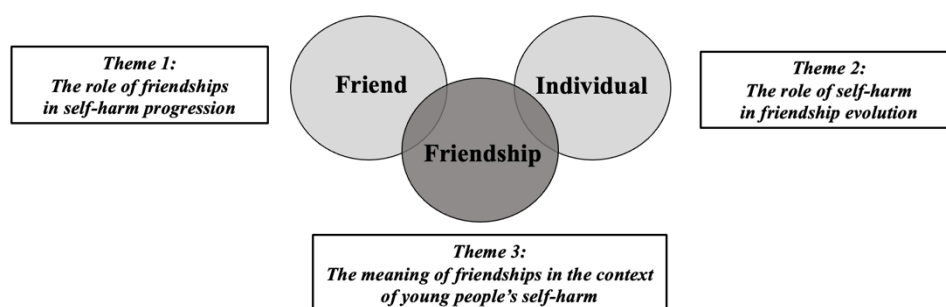
Figure 9: Thematic Map

4.3.1. Theme 1: The role of friendships in self-harm progression

This theme considers the role and influence of friendships in shaping young people's self-harm. It describes different 'types' of friends, perceived to hold distinct roles. These ranged

from friends who had a negative influence, to supportive friends who played a positive role, to friends having no role or a limited role in self-harm.

4.3.1.1. Friends' influence on self-harm onset and maintenance

A key theme mentioned in more than half of the interviews relates to friends' significant, yet negative role in the experience of self-harm. Friends were considered significant contributors to participants' self-harm onset, and in some cases its maintenance.

Most commonly, having friends who self-harmed or engaged in other behaviours described as "self-destructive" was considered a starting point for participants' own self-harm.

"A lot of my friends were self-harming as well […] it's like you just find out one day at school that someone else was" (P6)

"I think it all started when I got involved in, well they weren't a new group of friends, but the dynamic changed a bit… and they all started doing it (self-harming). And at the time, it was very kind of, (everyone) very much aside from me, did it" (P7)

Friend's influence on participants' self-harm occurred in direct and indirect ways. For one participant, friends directly encouraged and ʹbulliedʹ her into self-harming. However, for the majority, friends did not actively encourage self-harm, but subtly introduced participants to it and normalised the behaviour as a possible coping strategy. A distinct pathway mentioned by participants relates to the emotional impact of having and supporting friends who self-harmed. Some mentioned feeling overwhelmed by their friends' self-harm and their role of supporters.

"She didn't encourage it or anything like that, but I think she made me

realise that it was like another way to get rid of [...]to get out

emotions" (P6)

"The idea that I had to look after her even though I didn't have to,

kind of played into my like mental health at the time" (P4)

These experiences demonstrate that friends may be central in the initiation of self-harm. Across interviews, friends were also influential in self-harm maintenance, although this was not as common. As self-harm became more habitual, the reasons underlying the behaviour became more relationship-oriented for several participants. Some of the reasons mentioned include a) arguments with friends, b) friends *"freaking out"* or being unsupportive and c) social comparison or competitiveness which made participants feel they had not validated their feelings.

"If they (friends) upset me or if they do something, it would really kind

of upset me and gravitate me towards that (self-harm)" (P2)

"Being friends with that girl it did play a part… because she didn't

really support me and kind of made it worse in a way and kind of

encouraged it, but also stigmatised it at the same time" (P21)

In some cases, negative influence occurred within an apparent context of support where friends would encourage each other to self-harm. This illustrates how friendships may create a difficult interpersonal environment, maintaining and in some cases exacerbating self-harm.

"We fed each other unhealthy habits, because we only saw that (self-

harm) as like a normal coping mechanism when it wasn't… well it is

normal, but it's not a healthy way to do it. So we were close, we were

really close, but I think maybe… being a bit too close" (P4)

Overall, friends' influence seemed to contribute negatively to young people's self-harm in direct and indirect ways. However, for most, friends' influence alone did not account for self-harm, but rather it provided additional strain to already present vulnerabilities. One participant exposed to friends' self-harm reflected:

"At that time it didn't make me think: "Oh I want to do that too",

because I was fine at the time, like I wasn't doing bad mentally" (P24)

4.3.1.2. Friends' provision of support

Most participants described having friends who provided support throughout the experience of self-harm. One participant described friends as:

"They are a good support system, friends that I can always go to that

will be there" (P10)

A few participants confided in a close friend prior to self-harming for the first time. Instead, the majority suggested that friends were the first to learn about self-harm, once it had already happened. Participants stated that they either opened up to their friends or the latter recognised noticeable changes in participants' behaviour and further brough it up.

"I was trying to avoid like doing it and I think me talking to her was

kind of… a cry out for help, hopefully she would say something that

would change my mind" (P19)

"I think he sensed, before I did, that something was wrong. 'Cause he

knew, 'cause obviously he knew me quite well [...] He sort of did the

detective work and found out: "oh yeah, you're not doing great" and

then I sort of spilled it out to him" (P9)

Across these instances, it becomes apparent that participants were open to discuss self-harm and its underlying causes with friends. In response, friends' attitudes and reactions across most interviews were characterised as positive and supportive. Their responses included offering distractions, practical support and offering informational and emotional support. Whilst other friends actively encouraged formal support-seeking and convinced participants to seek professional support.

"With friends it was very short-term help, so their support was very

day-to-day stuff [...] They would sort of support me with work and

stuff like that, so they helped me with schoolwork and stuff" (P9)

"They were very open to have discussions, in the sense that they

would always offer themselves as a source of support [...] That made

me feel comfortable" (P19)

"I kind of had a few friends that knew about it, that I talked, would

talk to about it that kind of encouraged me to get some more (help)"

(P24)

Overall, the importance and positive role of supportive friends was recognised and valued by participants during the experience and in the present day.

4.3.1.3. Friends played no role or a limited role in self-harm

In some instances, participants alluded to the fact that friends, whilst playing a part, they were not the main source of influence for their self-harm. One participant mentioned they preferred not to involve their friends, and never shared their self-harm with them, these having no role in their experience:

> *"They weren't really aware of anything, that was going on with me.*
> *And that's the way I wanted it and then, so… again there was nothing*
> *they could really have said or done that would have changed the way I*
> *was feeling" (P11)*

Whilst this was an isolated case across interviews, it alluded to the potential limitations of friends' roles. Other participants reflected a similar sentiment:

> *"Friends would have been able to understand, whereas an adult could have*
> *done more about it (the self-harm)" (P7)*

> *"(friends) had very limited knowledge about stuff, so their sort of*
> *support was very day-to-day stuff but then… my teacher was obviously*
> *a lot older and had been through struggle in her own life, so she helped*
> *me guide in a more sort of mid-term and long-term planning" (P9)*

As participants grew older and learned additional coping strategies, they felt less need to share their self-harm with and rely on friends for support. As one participant suggested:

"But I feel like now I'm quite like… I'm a bit more, I'm a lot more

resilient than I was, so I kind of prefer just dealing with it by myself

until I really need to speak to my mate or my mum" (P4)

"(Self-harm) is not something I have to share with people if it does

happen" (P24)

4.3.2. Theme 2: The role of self-harm in friendship evolution

Self-harm is recognised as a primarily individual experience, nevertheless it is situated within its social context. The present theme explores how self-harm shaped friendships over time.

4.3.2.1. The isolation and loneliness paradox

The period prior to and following self-harm was generally described as a period of extreme negative feelings which impacted participants' behaviours and social relationships.

One particular change recalled by all participants across interviews was isolating from others. Isolation was often described as "*a gradual build*" extending to participants' social networks and friendships. Reasons for isolating varied among participants. Some suggested feeling down and not having the energy to be with others, while others did not want to affect others or they wanted to justify the way they were feeling. In turn, isolation was in some cases a by-product of trying to avoid talking about self-harm, or the issues underlying it:

"I spent most of my time in my bedroom, wouldn't really come

downstairs much, and then I wouldn't see my friends outside of

school" (P4)

"I've always isolated myself when I felt bad cause it was almost like,

you don't want to affect other people [...] Also, part of me thought If I

give myself a reason to feel as bad as I do it will make sense" (P20)

"I didn't really feel that I could talk, because obviously the whole

reason I was feeling like this was literally centred all around my

sexuality" (P24)

Some participants actively started to push others away. Self-harm contributed to negative feelings and anger, which were partly targeted at others. Nonetheless, participants expressed awareness of the repercussions of their behaviour.

"I wouldn't say I was explicitly trying to push people away, but I think that

resulted in people gravitating away from me, because of that attitude which is fair

enough. Later on, I can see that you know it wasn't, it wasn't great" (P2)

"I feel like my friends just didn't feel as close to me anymore and they

didn't think that I wanted to be with them, because when I get sad or

emotional I kind of turn it into anger" (P4)

"I guess it was kind of hard for them because like…you don't make it easy for

them, you're just trying to push them away, you know, it's a really hard thing in

their position to like not to go with it" (P20)

The notion of isolation appears as a paradox given that participants also reported that they felt alone, rejected or that they did not fit in. These seemingly contrasting views can be reconciled when considering how negative feelings may often distort participants' perceptions of themselves and their friends.

"It's not like I wanted to be on my own, I just thought I was" (P11)

"Some of my friends noticed (isolation), but I didn't really take it

seriously that they noticed. I think because I kind of managed to

convince myself that nobody, like genuinely cared" (P21)

Ultimately, already present negative feelings contributed to isolation which further reinforced feelings of loneliness and participants' beliefs about themselves and others. This represents an important pathway towards self-harm maintenance.

4.3.2.2. Disclosure: Contradictions, expectations and help-seeking

Feelings of loneliness and isolation are specifically relevant for understanding participants' attitudes towards disclosure and help-seeking behaviours.

First, despite participants engaging in self-harm, most agreed that at the time they still needed and wanted help. However, they also felt that, as a product of their isolation, they did not have people to turn to, nor people with whom they felt they could talk about their self-harm.

"You kind of don't know who to go to or what to tell people […] But

you also do really want the help" (P19)

"Wanting to turn to someone for help and not being able to… made

the feeling worse. I feel like when you are kind of in your own head

and by yourself, that's when things can get really difficult because you

don't have anyone to kind of challenge your drastic thoughts" (P21)

These instances reflect young people's struggle to seek help. Even if participants had a close friend they trusted and confided in for help, they avoided sharing the severity of their self-

harm given fear of extreme reactions and the potential for them being reported, alongside fear of upsetting friends.

"I gave them (friends) enough information to fulfil their own need of wanting to know, but not too much that it would be reported" (P2)

"I told people I wasn't feeling good, but I didn't really go into anything I don't know how people didn't suspect it" (P24)

"She (friend) just freaked out and like it just meant I just lied to her all the time" (P20)

Altogether, despite young people's expressed need for support, these additional barriers may have precluded help for many participants. In effect, some appeared to expect friends to notice signs and to initiate these difficult conversations.

"Maybe if like a friend noticed or something, then maybe I would have been a bit more likely to say something" (P11)

"So if people were like there for me to be able to speak to, that would have definitely helped" (P19)

4.3.2.3. How self-harm shaped the course of friendships

Participants' perceptions and experiences of friendship in the context of self-harm contributed to shaping these relationships over time, mainly in two opposite directions.

In some cases, albeit the minority, friendships ended. This was partly in relation to friends' negative and stigmatising reactions to self-harm, which were often described as unhelpful. In

response, some participants decided to leave certain friendship groups leading to some friendships breaking down.

> *"(Friend) completely freaked out on me and that just stressed me out*
>
> *so much […] It just made me feel so ashamed and also made me feel*
>
> *like I was affecting her or something" (P20)*

Nonetheless, in most cases the experience brought friendships closer and increased the quality of certain relationships. Given the nature of the support exchanged and the level of intimacy created throughout the experience, some friendships grew closer. Some participants reflected:

> *"You never really know a person until like they tell you stuff like that. I*
>
> *think we're also a lot closer as well and we were all sharing stuff like*
>
> *that" (P10)*

> *"I guess I'm closer with my best friend because of it, because, like she's really seen*
>
> *me at like really dark points. So I think someone like that, you can't really ever let*
>
> *go of someone that's really helped you through your really bad times" (P24)*

Overall, self-harm played a role and influenced friendships in various ways. Not only did it contribute to participants perceptions of their friends, but also their behaviours towards them, ultimately shaping the course of these relationships over time.

4.3.3. Theme 3: The meaning of friendships in the context of young people's self-harm

The aforementioned themes reflect how self-harm both challenged and shaped participants' notion of friendships, also reflected by several participants.

"I think obviously in the past, my perception of what a friend is has

been quite twisted because of my past experiences, whereas as I've

grown up I kind of know what a real friend is" (P7)

The following subthemes consider participants' understandings and meanings of friendship, such as its characteristics and expectations, in the context of self-harm.

4.3.3.1. The value of relatability and mutual understanding

All participants reflected on the importance of relatability and mutual understanding within their friendships. That is, the ability to relate to friends, and for friends to be able to relate to and understand participants' experiences in return, was a relevant characteristic in the context of self-harm.

Participants described self-harm as a frequently misunderstood and stigmatised behaviour. For this reason, participants placed special value and trust in friendships where they felt understood. These friendships became an important source of support that they could rely on. Furthermore, as one participant pointed out, rather than closeness, relatability became a more important feature for their friendship.

"I talked to one of my close friends about it [...] it was quite nice to

have someone there who understood what I was going through" (P10)

"The first friend I spoke to, we were close but we weren't best friends.

But I think the thing was, I knew she'd understand [...] She would

understand in any way even if she couldn't personally understand, I

knew she struggled with her own mental health and she'd told me stuff

before, so that was my, our friendship" (P20)

Conversely, feeling misunderstood and misrepresented was one of the main concerns participants expressed regarding their friendships.

> *"I think I was very hesitant in telling certain people stuff and I think I was just trying to be careful [...] saying things around certain people just because, I wasn't sure of how they'd take it" (P19)*

Overall, participants' impressions of friends' ability to relate to them or effort to understand them influenced their level of trust and the extent to which they relied on them for support.

4.3.3.2. Friendships are reciprocal and balanced

An additional feature encapsulated within the previous subtheme is that of reciprocity and balanced friendships, where both are equals, can be there for one another and are able to reciprocate support.

First, participants' worries about being perceived differently were consistent with their wish to be treated as an equal, despite their circumstances. To ensure this, they considered that, given a certain level of support was sought from friends in the context of self-harm, it was important for participants to be able to reciprocate it.

> *"I didn't want to be treated with sympathy, or seen as vulnerable, I wanted to still be treated like everyone else" (P4)*

> *"I'd speak to her quite a lot, but I think she spoke to me quite a lot as well" (P20)*

Given young people's specific needs in the context of self-harm, reciprocity of support was re-negotiated throughout the experience, to find a new balance within the friendship. In

contrast, the absence of reciprocity through one-sided and non-reciprocated friendships impacted participants:

> *"I felt rejected […] and I was also quite angry because I was there for them when they were going through what they went through earlier and I felt a bit like, I wasn't quite requited" (P6)*

> *"There was a lot of using me, kind of taking advantage of how nice I was, 'cause I would end up being kind of the therapist friend, but I wouldn't get that in return. Because when it came to my problems, I'd just kind of get dismissed" (P21)*

Overall, participants wanted friends to treat them as equals. They also reflected on the importance of reciprocity, especially in terms of mutual support.

4.3.3.3. Respecting boundaries within friendships

Despite participants' expectations of support from friends, over time there was growing awareness that this could not always be the case. Most emphasised that friendships should also have certain boundaries.

On one hand, an awareness of and respect for friends' boundaries was noted particularly by participants who had also supported a friend who self-harmed, i.e., making them both a recipient and provider of support. Through their personal experiences, participants were mindful that support provision in the context of self-harm may negatively impact supporters. They became more sensitive and aware that self-harm may impact and 'trigger' others, hence preferred to remain respectful of their friends' boundaries and capabilities:

"People that I knew, maybe weren't doing great themselves, I wouldn't want to go

to them and be like: "Look like I know you're doing not very good, but can you

take on my issues as well", you know? I'm very aware of that, because I don't

think, I think it's a big thing to be able to take on someone else's stuff when you

have your own stuff going on" (P24)

"I think you realise as you get a bit older that you can't keep going to

the same person because they have their own stuff to deal with [...]

You do need to kind of spread the load little bit or... if you keep going

to the same person you're emotionally draining to them" (P20)

On the other hand, several participants expressed the importance for friends to also respect their space, boundaries, and level of comfort when discussing certain topics. By the same token, they appreciated friends' sensitivity and ability to pick up on participants' cues and respecting their own boundaries.

"I feel like when speaking to them about it, they could see that I

wasn't... comfortable enough talking about it so they kind of left it but

made sure that I knew they were there for me" (P19)

In this case, one aspect of friendships that emerged from participants' experiences with self-harm was the importance of respecting each other's boundaries, this also a form of reciprocation.

4.4. DISCUSSION

The present retrospective qualitative study explored experiences of friendships and self-harm in a sample of psychology undergraduate students from a UK university who self-harmed

during adolescence. Semi-structured interviews, prompted by the Card-Sort Task about Friends (CaTS-AF), were conducted to gain in-depth understanding of the role, importance and contribution of friendships in young people's self-harm experiences over time from adolescence to young adulthood. Participants' thoughts, perceptions and experiences of friendships and their evolution throughout self-harm onset, maintenance and possible recovery, were analysed thematically.

Three themes were developed: a) *The role of friendships in self-harm progression*, b) *The role of self-harm in friendship evolution,* and c) *The meaning of friendships in the context of young people's self-harm*. The first two themes represent the influence of friendships and self-harm on one another – from each corresponding direction – emphasising the interdependent nature of the two constructs. The third theme provides an overarching commentary on the nature of friendship and its acquired meaning throughout the experience.

4.4.1. Adolescent friendships and their role in self-harm

Friendships are an important part of young people's lives. They become major sources of influence on risk-taking and health-risk behaviours during adolescence, including self-harm (Cattelino et al., 2014; Prinstein et al., 2001). During this period friends also become important sources of emotional support (Bokhorst, Sumter, & Westenberg, 2010). The experience of self-harm, the onset of which also typically occurs during adolescence, provides a unique context in which these developmentally relevant features become more salient and intertwined. The qualitative approach adopted in the present study provides novel perspectives on complex and interdependent relationship between friendships and self-harm.

First, the present findings support traditional views of friendships in the context of self-harm i.e. friends as contributors to self-harm and friends as sources of support. First, the negative

role and influence of friends' self-harm was mentioned across the majority of interviews. This is consistent with quantitative evidence that exposure to friends' self-harm in adolescence increases the risk and rates of self-harm (Jarvi et al., 2013; Copeland et al., 2019). The current study highlights potential interpersonal mechanisms that could mediate self-harm transmission, aligning with previous qualitative evidence (Smith-Gowling et al., 2018). This includes direct (e.g., coercing, suggesting, imitating, and normalising self-harm) and indirect social influence on self-harm, through increased distress and negative feelings. At the same time, the balance of quantitative and qualitative evidence unequivocally agrees that friends are also primary sources of support for self-harm (Doyle, Treacy, & Sheridan, 2015; Hall & Melia, 2023). In our sample, participants reflected on the positive contribution of friend support, including its role in reducing self-harm, increasing positive feelings and improving relationships. This highlights the value and importance placed on friendships.

The present study offers some novel insights on these distinct aspects of friendships. At the intersection between friends positive and negative influence, the complex role of friend support is highlighted. Support can contribute to both positive and negative outcomes for the receiver, generally depending on the nature of the support received (empathetic understanding vs stigmatising responses) and how it is perceived by the young person (helpful vs unhelpful). Equally, support provision may also have distinct consequences for the provider, this may include increased awareness and understanding of mental health (i.e., positive outcomes) as well as negative feelings emerging from their role (i.e., negative outcomes). The latter are typically explored within the friend qualitative literature (Bilello et al., in press (see Chapters 3 and 5); Fisher et al., 2017), but also emerged in the present findings. Interestingly, these relationships became particularly apparent when considering young people who were both providers and receivers of support i.e., individuals who self-harmed and had friend(s) who

self-harmed. In these cases, the responsibility of supporting a friend who self-harmed appeared to interact with individuals' own struggles, precipitating their own self-harm (cf. Hasking et al., 2013; Zelkowitz et al., 2017). Evidence of self-harm transmission within the context of supportive friendships proposes the reconsideration of hypothesised interactions between individual and social factors. Beyond additive effects contributing to increased risk or protection, the present findings propose non-linear (multiplicative) interactions across positive and negative dimensions, producing emergent outcomes (Prinstein et al., 2001; Whitlock & Selekman). These complex interactions between the experiences of young people and their friends also extend to friendships, whereby positive outcomes (e.g., increased closeness, mutual understanding) may be experienced alongside negative consequences (e.g., self-harm transmission). This emphasises the interrelatedness of individual, social and friendship characteristics, these evolving over time and in response to one another.

Furthermore, findings reconsider friendships as ongoing processes, rather than static characteristics (Derlega & Winstead, 2012). Particularly, friends' positive and negative influence and role may a) be present in different friends, b) co-exist within the same friend or c) evolve from positive to negative, or vice versa, within the same friendship. For instance, some participants noted that, despite the negative influence of some friends, they were able to seek support from other friendships, these becoming important for their recovery. Group therapy or online peer support may represent viable alternatives in this regard (Bailey et al., 2021; Kruzan et al., 2022). In other cases, a particular friendship may exert both positive and negative influence, for instance when self-harm becomes normative in a close-knit friendship group (Wang, Wang, & Liu, 2020). Finally, in some cases, positive and negative influences emerge sequentially, where a previously positive, supportive friendship may precipitate or

reinforce self-harm (Smith-Gowling et al., 2018). These dynamics should be explored further through dyadic studies.

Finally, it is also worth noting that a minority of participants never disclosed their self-harm to or accessed support from friends. For them, self-harm was an individual behaviour unrelated to their friendships, hence there was no need to involve friends as they considered their role to be limited. This is not an unusual occurrence since a substantial proportion of young people who self-harm (40%) report not accessing any type of support (Geulayov et al., 2022).

Overall, findings indicate that friendships are an integral aspect of young people's experiences and self-harm trajectories, whereby even the decision of not involving friends is significant and can provide valuable insight on young people's experiences. The interaction between individual, social and non-social risk and protective factors should be considered within the broader social ecology, of which friendship remains a significant but by no means the only aspect.

4.4.2. Impact of the self-harm experience on friendships

As observed, individual trajectories of risk and resilience in the context of self-harm are inherently interlinked with social experiences. Social support emerges as an important aspect to consider. This is generally compromised throughout the experience of self-harm, where subjective biases may translate to experiential barriers for help-seeking, influencing the support received. Below, this is illustrated using examples observed across the findings.

Help-seeking is dependent on having, or perceiving, that support is available (Rueger, Malecki, Pyun, Aycock, & Coyle, 2016), as well as on individual differences in need for and predisposition to seek help (Gulliver, Griffiths, & Christensen, 2010; Cacioppo, Norris,

Decety, Monteleone, & Nusbaum, 2009). On one hand, across interviews participants expressed feelings of loneliness and feeling there was no one to confide in or seek help from. This was possibly driven by feelings of shame, burdensomeness and thwarted belongingness experienced and characteristically associated with the behaviour (O'Connor & Kirtley, 2018; Rosenrot & Lewis, 2020; Endo et al., 2017). On the other hand, as indicated by typically low help-seeking rates in this population, young people may struggle to explicitly seek help and access appropriate support (Geulayov et al., 2022). This reflects the conflicting and cyclical nature of self-harm, whereby negative cognitions about oneself and others may feed into individuals' relationships and behaviours, such that individuals do not perceive support is available, reinforcing their wish to withdraw and isolate, ultimately reinforcing negative biases and further precluding support. This negative feedback loop may contribute to the maintenance of self-harm. Overall, the nature of self-harm may hinder support, not only because its effects may be concealed but also given that the associated feelings and cognitions further reduce opportunities for identification and responding.

At the same time, we observed that isolation among participants was in some cases a strategy for seeking help. This important insight may have practical implications for the identification of at-risk individuals. This particular behaviour (isolation) may represent a non-spoken language adolescents use to signal distress (Simone & Hamza, 2020). Potentially, this may result from a combination of their inability to recognise and/or verbalise such complex, difficult emotions, alongside shame and fear for others' reactions, as mentioned across interviews and within the general adolescent literature (Mullen, 2018; Long, 2018). Most importantly, it appeared that friends held a unique position to recognise and respond to these signals. On one hand, friends' unique position as same-aged peers may represent opportunities for frequent contact and the recognition of subtle behaviour changes in young people,

promoting active enquiry from friends. On the other hand, friends' shared developmental experiences may account for understanding attitudes and responses among friends, such as empathetic concern (Bilello et al., in press; Chapter 5). This unique expertise and role should however be apprehended alongside awareness of the potential for empathetic concern and support giving rise to empathetic distress among young supporters (Smith & Rose, 2011).

4.4.3. The acquired meaning of friendships

The findings discussed converge on and represent adolescents' meanings, expectations and schemas of friendships. Schemas are typically defined as representations of the self and others and the learned patterns of relationships between the two (Young, 1999). In the case of most participants, friendship schemas were influenced by and influenced self-harm in different ways, changing throughout the experience and acquiring new meanings.

Friendship characteristics, such as intimacy, trust and mutual support, have been noted within the developmental literature as contributors to friendship quality, mental health and help-seeking (Bagwell & Schmidt, 2013; Doyle et al., 2015). In the context of self-harm, the value placed on these characteristics appeared to be a) amplified, b) distorted or c) incompatible with the behaviour. Each is explained below.

First, the presence of trust, mutual understanding and shared experiences has been found to relate to help-seeking, the acceptance of support and perceptions of helpful responding in relation to peer support for mental health (Smithson et al., 2011; van Rijsewijk, Dijkstra, Pattiselanno, Steglich, & Veenstra, 2016; Kalafat & Elias, 1992). The current study found their importance was amplified in the context of young people's self-harm. Within the present sample, shared understanding through similar experiences – including self-harm and other mental health struggles – contributed to the perception of less stigmatising and more

supportive responses from friends. In other accounts, a lack of understanding from friends and the negative consequences and feelings resulting from it were noted. This mirrors research in other stigmatised populations, e.g., sexual and gender minorities, showing how these contexts emphasise the importance of these friend characteristics (Simms, 2020; McDermott, Hughes, & Rawlings, 2018). Understanding how young people ascertain perceived similarities within friendships should be explored further, given their important implications for help-seeking, mutual support and friendship quality.

Second, it is possible that young people's negative social experiences contributed to distortions in their understanding, expectations and schemas of friendship. For example, in the present findings, young people's perception of what a friend was appeared to be biased by their prior friendship experiences (e.g., dismissive responses, one-sided dynamics). This contributed to distrust, alienation and struggles to seek help from friends and others, ultimately having implications for the support they received and their self-harm (cf. van Wijk-Herbrink, 2018; Nicol, Mak, Murray, Walker, & Buckmaster, 2020). The opposite was also noted, whereby encountering supportive friends made them realise what a 'true' friend looked like, these notions being incorporated into and creating new meanings of friendships. It is important to consider this further to understand the implications of these maladaptive and distorted schemas for self-harm maintenance and cessation, as this could be a promising area of intervention.

Finally, throughout interviews, some traditional features of friendship appeared incompatible with the nature of self-harm. For instance, young people appeared to react negatively to friends disclosing their self-harm to adults. This reflects conflict within the expectations of friendships and competing interests between the young person and their friend (cf. Fisher et

al., 2017). Friends' caring responses were at odds with young people's expectations of loyalty, trust and secrecy in regard to self-harm. This reflects an additional contradiction among young people, who did not want to seek adult support despite noting its importance in light of the limitations of friend support (Klineberg, Kelly, Stansfeld, & Bhui, 2013). The mismatch in expectations may account for different outcomes and experiences for the individual, the friend and the friendship, suggesting the importance of exploring these dynamics further. This knowledge can shed light on barriers to help-seeking and how these may manifest within friendships, providing valuable insight for the development of education and prevention strategies for young people who self-harm and friends.

Overall, friendship dynamics as traditionally defined versus those experienced in the context of self-harm may be inherently different. This highlights the importance of considering the social context in which complex mental health phenomena and behaviours occur, and to consider how the latter influence the social context, and particularly friendships.

4.4.4. The temporal transition of the individual, the friend and the friendship

The findings discussed highlight that both friendships and self-harm are complex, evolving and dynamic experiences. Adopting a temporal approach, particularly through the use of the Card Sort-Task for Self-Harm about Friends (CaTS-AF), enabled exploration of the temporal pathways leading to and following self-harm in young people and thus, identifying the evolving role and experiences of friends (Townsend et al., 2016; Lockwood et al., 2023). For instance, we note that friends in our study had a prevalent role during self-harm onset and as primary sources of support following disclosure, consistent with extant evidence (Jarvi et al., 2013; Simone & Hamza, 2023). Yet, as individuals entered young adulthood, we observed that the role of friends appeared to diminish or rather, evolve.

Previous qualitative studies typically focus on a single time point throughout the experience of self-harm (e.g., onset, disclosure). In the present study, considering early, most recent and present self-harm timelines provided insight into the evolution of motivations, feelings and consequences of self-harm within the individual, as well as exploring its impact on friendships and their evolution over time. This approach helped identify and explore young people's needs at different stages of self-harm, which can potentially be translated into concrete areas for intervention.

4.4.5. Limitations and suggestions for future research

The present findings have certain limitations. First, the temporal view adopted to explore young people's self-harm experiences may only describe a limited period, from early/mid-adolescence to young adulthood. This may provide insight on a period of relevance, given that self-harm typically begins and peaks during adolescence and often declines during young adulthood (Whitlock & Selekman, 2014). However, recent research highlights earlier self-harm onset during childhood, as well as the behaviour extending beyond young adulthood (Geoffroy et al., 2022). Different friendship dynamics are observed across the lifespan, these potentially contributing to self-harm at each stage of life differently (Pica & Verno, 2012). These should be considered further to obtain a comprehensive understanding of the role and experiences of friendships.

This highlights a second consideration relating to the materials and approach used within the present study. The benefits of using of CaTS as a visual tool has been highlighted in previous research (Lockwood et al., 2020) and has been emphasised by participants in the present study. However, considering a quantitative sequence analysis of CaTS configurations, as originally intended (Townsend et al., 2016) may have provided additional information about

distinct trajectories of self-harm allowing for comparisons between participants and a nuanced insight into temporal changes.

Relatedly, it is possible that only certain self-harm trajectories were included and represented in our findings. Participants displayed positive evaluations of their current situation, both in relation to self-harm and their friendships, possibly given self-selection or desirability bias. Potentially, more severe or negative self-harm and friendship experiences may have created barriers to participation, with implications for interpreting and generalising the results observed. Individuals at higher risk are typically excluded from research. Yet, it is important to include these populations and ensuring their experiences are also represented in order to shed light on a wider range of self-harm behaviours and additional pathways of severe risk.

Representation should also be considered for two particular population groups present in the study, albeit not fully explored, namely males and sexual minorities. These two groups are documented to present a) more severe manifestations of self-harm, such as increased risk of suicide, b) specific norms around emotional needs and social support (e.g., masculinity) and c) increased barriers for disclosure and help-seeking, through additional sources of stigma (Griffin et al., 2022; Hatchel, Merrin, Espelage, & Dorothy, 2019). A number of these characteristics were described as playing an important role in participants' experiences, which should therefore be explored further.

4.5. CONCLUSIONS

The present retrospective qualitative study explored the experiences of friendships and self-harm in eleven young people who self-harmed during adolescence. The present findings provide supporting evidence for the role of friends as sources of risk, consistent with the self-harm literature (Chapter 3). Yet, they add nuance regarding the possible underlying

mechanisms including normalisation and suggestion of self-harm, as well as well as sources of protection through empathetic understanding and support. Findings expand the traditional dichotomous picture presented within the self-harm literature, further suggesting friendships can be source of complex and dynamic interactions of protective and risk processes occurring within the individual, the friend and the friendship, e.g., self-harm transmission occurring in a context of high quality and supportive friendships. These findings emphasise the importance of identifying significant relationships within the social environment of young people who self-harm. The unique role and position of friends warrants their incorporation into awareness and educational prevention strategies and interventions.

Isolation also emerged across participants as a behavioural manifestation of distress, affecting friendships and reinforcing maladaptive cognitive and relational schemas. This may represent an important risk and maintenance pathway, given that isolation may preclude support and help-seeking. Friendships emerge as a uniquely suited group to potentially recognise and respond to this signal of young people's distress. Yet, the potential risk of adopting this role should not be overlooked. This should be considered in the development, implementation and evaluation of universal awareness strategies for young people. These should acknowledge that friendship relations still occur within a larger social structure and may interact with it (e.g., parents, teachers, community). Integrating these different parts of young people's social landscape may reveal unique pathways and outcomes towards risk and resilience, and may be essential for the development of effective interventions.

CHAPTER 5.

QUALITATIVE STUDY OF FRIENDS OF YOUNG PEOPLE
WHO SELF-HARMED DURING ADOLESCENCE

The current chapter presents the second part of the qualitative investigation of friendship and self-harm experiences. In this case, individuals who identified as friends of young people who self-harmed during adolescence were included in the study. A series of aspects are explored in the present study: a) participants' sense-making of their friends' self-harm, b) participants' experiences of supporting their friends and c) the impact their friends' self-harm had on them and their relationship.

This study aims to gain understanding of an important, yet typically forgotten, population, friend supporters. Understanding the experiences of friends is the first step in ensuring their challenges are recognised and their needs met with appropriate and tailored interventions and resources. In turn, it allows consideration of a relevant, outside perspective on adolescent self-harm to understand how the behaviour pervades its social context and the lives of friends.

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ABSTRACT

Self-harm among young people is becoming increasingly prevalent. Understanding, responding and supporting young people who self-harm is vital. Friends are typically the first and sometimes only source of support sought by adolescents who self-harm. Despite their important role as confidants, friends' perspectives and experiences remain poorly understood. We conducted retrospective qualitative semi-structured interviews, prompted by an adapted version of the Card-Sort Task for Self-Harm (CaTS-FF), about the experiences of nine female young adults (18-20 years old) who supported a friend who self-harmed during adolescence. Data were analysed using thematic analysis. Four themes were developed: 1) *"I did not realise my friend was on the road to self-harm":* Friends' reactions to self-harm; 2) *"That's what friends do"*: The role of friends; 3) The impact of supporting a friend who self-harms; and 4) *"They were quite formative years"*: Reflecting on growth through the experience. The present findings highlight the complex experiences of young people supporting a friend who self-harms. Despite being willing to take on the role of a supporter, participants experienced a range of difficult emotions and consequences. The temporal transition running through the four themes reflects the evolving nature of participants' attitudes, knowledge and friendships. Overall, results highlight the unmet needs of adolescents supporting young people who self-harm, as well as identifying potential pathways to 'support the supporters' towards resilience.

Friendship and self-harm:
A retrospective qualitative study of young adults' experiences of supporting a friend who self-harmed during adolescence

5.1. INTRODUCTION

Self-harm is a complex, multi-faceted phenomenon with a *"distinctly social nature"* (Copeland et al., 2019, p. 1506). It is defined as any act of self-injury or self-poisoning, irrespective of underlying intent (NICE, 2013). Self-harm typically begins and intensifies during adolescence (Gillies et al., 2018), representing a significant concern in this age bracket, with rates ranging from 10-20% worldwide (Lim et al., 2019; Muehlenkamp et al., 2012). Self-harm rates have been steadily increasing in recent years in the UK (McManus et al., 2019). Adolescent self-harm may contribute to further health, social, emotional, and psychological difficulties, as well as increasing the risk of suicide (Mars et al., 2014; Hawton et al., 2020). Troublingly, adolescents who self-harm seldom access mental health or support services (McManus et al., 2019). Instead, they generally rely on informal sources of support, especially friends (Gillies et al., 2018; Geulayov et al., 2022). Therefore, it is important to understand the social context of adolescent self-harm, and especially the role and experiences of friends.

Adolescence is a socially sensitive period marked by high motivation to invest in peer relationships (Blakemore & Mills, 2014; Berndt, 2002). Friendship quantity, quality and support can exert positive, protective effects on mental wellbeing (Van Harmelen, Blakemore, Goodyer, & Kievit, 2021) as well as predicting lower rates of self-harm (Kasen & Chen, 2020). Adolescents who self-harm tend to first, and sometimes only, confide in their friends for support (Michelmore & Hindley, 2012). Doing so may help manage self-harm thoughts

and urges, facilitate disclosure, and encourage formal help-seeking (Giletta et al., 2015; Armiento et al., 2014). However, having a friend who self-harms is itself a risk factor for self-harm (Jarvi et al., 2013). Friends' self-harm and depression can increase adolescents' emotional distress and likelihood of self-harming (Mueller & Abrutyn, 2015; Giletta et al., 2013). Normalisation and imitation of self-harm may occur within adolescent peer groups, which may promote bonding and reinforce group identity (Jarvi et al., 2013; You et al., 2013; Young, Sproeber, Groschwitz, Preiss, & Plener, 2014). As such, evidence indicates that adolescents can impact, and be impacted by, their friends' self-harm in multiple ways (Doyle, 2017). However, despite friends' distinctively important position, their experiences and outcomes remain poorly understood (Hilt et al., 2008).

Below, we briefly summarise research exploring the perspectives and experiences of friends of young people who self-harm, before explaining the approach taken in the current study. First, research investigating general attitudes to self-harm suggests adolescents typically lack knowledge and may hold stereotypical views, especially if they have no prior experience with the behaviour (Doyle, 2017). Second, research exploring responses to self-harm disclosure shows that friends' prior experience can influence their reactions to disclosure, help provision and emotional responses (Law, Rostill-Brookes, & Goodman, 2009; Lloyd, Blazely, & Phillips, 2018). Third, studies focusing on adolescents' experiences during the process of supporting a friend who self-harms highlight willingness and obstacles to providing help, as well as negative feelings (e.g., sadness, anger, shock) and alterations in friendship dynamics (Fisher et al., 2017; Hall & Melia, 2022; Shepherd, 2020). However, to date, research has considered these time-points separately, i.e., before, during or after disclosure. Considering these different time-points on a continuum, within one study, may afford a comprehensive and integrated view of friends' evolving experiences over time. For instance, the changes in their

attitudes, role and friendship as well as the consequences of supporting a friend who self-harms.

The current study adopted an explicitly temporal, retrospective approach. Doing so allows consideration of the evolving time-course of a complex life event (Banyard, Moynihan, Walsh, Cohn, & Ward, 2010; Roach, Thomas, Abdoli, Wright, & Yates, 2021). Previous retrospective research on adolescents' experiences of bereavement by peer suicide highlights the impact and persistence of strong, negative feelings, as well as evidence that over time, individuals may come to accept the loss through supporting one another (Brent et al., 1993c; Melhem et al., 2004; Bartik et al., 2013; Labestre & Gayoles, 2021). Equivalent research relating to self-harm is scarce. Nonetheless, these important findings highlight the potential for distress and need for support among adolescent friends, reinforcing the need to better understand their experiences. To retrospectively explore friends' experiences, we used an adapted version of the Card Sort Task for Self-Harm (CaTS; Townsend et al., 2016). The CaTS is a task consisting of a pack of cards – representing thoughts, feelings, events and behaviours – which the participant selects from and sorts along a timeline to describe their own experiences of self-harm. The use of this task provided evidence of self-harm changes over time (Townsend et al., 2016). It is possible that friends' experiences co-evolve with those of the young person who self-harms. Therefore, in the present study, the CaTS for Friends (CaTS-FF) was used for participants to describe their perceptions of their friends' self-harm alongside their own experiences over time. The process of card-sorting guides participants to reconstruct the causal sequence preceding and following their friend's self-harm, as well as providing a visual aid to prompt and discuss difficult topics in a scaffolded manner (Lockwood, Townsend, Allen, Daley, & Sayal, 2020).

5.1.1. The present study

The present study took a qualitative approach to understand the experiences of young adults who supported a friend who self-harmed during adolescence, with a focus on the social aspect of such experiences. The use of retrospective semi-structured interviews, scaffolded through the Card-Sort Task for Self-Harm For Friends (CaTS-FF), enabled us to consider the breadth of friends' experiences over time, in order to:

a) Describe how participants perceived, experienced, and responded to their friends' self-harm.

b) Explore how friends influenced and were influenced by the self-harm experience, including its impact on the friendship over time.

c) Better understand the needs of adolescent supporters.

5.2. METHODS

5.2.1. Sample and Recruitment

The present sample consisted of a nine female Psychology undergraduate students (aged 18-20; M=18.78, SD=0.83) from a UK university. All except for one participant supported a female friend. Purposeful sampling was conducted to recruit participants through a university-based research participation platform in exchange for course credit as part of a larger study which took place between October 2021 and December 2021. For the larger study, recruitment material stated that participants were potentially eligible to take part if they identified as having self-harmed, or had a friend(s) who self-harmed, or both, during adolescence (age 14-17) and had access to a laptop/phone for the interview. For the present

study, only individuals who identified and preferred to talk about their experiences as friends were included. Three participants reported or suggested also having experiences of self-harm (thoughts or behaviours), but were included in the present study as they preferred to talk about their experiences as friends. The study was approved by the University of Birmingham's Science, Technology, Engineering and Mathematics Ethics Review Committee *(ERN_19-1815)*.

5.2.2. Procedure

Participants were invited to an introductory session via Zoom with the first author to receive information about the purpose and conduct of the study. Through this, they were able to familiarise themselves with the researcher and the sensitive content of the interviews and to determine whether they considered themselves eligible and comfortable to participate. Participants completed the consent form and baseline questions on Qualtrics. Consenting participants were given access to the CaTS-FF and instructions for completion. In a final online session via Zoom with the first author participants gave verbal consent and completed the CaTS-FF, which was then used as a prompt in the semi-structured interview. Interviews were audio-recorded using secure electronic and physical audio-recording devices. These lasted between 45 minutes and 1 hour and 30 minutes. At the end of the interview, participants were debriefed and signposted to appropriate sources of support.

A follow-up email was sent two weeks after the interview to prompt participants to share any thoughts or comments. Participants who responded to the email mainly emphasised the benefits of participation (Dazzi et al., 2014). The comments were not included in data analysis.

5.2.3. Study Materials

Baseline questionnaire. Participants completed a demographic questionnaire (including age and gender identity) and a baseline screening question that asked which experience they preferred to primarily talk about in the interview (i.e., their own or a friend's self-harm).

Card Sort Task for Self-Harm For Friends (CaTS-FF). The original CaTS task (Townsend et al., 2016) was adjusted to represent participants' perceptions of their friends' self-harm experiences and surrounding psychosocial and contextual elements. Additionally, given the focus on social factors, 18 new social cards were added based on previous literature and team discussions (marked with a red dot in Figure 1; Edmondson et al., 2016; Heath et al., 2009). Furthermore, 19 original cards were simplified or combined, altogether reducing the number of cards to 116. Participants were given access to the CaTS-FF through a link to Mural, an online visual collaborative space, or received a paper copy by post, depending on their preference. Participants were instructed to familiarise themselves with the cards and to pick relevant cards to represent a particular or general instance in which their friends self-harmed; these were then placed along the timeline. Participants could place a sticker on cards they did not wish to discuss, and could write their own cards for experiences that were not represented (see Figure 10).

Semi-Structured interview. The participant's arranged CaTS-FF was used as a prompt to guide discussion during interviews. The semi-structured interview schedule included questions on the following topics, in line with the research aims: a) knowledge and perceptions of self-harm and of their friend's self-harm experience, b) participants' own experience of supporting their friend, c) characteristics and evolution of the friendship, d) participants' own support

needs. These topics referenced the period during which participants supported their friend who self-harmed. Interviews lasted between 45 minutes and 1 hour and 30 minutes.

Visual Analogue Scale (VAS). Participants verbally rated their mood before and after the interview on a three-point VAS (Bad, Neutral, Good). Information from the VAS was not collected, instead it was used by the researcher to identify and act on potential distress, as in previous studies (Townsend et al., 2016).

6 Months Before	1 Month Before	1 Week Before	1 Day before	1 Hour before	My friend self-harmed	Afterwards
My friend had a problem at school	My friend received no support from caregivers	My friend wanted to push people away	My friend had an argument with their parent/ caregiver	My friend phoned a helpline which did not help	My friend did it on impulse without planning	My friend felt worse after self-harm
My friend was bullied/ cyberbullied	My friend felt worthless	My friend isolated themselves from others	My friend was angry at someone	My friend felt there was no one to turn to for help	My friend had access to means to hurt themselves	A + E staff were friendly and understanding
My friend was rejected by their friends/ peers	My friend felt sad and depressed	Someone suggested my friend to self-harm	My friend felt like a burden on people	My friend was very agitated and restless	My friend felt numb	My friend received therapy which helped
My friend felt rejected	My friend got involved with a new group of friends who self-harmed		My friend talked to a caregiver which did not help		My friend felt exhausted	My friend talked to a friend which helped
My friend felt like they did not belong	My friend discussed self-harm with their friends		No one listened to my friend or took them seriously			My friend felt accepted/ My friend felt they belonged
My friend struggled with their sexuality						My friend felt they could change for the better in the future

Figure 10: *Sample CaTS-FF task on Mural. Card colour denotes the category of an event or experience, e.g., thoughts, feelings, events, behaviours, and support/services. Blank cards are represented with a pen symbol. Crosses specify experiences the participant chooses not to talk about. Red dots denote examples of novel social cards developed by the research team for the present study and added to the original CaTS.*

5.2.4. Epistemological Position

The overarching philosophical framework driving the present research is pragmatism. This framework, placed at the intersection between realism and idealism, accepts that our understanding of the world is subjective whilst acknowledging that it can often be shared across individuals forming relatively stable patterns of reality (Morgan, 2014). Pragmatism uses a variety of quantitative and qualitative approaches similar to the present study, which combines an objective task, the CaTS-FF, and subjective semi-structured interviews. This was

consistent with the flexibility and data-driven nature of the chosen analysis method, Reflexive Thematic Analysis (RTA) is an active and organic process whereby common contextual factors across participants are identified alongside individuals' subjective interpretations and sense-making of their own individual experiences (Braun & Clarke, 2019). RTA is a subjective process in which the researcher reflexively engages with the data to generate themes. Within RTA description occurs within interpretation, both guided by researcher's own positioning, the data and the wider context in which analysis occurs (Cowie & Braun, 2022).

The first author, a female researcher undertaking a psychology doctorate research degree, undertook the interview and data analysis processes. The second author, a psychology professor with expertise in the area of self-harm, guided and assisted during data analysis.

5.2.5. Data Analysis

Data were transcribed verbatim by the first author. Nine transcripts, in which young people identified as friends or primarily focused on their experience as friends, were included in the analysis. Data were analysed using thematic analysis in NVivo v12 (QSR International Pty Ltd., 2017) following Braun & Clarke's guidelines (2019). This approach analyses and considers the breadth of subjective experiences whilst addressing concrete research questions.

The first author familiarised themselves with the data by reading and re-reading all the transcripts, which were then coded inductively line-by-line. Simple descriptive codes were applied to the transcripts and were later classified based on the content they were mainly referring to (e.g., general understanding of self-harm; friendships; own experiences). At this stage, the analysis shifted and focused primarily on the social aspects of the experience – consistent with the research aims. Interpretative codes that reflected more abstract patterns in the data were developed alongside initial themes. Subsequently, discussions within the

research team and consideration of the relevant literature were undertaken to contextualise, refine and make sense of the findings. Furthermore, a reflective diary of observations made throughout both the interviews and analysis informed the aforementioned processes as well as serving to reflect on the impact of the researcher during interviews, analysis and interpretation. Altogether, through these steps and a weekly peer-review process conducted with ET, the main ideas were defined and organised into final themes, presented herein.

5.3. RESULTS

Following the interviews, four themes were developed: 1)*"I did not realise my friend was on the road to self-harm": Friends' reactions to self-harm,* which reflects friends' initial understanding of self-harm and reaction to their friend's disclosure; 2) *"That's what friends do": The role of friends,* encompasses changes in the role of friends and friendship dynamic in response to and throughout the experience; 3) *The impact of supporting a friend who self-harms* considers the challenges and negative impact of the supporter role; and 4) *"They were quite formative years": Reflecting on growth through the experience* retrospectively reflects on personal growth attributed to the experience. These themes follow a transitional sequence, from initial reactions, through the experience of supporting their friend primarily during adolescence, to current reflections on the impact of these experiences (see Figure 11).
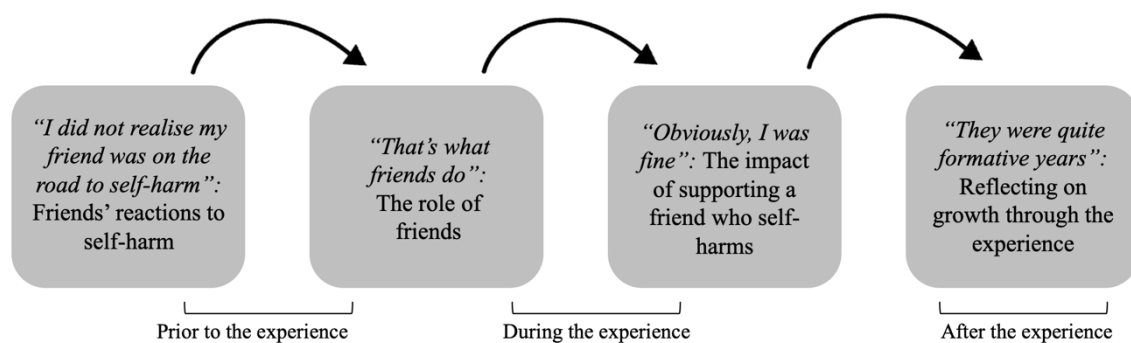
Figure 11: Supporting a friend who self-harms in adolescence: Thematic map and temporal transitions between themes

5.3.1. Theme 1: "I did not realise my friend was on the road to self-harm": Friends' reactions to self-harm

All friends interviewed reported having extensive knowledge of their friends' history and experiences. However, most participants had not expected self-harm to happen to their friend, nor did they consider their friend as 'someone who would self-harm'. This theme reflects friends' initial reactions towards self-harm and the sense-making process.

5.3.1.1. Not realising friends were "on the road to self-harm"

Participants demonstrated an awareness of their friend's negative feelings, yet they did not pick up on potential warning signs and did not realise the severity of their friend's situation*:*

> *"I mean, before, we didn't really have an idea or where this came from...*
> *we knew she was sad and she thought she was, like I said, a burden and*
> *everything. She was really anxious, but we didn't know it was ever getting*
> *to this stage of self-harm." (P1)*

This was partly related to participants' limited knowledge and lack of experience with self-harm, whereby most did not think people would want to hurt themselves. In turn, others did not consider the problems their friends were experiencing would be a reason to self-harm, as expressed by some participants.

> *"We were all quite young when this happened, so I didn't really know*
> *much about self-harm" (P12)*

"I thought it was just something that was minor problems. Not

something that was ...that made him feel that low in life that would

make him want to go through with something like that" (P14)

"I always know what's going on and the surprise comes from is the

fact that I didn't necessarily think that it was enough of a reason to do

something so serious right. [...] But at that point, you know it, it took

me unprepared because I knew there were issues but from my opinion,

you know, those were solvable" (P23)

In other cases, even when friends openly suggested having considered self-harm, participants still did not consider it disclosure.

"She kept talking about: "Oh what if I do this, what if I do that" to us like as

a friend group [...] but it wasn't really just mentioning it just randomly, we

were talking about the topic and she just mentioned it, so we didn't really

think of it as much" (P12)

These instances demonstrate that self-harm was something participants knew little about and perceived as unlikely, which led to it initially slipping under their radar.

5.3.1.2. My friend would never do that

Participants' previous assumptions and knowledge about self-harm were challenged upon realising that their friends were going through it. This led participants to question their previous beliefs, attitudes, and knowledge about self-harm and who may be at risk. Initially, some participants thought their friends *"weren't like that"*. This reflects how self-harm was seen as a behaviour characteristic of certain people, but not their friend.

"It was more like shock, like "Wait I wouldn't expect someone like you

to like do it [...] Like what are you doing this is not you"" (P12)

"I didn't have any idea that she would do that... like on her phone she

used to have like screensavers of depressing quotes and stuff, but I

used to think: "She would never do that" because she was against that

for other people" (P8)

To resolve this mismatch participants reflected upon the reasons and circumstances leading their friend to self-harm. Some suggested it was related to a sudden change in their friend's behaviour, whereby their friend was not the same as before.

A few participants suggested that their friend knowing other people who were self-harming normalised the behaviour. Therefore, without these external social influences, their friend's self-harm would have not started.

"I think just knowing that someone also had already done it made it

more normal in her head, than it actually is. And that kind of, not

pushed her to do it, but like she saw it as an option and then just took

the option [...] If she had removed herself from the friend who also

self-harmed, then that probably would have... well, it wouldn't have

started" (P16)

"She kind of got involved into a new group of friends that were more,

like, they had self-harmed, they would regularly talk about it, so it sort

of planted the seed in her head, we think... [...] I don't think she would

have ever considered it before" (P1)

Overall, this subtheme taps into participants' process of understanding their friend's self-harm. Their pre-conceptions about self-harm and its perceived external causes had implications for how they responded to it.

5.3.2. Theme 2: *"That's what friends do":* The role of friends

All participants interviewed reported having a substantial role as sources of support in their friend's self-harm experience, often more than adults and professionals. In some cases, friends became their peer's only confidant. Accordingly, participants reflected on changes in friendship roles and dynamic.

> *"So she first started talking to us, people our age, like me and my*
> *other friends and she told us so she could relate to someone" (P12)*

5.3.2.1. Friends will always be there to help

All participants demonstrated a positive and understanding attitude towards helping their friend, including emotional, instrumental and information support. Particularly, participants emphasised their wish to support their friend by being understanding, patient and without expecting anything in return. Most reflected on the importance to avoid pressuring or imposing expectations on their friends:

> *"We'd give her like constant hugs and like just, just every time ask her*
> *if she was okay even if she's not just to make sure like that she knows*
> *that she can talk to us" (P5)*

"Give them time, they honestly need time and don't be too… almost

ready, too onto them. Give them space and time but always be there

when they need you" (P12)

It is important to note that initially some participants were unsure how to respond to their friend's self-harm. Many reflected how their approach changed over time as they learned how to support their friend:

"I think from my side I was more sensitive about what I said, cause like

one could… I realised that something could be triggers and stuff" (P18)

Overall, participants felt they were an important source of support for their friend, and they were willing to take on that role and provide unconditional support.

5.3.2.2. Felt they had to 'step up' to help their friend

The experience of supporting a friend led to changes in friendship roles, reciprocity and dynamics. Participants described feeling they were almost counsellors, while some suggested feeling that friendships roles were altered or reversed.

"I became less of a friend, and more of, I don't want to say therapist, but you

know what I mean" (P16)

"It makes me feel tables have turned, because I used to look up to her and I'm

here because of her and now it's kind of the other way around" (P23)

As a consequence, some participants noted that they felt they had to step up as a friend, often because their friend had no one else. One participant recounted:

"I was just worried cause you know it looked quite bad […] I was a

close friend, but she didn't have many other people, and so I was as

like: "Alright I need to kind of step up and ask otherwise it's going

to get really bad" (P17)

In the majority of cases, participants believed they were too young, inexperienced and unequipped to deal with their friend's self-harm. At the same time, they believed individuals should seek formal help. However, whilst they wanted to notify other adults to ensure their friends received appropriate support, they did not want to betray their friend's trust and privacy.

"They need professional help and you as a friend cannot do it too

much, like maybe for short term, but the intention would still be there.

So definitely like some professional help can do more that I can for

anybody" (P23)

"I wasn't in a position to (share friend's SH with friend group)

because I know what it's like for someone to self-harm, there's a sense

of privacy and if she was as close to them as I was, I feel like that's an

invasion of who she is as a person and I feel like it would have

changed their perceptions of her" (P8)

Participants' sense of responsibility and duty to help their friend was highlighted, yet this was often accompanied by feelings of being unprepared and unequipped.

5.3.2.3. Friends parting ways

Changes in the friendship were also noted, whereby three participants mentioned parting ways with their friend. The reasons for friendships dissolving were not necessarily attributed to the self-harm *per se*. For instance, in one case it was just the product of drifting apart. Instead, for other participants it was the product of their own circumstances and mental health concerns, or a conflict with their friend.

> *"It was like a hard thing you know… cause she was basically my go-to*
>
> *person and I had to force myself not to text her, not to tell her things*
>
> *[…] We didn't just part ways because of the self-harm but because of*
>
> *what was going on in my life and how she was, you know,*
>
> *reacting to it" (P23)*

Interestingly, these three participants also mentioned having considered or enacted self-harm. Whether these two aspects were related was not addressed at the time of the interview.

Overall, these instances point at the limitations of a friend's role and potential negative emotional consequences, which in some cases led participants to step away from the friendship.

5.3.3. Theme 3: The impact of supporting a friend who self-harms

Throughout the interviews, friends reflected on how the experience impacted them and their own wellbeing, and how despite needing support, they seldom received it.

Participants described various negative emotional consequences throughout the experience.
For instance, upon learning about their friends' self-harm, participants' immediate emotional
reaction was characterised by shock, shame and regret for not realising sooner:

> *"There's also a sense of like, shame for myself, like why did I not know*
>
> *that sooner." (P8)*

> *"I kind of feel a lot of regret about the situation because […] If only I*
>
> *had known about the whole social rejection and how like angry and*
>
> *upset she was about all of it, it would have been a lot better" (P17)*

Several participants suggested feeling guilty for not initially supporting their friend. For
others, guilt stemmed from the conflict between thinking they could support their friends
more, but also wanting things to go back to normal. As participant 23 highlighted:

> *"Well it's a combination of like "Did she not trust me?" and the fact*
>
> *that maybe "You're being too selfish" and you could have been there*
>
> *so… There's always this selfish and supportive part just like fighting*
>
> *for it." (P23)*

Other participants expressed feeling angry. In such cases, this was often directed at the
situation rather than at their friend:

> *"I couldn't quite control like my rage because like seeing your friend*
>
> *going through that… it's not anger at her but anger at the situation*
>
> *that she's experiencing" (P8)*

Throughout the experience of supporting their friends, feelings shifted to being tired, drained and exhausted:

> *"I think particularly the few days after I was quite drained and tired*
> *[…] At that age it's quite young and quite hard to deal with" (P1)*

> *"It was like quite a big burden to have. […] No matter what you did*
> *you kind of felt like what you were doing was wrong… it was like, it*
> *was very like draining to do" (P16)*

Feeling anxious and uncertain of what could happen to their friend was also a recurrent thought among participants. Most suggested being conscious that it could happen again and be more severe.

> *"I think I was just more scared for her that next time it would*
> *be…more severe and you know, not knowing what happened" (P5)*

Overall, it was apparent that friends were impacted emotionally by the self-harm, their responsibility towards their friend, and concern about the consequences it could have for their friend.

5.3.3.2. *"I needed to talk about some of it with someone"*

Most participants observed that at the time, it did not occur to them to take particular steps to deal with the aforementioned negative feelings they experienced. Generally, they just accepted it or suggested feeling able to cope with the experience on their own. However, this made them feel alone and isolated.

"I don't think there was any strategies to cope, I think I was just

crying it all out because there was nothing else that I could do" (P14)

"I don't think I did much it was just a matter of processing it by

myself […] I feel like, if I wasn't okay, I would probably seek advice

online or something, but I feel like I was able to get through it okay

because I can, I think I could have dealt with it well. But it was hard

to process that alone because I would've left and spoken to a friend

about it, kind of like get their opinions about what I should do" (P 8)

Some participants suggested that being offered support in dealing with the situation could have been helpful, yet this did not always materialize:

"I think maybe support being offered to them (to friends of people

who self-harm) as well, because I think I would have benefited from

that a lot if the teacher who I said, had been like: "Oh are you okay

with like everything that happened?". Like obviously, I was fine, but I

think I needed to talk about some of it with someone" (P17)

Instead, others were able to rely on their support network, especially their friendship group. The importance of having an informal support system as well as the lack thereof was noted:

"I think I just tried to cope with it by talking to my friends and my mum

probably. […] And I think it made it less draining because we all had

each other to cope with it together. I think if I was the only person who

knew or outside the family, I think it would be a lot worse, because I

couldn't talk to anyone or like I'm not meant to tell anyone" (P5)

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Overall, participants struggled during the experience, yet the support sought and received varied from person to person. Participants consistently highlighted that support was valued and needed, whether they received it or not.

5.3.4. Theme 4: *"They were quite formative years":* Reflecting on growth through the experience

In retrospect, participants considered that the experience offered opportunities for personal growth and in some cases, strengthening of their friendships.

5.3.4.1. Learning about self-harm and mental health

Participants reflected on how having seen a close friend go through self-harm helped them acquire and develop an awareness and understanding of self-harm. One participant reflected that experiencing their friend's self-harm made them more aware of possible signs in others. Many also expressed that the experience improved their awareness of mental health in general and the fact that.

> *"I discovered more about the thought processes behind it and that,*
> *and like what it actually is. Like, to the person who is doing it, rather*
> *than just seeing it as someone, like, someone unnecessarily harming*
> *themselves" (P16)*

> *"Because before with my friend that went through with it, I never*
> *really like, I'd never heard of anyone that had self-harmed, I'd never*
> *seen anything like that. So it sort of opened my eyes up to how people*
> *feel and to check up on people" (P14)*

Overall, for the majority of participants their role in their friend's self-harm experience represented an important learning experience, which for some seemed to influence their attitudes, interests and educational choices.

> *"When this whole thing was happening, they were quite formative years because you do learn that everyone, everyone has stuff going on" (P17)*

5.3.4.2. Learning about supporting others

Given their improved understanding of mental health, most participants highlighted feeling better able to support both their friend and others. They reinforced the importance of being there for and checking in with their friends and wider social network more often.

> *"I think that if you ask someone if they're okay and they say "yeah" just ask a second time, just cause like maybe that second time they see that you do really care and they would actually come out and be like: no, I'm actually not okay." (P14)*

In turn, they also learned to be more honest with their friends and to mutually rely on one another. One participant reflected:

> *"Just be yourself and if you're having a bad day you can tell them that you're having a bad day to them as well, because then they won't feel like they're the only one in the world that has a bad day, but also they can help you as well. And it's like a good trade-off" (P1)*

Some but not all participants described becoming closer with their friend. This also seemed to expand to the larger friendship group, especially for one participant who was eventually affected by bereavement.

"I think we'll always be good friends because of that happening […]

We tried to help as much as we can and I think because of that, I think

our relationship is probably stronger than it was, maybe before" (P5)

"It hit our friendship group really hard because he was that friend

that always made us laugh and like, and that did bring us together"

(P14)

Overall, the experience was formative and, in some cases, it highlighted the impact and value of friendships, as expressed by one participant.

"Sometimes like friendship groups and who you hang out with and

involve with can greatly affect like…how you feel about mental

health" (P12)

5.3.4.3. Learning about themselves

Finally, participants suggested becoming more aware that they themselves could also face similar issues as their friends. For several participants, the experience made them reflect on their own circumstances and the importance of taking care of their own mental health and well-being was highlighted:

"The positive thing I think was about myself […] just me being in a

better place, you know, that made me realise that I could have been

way worse, let's say that. And that made me like improve my mental

health even better" (P23)

"Just remembering to take care of myself as well and remembering

what could happen, obviously it's extreme, you know…if you don't take

care of yourself, it might just, you might end up spiralling" (P5)

As a result, some suggested the experience made them stronger as they were able to develop and recognise the coping strategies and resources available to them:

"It's good to look back and realise that you do actually have

strategies. […] I can deal with this, and I have these support pillars,

and this is what I can do" (P1)

This theme highlights how, looking back on the experience, participants reflected on its formative aspects, opportunities for growth and long-lasting impact.

5.4. DISCUSSION

The present study aimed to gain an in-depth understanding of the experiences of young people who supported a friend who self-harmed during adolescence, through a retrospective lens. Psychology undergraduate students from a university within the UK were interviewed in this study, with discussions scaffolded using an objective tool, the CaTS-FF. Participants' subjective perceptions, thoughts and reflections were thematically analysed. Four main themes were developed: a) *"I did not realise my friend was on the road to self-harm"*: Friends' reactions to self-harm*,* b) *"That's what friends do:* The role of friends*"; c)* The impact of supporting a friend who self-harms; and d) *"They were quite formative years"*: Reflecting on growth through the experience. Each theme alludes to a specific stage

throughout the experience, reflecting the evolution from participants' initial understanding of self-harm, through the strategies and role adopted to support their friends, to the impact of the experience. Experiences discussed considered the period throughout adolescence and into young adulthood.

Research suggests that young people who self-harm typically consider friends the primary and sometimes the only source of support they feel able to confide in (Gillies et al., 2018; Geulayov et al., 2022). This view was shared by the friends in our sample, providing corroborating first-person evidence. Adolescent friendships have particular characteristics, such as trust, intimacy, and self-disclosure (Bagwell & Schmidt, 2013) which may be relevant in the context of self-harm.

The present results reflect that despite participants' awareness of their friend's distress and difficult circumstances, they had not anticipated self-harm. This is further demonstrated by their reactions to disclosure, including shock, surprise, and disbelief. Coinciding with qualitative studies in adults, participants reported that their friend's self-harm was unexpected and stemmed from a change in their friends, who were "not themselves" (Sweeney, Owens, & Malone, 2015). Interestingly, many participants reflected retrospectively on instances in which apparent disclosure occurred but was not recognised. The present study proposes some explanations for this lack of recognition, also observed in prior qualitative work, suggesting this may be the result of friends' wish not to overreact (Knightsmith, 2018), barriers to acknowledging a stigmatised behaviour, or misinterpretation as a casual joke or product of the context (Sweeney et al., 2015). It is also possible that friends initially lacked sufficient knowledge of self-harm to recognise it (Doyle, 2017). Understanding why some disclosures

are recognised when others may inadvertently be missed warrants further investigation to promote early intervention.

In the present study, whilst participants reported initially lacking knowledge about self-harm, common prejudices and stereotyped views about self-harm (e.g., as attention-seeking) remained in the minority, as opposed to previous studies among clinical populations (Smith-Gowling et al., 2018). Instead, friends often attributed the self-harm to factors outside of their friend's control, such as peer influence. Public perception studies suggest that perceived motivations for self-harm and attributions of causality may influence individuals' attitudes and helping behaviour (Nielsen & Townsend, 2018; Law et al., 2009). Specifically, intrapersonal motivations and external attributions for self-harm, such as it being related to mental health struggles and uncontrollable causes, lead to more helping responses from others. Instead, interpersonal motivations for self-harm, such as being attention-seeking, and internal attributions of causality lead to less pity, more anger and less willingness to provide support.

Altogether this may account for friends' sympathetic and understanding attitudes and the unconditional wish to provide support observed in our study. This was a key aspect all participants reflected upon, highlighting the strength of friendship ties during this period of life. Support came in the form of checking in with their friends and actively listening to their concerns, whilst also respecting their need for privacy and allowing them time and space to share when they felt comfortable. This approach is considered positively by young people who self-harm, highlighting concrete directions for effective support (Wadman et al., 2018; Fortune, Sinclair, & Hawton, 2008). The temporal approach adopted allowed us to reflect on how friends' responses developed over time, whereby friends' initial strong reactions

ultimately transitioned to an understanding standpoint focused on learning how to support their friend (Park, Mahdy, & Ammerman, 2021), alongside an awareness that their role has limitations (Fisher et al., 2017). This transition may underlie the resolution in the initial conflict between participants' needs (to 'get their friend back'; for their friend to cease self-harming) and the needs of their self-harming friend (Fisher et al., 2017). However, these findings stand in in stark contrast with the perceived decrease in support over time noted by individuals who self-harm (Hasking et al., 2015). Future studies combining both perspectives within a friendship dyad could shed light on the apparent mismatch between these two experiential narratives.

The aforementioned mismatch in perceived experiences might be related to the demands, costs and negative consequences associated with the supporter role (Shepherd, 2020). Plausibly, the closeness and intimacy typical of adolescent friendships led to feelings of duty and responsibility towards their friend (Hall & Melia, 2022; Shepherd, 2020). Yet, most participants mentioned feeling 'like' therapists or counsellors, alluding to a sense of being unequipped and unprepared for the role. This is a common feeling also observed across studies of friend support for general mental health issues (Roach et al., 2021; Morgan & Rossetto, 2022). Even though friend participants recognised the importance of seeking appropriate adult support, the concealed and private nature of self-harm prevented friends from doing so, as they did not want to betray their friend's trust. The need to find new ways to 'support the supporters' is an important conclusion from the current study.

Inner conflict and feelings of constant worry, anxiety and guilt were mentioned across all interviews. These are common experiences in the context of self-harm and general mental health, observed among friends (Bresin, Sand, & Gordon, 2013; Byrom, 2019), families

(Oldershaw, Richards, Simic, & Schmidt, 2008) and professionals alike (Boukouvalas, El-Den, Murphy, Salvador-Carulla, & O'Reilly, 2019). Such feelings may potentially be heightened in the former group, whose emotion regulation strategies are still developing in tandem with decreased reliance on parents vs. peers for support (Reindl, Gniewosz, & Reinders, 2016; Zimmer-Gembeck & Skinner, 2010). Therefore, coping with giving support may become increasingly difficult for adolescent friends, and it may become even more challenging in the context of self-harm given its secrecy and severity. Notably, lack of access to adult support, for their friend and for themselves, was reported by participants. In turn, friends may face difficulties in talking about their own issues with their friend who is self-harming, to avoid burdening them. This may leave friends feeling overwhelmed and unsupported. The wish to receive support for their own experiences supporting a self-harming adolescent friend is particularly noted in the current study (cf. Shepherd, 2020).

It is important to note that in this specific sample, more extreme manifestations of distress, such as self-harm 'contagion', were not often mentioned. Arguably, this may be partly attributed to self-selection bias operating at several levels, including participants with both first-person and supportive-friend experiences of self-harm electing to talk about the former. However, three specific participants stood out in the present study given that they suggested also having considered or engaged in self-harm, and also described having parted ways with their friend. This 'parting of ways' warrants further investigation as a potential strategy individuals may employ to limit personal impact from the experience and reduce the demands of their role (Fisher et al., 2017).

Despite the significant challenges and negative impact experienced at the time, the majority of individuals sampled reflected on some degree of personal growth over time and throughout

the experience. Particularly, participants noted improved mental health literacy and understanding of self-harm, which in most cases increased confidence in supporting others. For some, the experience strengthened relationships with close friends and the wider friendship group. Our findings appear to mirror the posttraumatic growth recounted by some survivors of bereavement by peer suicide (Labestre & Gayoles, 2021). This, however, appeared to be contingent upon the outcomes experienced by their friend. For instance, the majority suggested their friends had recovered or were *"in a better place"*. This may not be the case for every young person, hence pathways towards risk and resilience should be explored further.

Finally, it is important to highlight the utility of the CaTS as a tool facilitating exploration of how participants' experiences evolved over time. This facilitated the exploration of the succession of events, thoughts, feelings and consequences prior to, during and long after friend's self-harm disclosure. Friends' experiences as recounted and perceived at the time were considered alongside participants' present reflections and insight into how they made sense of their experiences over time. Particularly, the consideration of a longer timescale not only helped consider the long-term impact of self-harm on supporters, but it also highlighted barriers and facilitators in overcoming these negative feelings and potential positive outcomes or growth emerging from the experience. These have rarely been addressed in previous research (Fisher et al., 2017; Gayfer et al., 2020). In addition, the CaTS is a non-threatening, accessible tool and shared visual prompt for discussing this sensitive topic, alleviating the potential emotional impact of verbalising certain experiences (Townsend et al., 2016). In future, the CaTS could be used as a visual tool to promote perspective-taking among pairs of friends and individuals who self-harm, enabling direct mutual comparison of their

perspectives and experiences regarding the same event (Shepherd, 2020). The flexibility and adaptability of the tool presents important applications for both research and practice.

5.4.1. Limitations

These findings need to be interpreted taking into account the sample studied. Given this was a self-selected sample of psychology students, it is plausible that participants had high levels of awareness and felt comfortable discussing sensitive topics. In turn, it is plausible that participants whose experiences had been resolved in some way, were more willing to take part. Qualitative research focuses on the in-depth understanding of a particular topic among a specific subgroup, rather than generalising findings (Polit & Beck, 2010). Nonetheless, this highlights potential barriers in engaging individuals with a range of experiences, including those who preferred to maintain their friend's privacy, who did not consider themselves a close friend, or who experienced predominantly negative outcomes (Bartik et al., 2013). The experiences of self-harm across all adolescent supporters, irrespective of position, closeness and experience should be investigated further.

In turn, the sample is fairly homogeneous and limited in terms of diversity. For example, it consisted exclusively of young people who identified as female, the majority of whom supported a female friend. This aligns with evidence that females present higher rates of self-harm and of having friends who also self-harm (Copeland et al., 2019). It is not known whether these findings also represent experiences among other gender identities. This identifies an important evidence gap given that these groups may present unique friendship dynamics and barriers to help-seeking and help-provision alike (Oransky & Marecek, 2009; McDermott et al., 2018).

5.5. CONCLUSION AND RECOMMENDATIONS

Extensive literature has highlighted the importance of adolescent friends as primary confidants and supporters of young people who self-harm. However, little research has focused on their unique experiences and the long-term consequences associated with this role.

The present findings align with evidence that young people who self-harm rely on and confide in their friends for support, and we found that friends were willing to take on the supporter role. Despite initial strong, negative emotional reactions, friends' attitudes to self-harm evolved into an understanding approach focused on supporting their friend. In most cases, this led to changes in individuals' attitudes towards self-harm and mental health. However, negative feelings prevailed throughout the experience, still impacting the individual and their friendship in the present. In particular, the current study highlights an apparent mismatch between the support needs of adolescent supporters, and the support received.

Altogether, these findings highlight the need to provide support to young people, irrespective of their apparent circumstances. This could be undertaken via universal strategies aimed at enhancing young people's mental health literacy and self-harm/suicide awareness (e.g., SEYLE study; Wasserman et al., 2015). In turn, targeted intervention strategies should be developed and specifically tailored to friends of young people who self-harm. We suggest these include training in communication skills, boundaries, and acknowledging their own emotional needs and potential limitations of their role. This should be accompanied by training for professionals and families to facilitate understanding of the needs of adolescent supporters. Overall, considering the experiences of young people supporting a friend who self-harms should be at the forefront of research to bridge this evidence gap and develop better interventions.

CHAPTER 6.

LONGITUDINAL SOCIAL NETWORK ANALYSIS OF DAILY FRIEND SUPPORT AND MOOD

The final empirical chapter of this thesis applies a quantitative, longitudinal social network analysis approach to investigate the influence of adolescent friendships on mood and/or vice versa. This study maintains the temporal approach of the previous studies, adopting a shorter timescale by specifically considering daily experiences, namely supportive peer interactions and mood, across a four-day period. Contrary to the focus of the overarching thesis, the present study did not focus on self-harm given pragmatic constraints, discussed in Appendix A. Instead, it considers positive and negative mood, given that these dynamic affective states are an integral part of self-harm, either as catalysts, intended targets or consequences of the behaviour (Dillon et al., 2022; Cohen et al., 2015).

Overall, this final chapter aims to bring together the previous findings around social support to inform hypotheses in a quantitative design. Harnessing the advantages of the adopted method (SAOM), this study will consider the antecedents, consequences and possible underlying mechanisms of action of peer support in the context of adolescent mood SAOMs specifically test distinct mechanistic drivers of the relationship between social ties (here, daily supportive interactions with peers) and individual variables (here, daily mood states). Furthermore, this final study formally brings together the perspectives of young people and their friends within the same design, i.e., adopting a multi-informant perspective.

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ABSTRACT

Peer relationships during adolescence are important sources of emotional support and contributors to adolescent mood and wellbeing. Research on the relationship between adolescent mood and peer support is inconclusive, especially regarding the direction of causality i.e. how peer support can impact adolescents' mood, and conversely how mood may impact adolescents' social interactions. To address this, we applied a longitudinal social network approach using Stochastic Actor-Oriented Models (SAOMs), to explore these relationships by considering support provision and receipt separately. We gathered temporally high-resolution longitudinal data each day for a period of four days from a bounded network of female adolescents in a UK single-sex secondary school (n=111; age 13-14). Participants completed daily questionnaires of mood and supportive interactions, including who they provided support to (i.e., others self-disclosed to them) and who they received support from (i.e., they self-disclosed to others). Data analysis using SAOM focused on the temporal contiguity between mood and supportive social interactions. The characteristics of the data collected only enabled the calculation of the support provision model, showing a significant effect of mood homophily on support provision. That is, adolescents tended to provide support to (i.e., they reported receiving disclosures from) peers experiencing similar moods as them. No other significant effects were observed. Overall, these findings show evidence that individuals gravitate towards and support emotionally similar peers in everyday interactions, suggesting that daily support may happen in a context of emotional similarity. The long-term consequences of these supportive interactions, both for the provider and receiver of support, should be explored further.

**Relationship between mood and peer interactions in
an adolescent school-based social networks:
An RSiena longitudinal social network study of peer support**

6.1. INTRODUCTION

Adolescence is a key developmental period characterised by biological, psychological, social and emotional changes. At the emotional level, adolescents experience more variable daily mood, as well as an increased vulnerability to persistent patterns of negative mood and the development of mental health disorders (Thompson, Green, & Bailen, 2018; Maciejewski, van Lier, Branje, Meeus, & Koot, 2015). These emotional changes reflect adolescent cognitive and social development, as well as their responses to changing environments (McLaughlin, Garrad, & Somerville, 2015). One such change is the expansion of friendship networks, given adolescents' greater orientation towards peers for companionship, intimacy and support (Blakemore & Mills, 2014). Peer relationships are also important sources of influence on adolescent development, behaviour and health outcomes (Berndt, 1992; Wrzus, Hanel, Wagner, & Neyer, 2013). For instance, social support has been associated with young people's self-esteem, wellbeing and quality of life (Rueger et al., 2016). Specifically, a number of studies have shown that young people' overall wellbeing and daily mood are interlinked with their social context, such as feeling supported by peers (Schacter & Margolin, 2019; Turner, Cobb, Gratz, & Chapman, 2016). However, mood and peer supportive interactions in everyday contexts remain an understudied area despite their important implications for adolescent wellbeing.

6.1.1. Adolescent Mood and Wellbeing

Moods are subjective evaluations of one's feelings, typically of low intensity and generally associated with the individual rather than emerging from particular situations or triggers

(Gross, 2013; Schnall, 2011). They are considered subcomponents of affect alongside emotions, the latter being short-lived and intense responses to specific situations (Gross, 2013; Schnall, 2011). In early adolescence, individuals tend to experience high-intensity positive and negative mood, these rapidly and frequently fluctuating (Klimstra et al., 2016). Mood tends to stabilise over time, particularly during late adolescence and young adulthood (Maciejewski et al., 2015). However, this is not experienced normatively and uniformly among individuals. Some adolescents may experience persistent and unstable patterns of negative mood – alongside fewer instances of positive mood – which may be associated with the onset of mental health issues, including anxiety and depression, and self-harm (Heller & Casey, 2016; Young, Sandman, & Craske, 2019; Brereton & McGlinchey, 2020)

This evidence reinforces the importance of mood as a key determinant of adolescents' wellbeing and quality of life, as well as potentially contributing to mental health trajectories (McLaughlin et al., 2015). Variability in daily mood is dependent on the individual, the environment and the interactions between the two. Recent research on social determinants of individual outcomes revealed strong links between adolescents' daily mood and their social interactions (Block & Burnett Heyes, 2022; Peeters, Nicolson, Berkhof, Delespaul, & deVries, 2003). The social transmission of individual characteristics, such as mood, is a suitable area to be explored through the use of longitudinal daily self-report measurements within social network designs (Hill, Griffiths, & House, 2015).

6.1.2. Adolescent Friendships: Social Influence and Social Selection

One developmentally relevant feature of adolescence is peer social interactions. Peers are both facilitators of self-disclosure and support, as well as important sources of influence (Berndt, 1992; Reindl et al., 2016; Demir, Özen, Doğan, Bilyk, & Tyrell, 2011). Notably, social

network evidence points at similarities in internalising symptoms among connected peers, suggesting individual attributes may be shared across peer networks (Prinstein, 2007; Van Zalk, Kerr, Branje, Stattin, & Meeus, 2010; Rosenquist, Fowler, & Christakis, 2011). Distinct explanatory processes have been proposed for these similarities: a) social influence, of adolescents' emotional characteristics or symptoms on those of their friends, b) social selection i.e., individuals befriend others based on similar emotional characteristics or symptoms and c) unrelated external causation, whereby common external factors (e.g. exam stress) independently influence friends' emotional characteristics or symptoms, in a similar way (Rosenquist et al., 2011). Within the literature these processes have been explored in relation to daily mood and other emotional and mental health variables.

First, social network contagion of mood (i.e., social influence) describes the process whereby mood is socially transmitted and spreads across connected individuals. Within friendships, it is expected that peers who frequently interact will influence each other and become more similar in mood over time. Evidence of this 'socialisation' effect has been observed across adolescents in school and community settings for mood, depressive symptoms and self-harm behaviours (Block & Burnett Heyes, 2022; Eyre, House, Hill, & Griffiths, 2017; Van Zalk et al., 2010; Giletta et al., 2013). This phenomenon may occur via psychological conscious (e.g., co-rumination, communication; Schwartz-Mette & Smith, 2018) and unconscious processes (e.g., imitation and mimicry; Prochazkova & Kret, 2017) (Dishion & Tipsord, 2011). Evidence is inconclusive regarding whether certain moods are more readily socially transmitted than others, and whether certain individuals are more susceptible to contagion (Bhullar, 2012; Laursen & Faur, 2022).

An alternative explanation and mechanism underlying mood similarity among connected peers is social selection. Here, individuals are not influenced by their interaction partners, but rather they select their interaction partners based on their own and/or their friends' attributes (Leenders, 2013). Some examples of selection include homophily (i.e., tendency to interact or befriend similar peers), popularity (i.e., tendency for individuals with certain characteristics, for example a happy disposition, to be preferred as interaction partners) and sociability effects (i.e., tendency to have more/less interactions based on own mood) (Veenstra, Dijkstra, Steglich, & Van Zalk, 2013). Interestingly, despite influence and selection typically being conceptualised as competing explanations, the two may co-exist and operate at different time points. For example, Van Zalk and colleagues (2010) observed that adolescents initially chose to befriend individuals with similar levels of depressive symptoms (i.e., social selection). Over time, depressive symptoms increased among these connected individuals through socialisation (i.e., social influence). These findings consider more extreme and pervasive manifestations of negative mood. Whether these effects also apply to daily mood and what their underlying mechanisms are, has rarely been explored.

One possible, yet understudied, underlying process linked to peer relationships and mood changes is peer support. Adolescents tend to reach out to peers for emotional support, presumably with the expectation of mood changes following peer interaction (Roach, 2018; Dryburgh, Ponath, Bukowski, & Dirks, 2022). Friend and network characteristics (e.g., friendship quality and availability of support) have been linked to support provision, adaptive emotion regulation and positive mood (Tabatabaei, Abro, & Klein, 2018; van Rijsewijk et al., 2016; Hwang, 2021). Yet, evidence suggests peer support may differentially influence mood depending on whether the individual is a provider or receiver of support. On one hand, evidence of mood contagion following exposure to positive mood in a context of supportive

interactions has been observed among older adults (Hwang, 2021). On the other hand, despite positive mood changes among receivers, providers of support may experience a deterioration in their own mood following supportive interactions (Smith & Rose, 2011; Roach et al., 2021; Bilello et al., in press (Chapter 5). One study showed negative mood contagion among female supporters following support provision, highlighting the possible costs of support (Magen & Konasewich, 2011). Altogether, we argue that peer support may represent an important socialisation context influencing daily mood, yet the effects may vary among providers and receivers of support. In turn, what promotes support provision and receipt may depend on the characteristics of the individual, their peers and their relationship.

6.1.3. Longitudinal Social Network Analysis: SAOMs in RSiena

The exploration of social processes of influence and selection have traditionally been studied within a subdiscipline of sociology, through the use of social network analysis (SNA).

Longitudinal Social Network Analysis (SNA) studies collect data over time from groups of connected individuals (i.e., social networks). Typically, these studies gather information at the individual level (i.e., characteristics of individual participants, such as their mood, personality and mental health) and the inter-individual level (i.e., the relationships and connections between participants) (Gazelle, Faldowski, Peter, ON, & Saracho, 2014). The key tenets of SNA are actors or individuals (nodes)
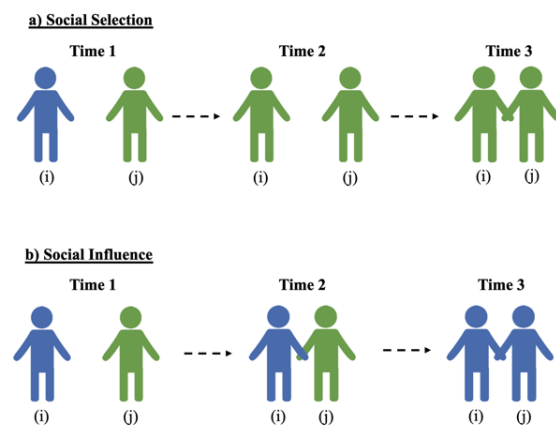
Figure 12: *Visual representation of Social Influence and Social Selection processes*

Note: Arrows indicate passage of time (i.e., unobserved changes). Letters (i,j) represent actors. Colour changes symbolise changes in mood (blue- negative; green-positive). Social interaction is represented through distance, i.e., unrelated actors are further apart and connected actors are closer together.

connected via ties (edges). Gathering such data allows the researcher to explore how social connections influence individual characteristics and vice versa, as well as how each evolve over time. Specifically, Stochastic Actor Oriented Models (SAOMs), also known as SIENA (Simulation Investigation for Empirical Network Analysis) models, are uniquely suited to longitudinally test social effects at individual, dyadic and network levels (DeLay et al., 2021). Particularly, they override the issue of distinguishability between selection and influence, typically present in traditional SNA studies (DeLay et al., 2021), as they test and control for selection and influence simultaneously. In turn, SAOMs encapsulate causal inferences and implement hypothesis-testing by formalising their effects as parameters accounting for patterns in the data. The interpretation of these parameters reflects the probabilities of change or continuity in actors' social network ties (e.g., selection) or actors' individual attribute ties (e.g., social influence; see example in Figure 12).

SAOMs have been previously used in the study of mood and peer interactions. For instance, one study by Block and Burnett Heyes (2022) utilised RSIENA to disentangle selection and influence on mood in two adolescent social networks during residential music performance tours. A strong social influence effect was found, whereby social interactions influenced both positive and negative mood (i.e. mood contagion), with this effect greater for negative mood. This provides evidence for social network contagion of mood in adolescents. However, it could also reflect the specific social network setting, i.e. communal music performance may be particularly effective for promoting social sharing of mood and bonding (Tarr, Launay, & Dunbar, 2014). For this reason, it is important to extend these findings to adolescents in a more representative setting, and to different types of social interactions. Altogether, the use of SAOMs could provide novel insights into the link between adolescent mood and supportive peer relations, especially when separately considering provision and receipt of support.

6.1.4 The present study

The evidence presented above suggests that mood can shape and be shaped by individual characteristics, social interactions and social structures. Social support emerges as a developmentally salient social mechanism related to mood, yet remains poorly understood. The present study aims to explore the relationship between peer support and daily mood, by considering the interpersonal dynamics of peer support provision and receipt.

Using a longitudinal social network approach (SAOM), the present study introduces a novel investigation of the co-evolution of mood and supportive peer interactions in an adolescent school social network. The aim was to understand how individual (mood) and interpersonal (peer supportive interaction) variables evolve and co-evolve over time, and the potential causal mechanisms underlying these relationships. Specifically, we aimed to identify a) whether individual mood differentially determines to whom adolescents provide support and receive support from and b) whether these supportive interactions differentially influence the mood of adolescent supporters and receivers. We aimed to test the following hypotheses:

1) *Hypothesis 1: Mood Homophily*

   Adolescents report providing and receiving support from peers experiencing similar mood states (van Rijsewijk et al., 2016)

   a) Adolescents experiencing positive (or negative) mood report *receiving* support from peers experiencing positive (or negative) mood, specifically:

   b) Adolescents experiencing positive (or negative) mood report *providing* support to peers experiencing positive (or negative) mood

2) Hypothesis 2: Mood Contagion

Adolescents become more similar in terms of mood to the peers they report supportive interactions with, specifically:

a) Adolescents who report receiving support from peers experiencing positive mood subsequently experience more positive mood (Hwang, 2021)

b) Adolescents who report providing support to peers experiencing negative mood subsequently experience more negative mood (Magen & Konasewich, 2011)

6.2. METHODS

6.2.1. Sample and Recruitment

Participants were 111 female adolescents in year 9 from a single-sex state secondary school in Glasgow (United Kingdom). A total of 139 participants provided parental consent and participant assent to take part in the study. During data cleaning approximately 20% of the sample was excluded, resulting in a final sample of 111 participants. All participants were female (100%) and aged 14-15 years old (M = 14.14; SD = 0.35). The majority were from an Asian background (41.44%), followed by White (36.94%), Black (12.61%), Mixed (8.11%) and unspecified (0.90%) backgrounds.

Pupils were recruited as part of a wider research study investigating the impact of an indicated group CBT intervention for depression symptoms delivered by the charity Action for Children. The present study used baseline data, i.e. collected at the pre-intervention stage. All pupils in Year 9 were invited to sign up for the present study regardless of depression symptom scores and anticipated participation in the intervention.

Given the convenience sample selected, sample size and data collection were constrained by the school's preferences and availability, thus arbitrary changes to the study, such as increasing sample and waves, were not possible. Currently, there is no method to perform power analysis for longitudinal SAOMs (Stadtfeld, Snijders, Steglich, & van Duijn, 2020). Instead, at present the approach taken is to consider previous studies adopting a similar methodology and focus. Analytical sample in the current study (i.e. the sum of participants across waves) was determined in relation to published SAOM studies reporting influence and selection effects(e.g., Block & Burnett Heyes, 2022; Pachucki, Ozer, Barrat, & Cattuto, 2015; Elmer, Boda, & Stadtfeld, 2017) The analytical sample (the sum of participants across waves) was considered appropriate for the investigation of selection and influence effects given similarities with previous studies (e.g., Block & Burnett Heyes, 2022; Pachucki, Ozer, Barrat, & Cattuto, 2015).

6.2.2. Materials

Daily Mood. Participants rated the intensity of their momentary mood on a scale of 1 (Not at all or very slightly) to 5 (Very much or extremely). Seven mood descriptors were included (cheerful, sad, upset, excited, nervous, irritable and happy) from the PANAS state+ instrument (Watson, Clark, & Tellegen, 1988) which is known to have good validity and reliability (Crawford & Henry, 2004). An approximate equal number of positive and negative mood descriptors were selected based on relevance to and comprehensibility within an adolescent sample. The choice of specific mood words was informed by previous studies, the literature on mood content categories and team discussions (Block & Burnett Heyes, 2022; Tuccitto, Giacobbi Jr, & Leite, 2010).

Daily Peer Supportive Interactions. Participants were asked to nominate and write down the names of 0-4 peers from year 9 with whom they had supportive interactions in the last 24 hours. Two supportive interactions were considered as proxy measures of receiving support (*"In the last 24 hours who did you talk to about feelings, secrets, worries and embarrassments from year 9?)* and of providing support *(In the last 24 hours who talked to you about their feelings, secrets, worries and embarrassments in year 9?)*. Previous studies have considered support broadly and from one perspective (e.g., receiver; (van Rijsewijk et al., 2016). The current questions were chosen to capture specific instances of provision and receipt of emotional support specifically, which typically occurs within a context of self-disclosure (Tichon & Shapiro, 2003; Rueger et al., 2016). The specific wording was informed by prior qualitative studies (Chapter 4 and 5)

Baseline Friendship Networks. Friendships were assessed at baseline by asking participants to nominate and write down 2-6 names of students in year 9 with whom they were friends (*"Who are you friends in year 9?"*). This was included as a constant dyadic covariate in the inferential model to account for overlap between friendship networks and daily supportive interactions.

Peer nominations were free text and participants were able to nominate any peer from year 9, regardless of whether they provided consent. However, only the names of individuals who provided informed consent were retained for the analysis, given the ethical implications of the nomination procedure (Mayeux, Underwood, & Risser, 2007).

6.2.3. Procedure

Data were collected in March 2022 over the course of one week. The baseline session was completed on the first day of the daily monitoring and gathered demographic and descriptive

participant information. The daily monitoring initially comprised 5 days, however due to errors with the data collection system, day 2 was not collected. Thus, in total the daily monitoring consisted of four days (i.e., day 1, 3, 4 and 5). Given the theoretical assumptions of the analytical approach chosen – i.e., unobserved small changes in the structure of the network occur continuously yet are observed over a discrete timeline – the exact spacing between data collection points was not expected to impact the findings (Snijders & Pickup, 2016).

Questionnaires were completed at the beginning of the school day on school tablets via Qualtrics, an online research data collection platform (Qualtrics, Provo, UT). The time of questionnaire completion was determined by school's availability and preference. Participants were instructed to complete their questionnaires in silence without conferring with their peers, but were encouraged to ask questions if needed. To ensure confidentiality, questionnaire data were anonymised. Participant responses across successive days were linked through the use of unique participant identifiers provided upon consent, namely a unique random word (e.g., house) and number (e.g., 357). Participants were instructed to write their unique identifiers every day at the beginning of each daily questionnaire.

Response rates of consenting pupils were equal to or above 70% for the first three waves (day 1, 3, 4), and 60% for the fourth wave (day 5) of data collection.

The study was approved the University of Birmingham Science, Technology, Engineering and Mathematics Ethical Review Committee (ERN 21-0787) and conformed to BPS guidelines for conducting research with human participants (BPS, 2006).

6.2.4. Data Analysis

The present study aimed to investigate the co-evolution of momentary mood and supportive peer interactions across successive days in a school year group network using longitudinal social network analysis i.e., SAOM (Snijders, Lomi, & Torlo, 2013).

Data processing and cleaning were performed on Microsoft Excel 2023 and descriptive and inferential data analyses were conducted in the statistical environment R (R Core Team, 2022). Specifically, descriptive analyses were implemented in base R and the package 'sna', whereas longitudinal social network analysis was implemented in the library 'RSiena' (Ripley, Snijders, Boda, Vörös, & Preciado, 2023). Two supportive interactions were modelled: a) receiving disclosures (Support Provision Model) and b) sending disclosures (Receive Support Model). [2]

Stochastic Actor-Oriented modelling

The primary analysis conducted in RSiena was Stochastic Actor-Oriented Modelling (SAOM). SAOMs are multinomial logistic regression models which allow the analysis of the evolution and co-evolution of networks, namely social interaction and individual networks (comprising ties between actors and particular behaviours or states; Snijders, Van de Bunt, & Steglich, 2010; Veenstra et al., 2013). In the present study, SAOMs were utilised to simultaneously investigate and control for social influence and social selection effects on mood. These investigate the co-evolution of the mood network and the provide/ receive support networks.

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[2] The word support provision/reception are terms used for simplicity. Whilst these dimensions have not been directly measured, it is assumed that self-disclosure often precedes and occurs within a context of supportive interactions (Tichon & Shapiro, 2004; Rueger et al., 2016).

These analyses hold the assumption that unobserved changes occur in social interactions and mood states between the observed data collection points. These changes are broken down to the smallest possible step within the network any given actor (participant) can take, i.e., mini-steps. Mini-steps are changes within network ties (either social ties or ties to a mood state) and can occur in three primary directions i.e., creating a tie, dropping a tie or keeping ties unchanged. For instance, within the social interaction networks, actors may provide support to a peer (i.e., creating a tie). Within the mood network, actors may decrease or drop their connection to positive mood (i.e., dropping a tie). By imputing and simulating variations in the sequence of these mini-steps, SAOMs are able to estimate the probability of change, and the direction of such changes, within any given network structure. Hypotheses are translated and formalised into SAOM parameters, each representing a distinct process influencing the sequential order of mini-steps.

In other words, each data collection point represents a snapshot of an individual's social network and mood at a certain time point. It is assumed that continuous, unknown and unobserved changes will occur in between these snapshots (or data collection points). Through the use of SAOMs we are able to test hypotheses – through formalised parameters – about the possible direction, probability and causal mechanisms underlying these unobserved changes.

Model specification

For the present study, two analyses were performed to test the primary hypotheses, resulting in two models being estimated for each type of interaction (i.e., provide and receive support). Model 1 examines the co-evolution of the social interaction network (i.e., two iterations are calculated corresponding to the two supportive interactions) and a bi-partite mood network

containing all mood words. Model 2 examines the co-evolution of these social interaction networks and two bi-partite networks, one for positive and one for negative mood.

SAOMs operate on binary networks, therefore social interactions were represented across both models by a directed adjacency matrix where values or ties between two actors could either be present (1) or absent (0) (Ripley et al., 2023). Binary ties were applied to the mood network to reflect participants' mood experiences, specifically continuous mood scores were dichotomized to reflect the presence (1 i.e., some or lots) or absence (0 i.e., little or none) of a particular mood state. Mood was dichotomised in relation to the median[3] as in prior studies (Block & Burnett Heyes, 2022). That is, individual mood values equal to or above the median were considered present (1), while individual mood values below the median were considered absent (0).

For both analyses we specified the model to consider a) structural network effects e.g., degree density, reciprocity, transitivity (these are standard to include in SAOM analysis; Veenstra et al., 2013), b) dyadic network effects, including popularity and sociability effects (these are social selection effects traditionally tested alongside homophily; Block & Burnett Heyes, 2022) and c) individual-related effects which included a dyadic covariate effect for baseline friendship status (this controls the tendency for daily nominations to be based on friendship nominations). The aforementioned effects are typically included to improve model fit and to allow appropriate inferences about social influence and selection effects. All included effects are presented in Table 1, while formalised parameters to test the primary hypotheses are explained below.

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[3] The median was calculated for each mood word pooled across all participants and all days.

Mood Homophily. This effect specifies that social interactions are determined by mood similarity (e.g., individuals provide support to individuals experiencing similar moods). In Model 1, one parameter was used to specify this effect ('from' effect). In Model 2, this effect was represented with two mood parameters, corresponding to positive and negative mood.

Mood Contagion. Social influence based on mood, or mood contagion, happens when individuals acquire the mood of their interaction partners (e.g., individuals who provide one another with support become more emotionally similar). These effects were investigated in Model 1 through one parameter ('to' effect) and with two mood parameters in Model 2.

Table 5: Summary of parameters, description and examples for full models

Effects (Rsiena Name)	Description (example)
Rate function	Frequency with which individuals have the ability to make a change in their network
Structural Effects	
Outdegree (density)	Basic tendency to send more nominations
Reciprocity (recip)	Tendency to reciprocate nominations
Transitivity (gwespFF)	Tendency to nominate peers to whom they are indirectly tied (i.e., friends-of-friends)
Transitive Triplets (gwespFF, recip)	Tendency to reciprocate nominations with peers to whom actors are indirectly tied (i.e., friends-of-friends)
Indegree Popularity (inPop)	Tendency to receive more nominations
Outdegree Activity (outAct)	Tendency to send more nominations
Covariate Effects	
Dyadic Covariate (X)	Tendency to nominate peers with whom actors have another type of relation (e.g., individuals support peers they nominated as friends)
Between-network dyadic effects	
Popularity (outPopIntn)	Tendency of actors with higher values on attribute network to receive more nominations (e.g., individuals experiencing positive mood receive more nominations)
Sociability (outActIntn)	Tendency of actors with higher values on attribute network to nominate more peers, and vice versa (e.g., individuals experiencing positive mood send more nominations)

Between-network triadic effects	
Homophily (from)	Tendency to nominate similar peers (e.g., individuals nominate peers who experience similar moods)
Contagion (to)	Tendency of values on attribute network to become increasingly similar to values of nominated peers (e.g., individuals form/maintain ties to mood states of the connected peer)

6.3. RESULTS

6.3.1. Descriptive Analysis

Descriptive analysis of the data considered mood and social interactions separately. Table 5 provides means and standard deviations of mood words aggregated across participants and monitoring days, and correlations between mood words. Across the sample and waves, average mood was moderately positive and slightly negative (based on range of scores on mood scale i.e., 1-5). In turn, all mood words were significantly correlated. All positive (/negative) mood words correlated positively and strongly with each other and negatively with all negative (/positive) mood words.

Table 6: Mean and standard deviation of all mood words pooled across all days (left columns). Scores on the mood scale range from 1 "Not at all or very slightly" to 5 "Very much or extremely". Pairwise correlations of all mood words pooled across all days (right columns).

	Mean	SD	Pairwise Correlations						
			7	6	5	4	3	2	1
1. Happy	3.16	(1.19)	0.81***	-0.38***	-0.44***	0.69***	-0.23***	-0.38***	1.00
2. Irritable	2.01	(1.28)	-0.40***	0.60***	0.58***	-0.23***	0.46***	1.00	
3. Nervous	1.88	(1.22)	-0.24***	0.50***	0.49***	-0.11*	1.00		
4. Excited	2.66	(1.34)	0.73***	-0.28***	-0.30***	1.00			
5. Upset	1.62	(0.93)	- 0.43***	0.78***	1.00				
6. Sad	1.79	(0.99)	-0.41***	1.00					
7. Cheerful	3.00	(1.19)	1.00						

*Notes. * p = 0.05; ** p= 0.01; *** p = 0.001*

Basic descriptive statistics of the four networks included in the model (i.e., baseline friendship status, provide support, receive support and mood) are presented in Table 6. On average, adolescents identified 4 peers as their friends (from a range of 2-6 friends) and identified that they provided support to or received support from 0-1 peers daily (from a range of 0-4 friends). Above half of the friendship nominations were reciprocated (59%), while only 10-30% of supportive nominations were reciprocated (see Figure 13).

Patterns of network change over the four waves, across the three daily networks are presented in Table 3. The Mood Network had adequate Jaccard Indices suggesting sufficient stability across waves. Overall, Jaccard Indices across both support networks were below recommended rules-of-thumb, particularly for Wave 1 (≥ 0.3; Ripley et al., 2023) suggesting some issues with stability. For very sparse networks (mean outdegree degrees <2), low Jaccard indices are not considered to negatively impact estimation (Ripley et al., 2023). In effect, for the provide support network, Jaccard indices, while low, were sufficient for RSIENA analysis to be

Figure 13*: Representation of Support Provision network on day 3 given higher network density (green arrows) and Baseline Friendship network (grey arrows).*

Notes. Colour of nodes represents mood valence (positive vs. negative). Mood valence ranged from -4 to+4 and was calculated as the difference between the average of all positive mood words (range 1-5) and the average of all negative mood words (range 1-5) across all participants. Positive mood is indicated by positive numbers and is represented by green nodes. Negative mood is indicated by negative numbers and is represented by red nodes. Grey nodes represent individuals experiencing neutral mood (i.e., 0) and white nodes correspond to participants whose data was missing on day 3.

performed. Instead, the receive support network presented too sparse and unstable patterns of interaction leading to instability and low-converge of the algorithm. In this case, inferential analysis could not be performed as results would be unreliable.

Table 7: Basic Descriptive Statistics for the Baseline Friendship Status Network, Provide Support Network and Receive Support Network and for Mood Network

	Wave 1	Wave 2	Wave 3	Wave 4
N	111	111	111	111
% Missing this wave	0.216	0.315	0.243	0.387
Baseline Friendship Status				
Mean outdegree	4.25			
Sd outdegree interactions	(2.28)			
% Reciprocated ties	0.595			
Provide Support Interactions				
Mean outdegree	0.36	0.57	0.44	0.46
Sd outdegree interactions	(0.80)	(0.81)	(0.79)	(0.73)
% Reciprocated ties	0.129	0.186	0.216	0.064
Jaccard Index between waves		0.132	0.333	0.406
Receive Support Interactions				
Mean outdegree	0.39	0.63	0.48	0.54
Sd outdegree interactions	(0.76)	(0.97)	(0.83)	(0.90)
% Reciprocated ties	0.118	0.167	0.300	0.270
Jaccard Index between waves		0.172	0.321	0.333
Mood				
Mean outdegree	3.44	2.84	2.52	2.62
Sd outdegree mood	(1.49)	(1.49)	(1.54)	(1.70)
Jaccard Index between waves		0.536	0.557	0.603

6.3.2. Stochastic Actor Oriented Model Results - Support Provision Model

The primary analysis utilised SAOM to explore the day-to-day evolution and co-evolution of social interaction (support provision) and daily mood, in two separate models. Model 1 considered each mood word separately (i.e., general mood model). Model 2 considered positive and negative mood as two separate submodels, where relevant mood words were aggregated into their respective category (e.g., happy, excited, cheerful included in positive mood variable) (i.e., mood valence model). Only results from the Support Provision Model are presented.

Results presented in Table 7 pertain to effects related to the primary hypotheses, namely general homophily and contagion effects (Model 1) and specific homophily and contagion (Model 2). Further effects and parameters included in the model and their interpretation can be found in Appendix F.

Model 1: General Mood Model

Model 1 considered mood selection and influence by one joint parameter each (i.e., for all mood words) (see Table 7 left columns). Results indicate a significant, positive, mood homophily effect ($p < .05$). Specifically, individuals provided support to (or received disclosures from) peers experiencing a similar mood state(s) as them. By contrast, there was no evidence that changes in mood resulted from social influence, i.e., the mood contagion parameter was not significant. That is, participants did not become more emotionally similar to the peers they provided support to. It is important to note that across other effects, covariate effects of baseline friendship were significant ($p < .001$). This indicates that daily support provision nominations were based on baseline friendship nominations, indicating that support is provided in the context of existent friendships.

Overall, results from this model suggest that dyadic mood similarity – across all mood states – determines support provision the following day. Yet, there was no evidence that support provision had an impact on adolescents' subsequent mood.

Table 8: *Results of the SAOM analysis of the co-evolution of Provide Support and Mood Networks.*

	Model 1			Model 2		
	est.	*s.e.*	*95% CI*	*est.*	*s.e.*	*95% CI*
Mood Homophily	0.385	(0.167)	[0.05, 0.72]			
Positive Mood Homophily				0.541	(0.847)	[-1.15, 2.24]
Negative Mood Homophily				0.943	(0.609)	[-0.28, 2.16]

Mood Contagion	0.060	(0.248)	[-0.44, 0.56]			
Positive Mood Contagion				-2.155	(5.715)	[-13.59, 9.28]
Negative Mood Contagion				-0.202	(0.491)	[-1.18, 0.78]

Notes. Across Model 1 and Model 2, rate parameters (1-4 period), structural network effects (outdegree, reciprocity, transitivity, indegree popularity, outdegree activity, indegree-activity), dyadic network effects (sociability, popularity) and covariate effects (baseline friendship status) were included in the full model but omitted from the present table. Mood Networks also included rate parameters (1-4 period), structural network effects (outdegree, outdegree activity), influence of negative mood on positive mood (and vice versa), and dummy variables for all mood categories.

est. = estimate. s.e. = standard error. 95% CI= 95% Confidence Interval

Model 2: Mood Valence Model

Given the effect observed above, Model 2 explored these parameters further by considering positive and negative moods separately, and their relation to patterns of mood homophily and contagion (see Table 7, right columns). For this, two sub-models were calculated for positive and negative mood respectively.

No significant effects were observed across parameters and mood categories indicating no support for our hypotheses. That is, there was no evidence of specific mood homophily and mood contagion for positive or negative moods. In these findings, we did not find evidence that adolescents provided support to peers experiencing similar positive or negative mood, nor that adolescents' positive and negative mood became more similar to that of the peers they provided support to over time.

6.4. DISCUSSION

The present study sought to investigate the relationship between daily supportive peer interactions and daily mood in a sample of female UK secondary school pupils. Stochastic Actor Oriented Models (SAOMs) were used to analyse longitudinal mood and social network data collected over the course of four days. Two models were calculated for the support

provision (other disclosure) network: a) general mood model (all mood words) and b) mood valence model (positive and negative mood).

Results from the general mood model show a significant mood homophily effect, indicating that adolescents provided support to (i.e. reported receiving disclosures from) peers who experienced a similar mood as them. However, no significant mood homophily was observed for positive and negative mood separately. Equally no significant effects of social contagion on mood were observed. Interpretations are discussed below.

6.4.1. Descriptive Characteristics of Peer Interactions and Friendships

First, descriptive findings can shed light on everyday peer dynamics and friendship configurations. Particularly, they provide a general understanding of peer supportive relationships, thus are interpreted in reference to the general adolescent literature.

At the most descriptive level, we observed that adolescents' daily nominations of support provision (receiving disclosures) overlapped with their friendship nominations at baseline (van Rijsewijk et al., 2016). This suggests that, on a daily basis, adolescents interact with and provide support to those they consider their friends (Wrzus, Zimmermann, Mund, & Neyer, 2017). This is consistent with previous findings and the adolescent literature, which suggest that social support and the ability to confide in someone are defining features of friendships (van Rijsewijk et al., 2016). Equally, it is likely that these relationships are maintained and nurtured through daily interaction and continued support (Samter, 2003). Interestingly, not all friendships were equally sought for support. This becomes apparent when comparing the average degree across both networks (i.e. number of nominations). Specifically, the support network was considerably sparser that the friendship network, presenting a fourfold difference in average degree. This mirrors the broader friendship literature which suggests that support

networks or cliques are comparatively smaller than the larger friendship group (Dunbar & Spoors, 1995). Equally, it reflects that while support may be available across multiple friendships, this is not always accessed or enacted on a day-to-day basis, i.e., adolescents may not seek support from all their friends, but may select a particular friend to reach out to on any given day (Rueger et al., 2016).

Secondly, the distinction between perceived and received support, and what it means for reciprocal supportive relationships, is worth reflecting upon. The receive support network (i.e. I disclose to another) had a considerably sparse and unstable structure, precluding inferential analysis. Consequently, findings only reflect the support providers' perspectives (in contrast to previous studies which only considered the receivers' viewpoint; see van Rijsewijk et al., 2016). Both support provision and receipt networks, including their interdependencies and the cross-network effects, should be explored further (Lusher, Koskinen, & Robins, 2013). Expanding the analytical sample or recruiting additional networks may provide enough power to explore the characteristics and dynamics of support (Stadtfeld et al., 2020). These could shed light on what ultimately defines who is part of support cliques, i.e., the individual and relational aspects favouring support provision and receipt.

6.4.2. Characteristics of Peer Supportive Interactions

Findings from the inferential SAOM analysis provide valuable insights on support provision, specifically what a) encourages adolescents to confide in their peers, b) influences adolescents to perceive they have received disclosures and c) determines to whom they provide support.

Our findings suggest that adolescents were more likely to receive disclosures from (or provide support to) peers experiencing a similar mood as them. The importance of emotional similarity has been noted in previous studies of support (van Rijsewijk et al., 2016; Sels,

Ruan, Kuppens, Ceulemans, & Reis, 2020). In the mood valence model this effect dropped below significance, thus it could not be established whether homophily was driven to a greater extent by negative vs. positive mood. This may be due to data quality and power issues, commonly found across longitudinal social network studies (Stadtfeld et al., 2020). Expanding the analytical sample and the number of observations (waves) could improve power and allow to reliably explore whether homophily effects are present for distinct mood states (e.g., sadness, anxiousness, happiness) and/or distinct valence (positive vs negative).

Further studies are recommended to understand possible social and psychological processes underlying the present results. For instance, one study suggested that having friends with average or high internalising symptoms were unique predictors of adolescents' own self-disclosure to them, whereas having friends with low internalising symptoms was related to adolescents reporting lower friendship quality and support (Hill & Swenson, 2014). It is possible that individuals experiencing negative mood may engage in negative feedback-seeking, thus choosing to interact with similar individuals to reaffirm their beliefs (Borelli & Prinstein, 2006). Instead, qualitative research suggests discomfort in seeking help (Bohns & Flynn, 2010). Thus, it is possible that shared mood may play a key role in facilitating support provision by creating mutual and reciprocal understanding, reducing possible barriers to help-seeking. Ultimately, the latter may be dependent on individual and others' characteristics as well as the functions and intended outcomes of self-disclosure. These considerations should be taken into account in future research on the psychological mechanisms operating within supportive exchanges.

Secondly, no mood contagion effects were observed, contrary to previous research in adolescent networks (Block & Burnett Heyes, 2022), depressed dyads (Van Zalk et al., 2010)

and female supporters (Magen & Konasewich, 2011). It is possible that the timeframe adopted in this study was not optimised to capture contagion effects, which have been observed to appear later than homophily effects (Van Zalk et al., 2010). Furthermore, contrary to our expectations, providing support to peers did not have a significantly negative impact on individuals' mood. It could be argued that the negative impact of support on individuals' mood may be balanced out by the positive impact of being more prosocial (Schacter & Margolin, 2019), hence explaining why no contagion effects were observed. Equally, lack of contagion effects may reflect their actual absence in this sample. It is possible that the impact of being a supporter may ultimately be determined by individuals' susceptibility, the content of disclosures, and the nature of the support provided (Rueger et al., 2016). Equally, the potential negative impact of providing support on mood may be buffered in a context of a) reciprocated, as opposed to one-sided, and b) multiple, as opposed to isolated, supportive relationships. Studies should be conducted to test these possibilities further. These could provide insight on underlying processes, such as emotional buffering and co-regulation of mood through support (Block & Burnett Heyes, 2022), co-rumination (Schwartz-Mette & Smith, 2018), and how these may distinctly contribute to social sharing of positive and negative mood.

6.4.3. Limitations

Our interpretations of the results and their meaning should not be overstated and a series of limitations in the present study should be acknowledged.

Social network studies are powerful yet remain constrained, as most quantitative research, to the constructs explored and their measurement. Peer nominations may fall short in providing nuanced information about the nature of social interactions, specifically their duration, quality

and content (Cillessen & Marks, 2017; Pemberton & Fuller Tyszkiewicz, 2016). This represents a particularly relevant limitation in the context of peer support. The depth, topics and dynamics of self-disclosure should be considered to better understand the nature of these interactions, and ultimately their role in mood and wellbeing (Vijayakumar & Pfeifer, 2020). Given competing interests of obtaining detailed information against additional burden placed on participants, it is important to develop appropriate and informative measurements that are brief, evidence based and relevant to adolescents.

The sample also presented limitations in our understanding of the experience of certain populations. First, research suggests that females are more likely to engage in self-disclosure and present a higher risk of mental health issues and negative mood (Vijayakumar & Pfeifer, 2020; Sen, 2004). Therefore, while the present study provided additional insight into this relevant group, it potentially missed important insights from other populations. Secondly, the characteristics of the networks and statistical approach may have limited understanding of some pertinent aspects of peer relationships and support. Specifically, it was not possible to explore the emotional and social impact of the absence of peer relationships and lack of support, since few isolated individuals were identified in the baseline friendship network, and isolation in the daily networks (i.e., complete absence of ties) is not accounted for within RSiena. Social isolation and withdrawal are precursors and predictors of a myriad of emotional difficulties, as well as being key warning signs of emotional distress for which emotional support could be provided (Morese, Palermo, Torello, & Sechi, 2020; Zhu, Lee, & Wong, 2021). These should be explored further among larger networks and with complementary analysis methods, given possible links to adolescent wellbeing.

6.5. FUTURE DIRECTIONS AND CONCLUSIONS

The present study set out to explore the co-evolution of daily mood and supportive interactions in a sample of female secondary school adolescents in the UK. Findings show evidence for mood homophily in support provision; specifically, individuals reported receiving disclosures from peers who experienced a similar mood as them.

Building on these present findings, several areas of future research are highlighted. One key suggestion relates to the incorporation of actual vs. perceived constructs (Brechwald & Prinstein, 2011). Evidence suggest that perceptions may often be more powerful than actual behaviour (Demir & Urberg, 2004). For instance, one study on mood similarity highlighted that perceived, rather than real, emotional similarity was associated with support being perceived more favourably, likely accounting for positive outcomes (Sels et al., 2020). In turn, evidence suggests that self-disclosures may not always be recognised by others, potentially impacting the support provided (Bilello et al., in press (Chapter 5). In the present study, actual mood through individual reports was considered, but not adolescents' perceptions of peers' mood. Instead, perceptions of others' self-disclosure were considered, but not self-reported self-disclosure (since the support receipt network could not be analysed using SAOM). Future research should adopt a multi-informant view and consider provision and receipt of support within the same study. Understanding how and whether individuals are able to recognise friends' mood states, and support offered and elicited, could provide valuable information about the social and emotional context of support provision. This could have important implications for informing peer-led interventions and improving recognition of at-risk youth.

Finally, findings underscore the powerful nature of the social network analysis approach and its particular usefulness for the exploration of interpersonal and mood dynamics. This

framework facilitates multi-informant reports on relationships, individual attributes and behaviours (Gazelle et al., 2014). The current and prior studies highlight that this approach is particularly suited for the study of relational processes, such as supportive relationships (Gazelle et al., 2014). However, it is important to consider that the sample utilised in the present study, alongside the specific timeframe adopted, presented difficulties during data collection (e.g., compliance, attrition). The presence of missing data impacted data analysis, particularly the stability of models, consequently affecting the results observed and conclusions drawn. The experience of collecting social network data raised a series of practical considerations for future research. For example, counterintuitively, extending the number and spacing of waves in order to increase the observation sample and power to detect selection and influence effects may also increase the risk of low compliance, attrition and dropout as well as increased burden on participants and schools, overall compromising data quality (Wrzus & Neubauer, 2023). In turn, the precise measures utilised (e.g., momentary mood vs. interactions in the last 24 hours) should also be carefully considered alongside the time-of-day data collection is conducted, to ensure consistency across differing timelines. Overall, it is important to develop and consider guidance for gathering longitudinal social network data with adolescent populations, especially in school contexts. This can inform decisions about ideal timeframes and measurements, useful for studies utilising this approach.

In sum, the present study introduces a novel framework for the exploration of peer support as a relational and dynamic process. The role of emotional similarity in promoting supportive interactions is highlighted in the present findings. This work sets the foundation for the consideration of the range of possible consequences and emotional outcomes emerging from supportive peer interactions. These should be investigated further in contexts of clinical relevance for adolescence, including mental health issues and self-harm.

CHAPTER 7.

DISCUSSION

7.1 OVERVIEW OF DISCUSSION

The final chapter of the present thesis first provides a summary of findings from the four empirical chapters (section 7.2). In-depth discussions of these findings are presented in three separate sections and are framed around the three primary research questions. These consider the relationship between friendships and self-harm mainly in reference to: a) existing knowledge (section 7.3); b) young people's lived experiences (section 7.4); and c) underlying mechanisms (section 7.5).

First, I will summarise results from the systematic review to provide a novel synthesis of current literature pertaining to the relationship between friendships and self-harm among young people, highlighting established relationships and knowledge gaps. Second, I present a commentary on findings from both qualitative chapters integrating the perspectives of young people who self-harmed during adolescence and of friends of young people who self-harmed during adolescence. This section aims to highlight similarities and differences between their narratives. A third section outlines explanatory mechanisms underlying relationships between friendships and self-harm and proposes new research directions to understand causal pathways. Finally, I summarise the significance, implications and limitations of the research presented within this thesis, discussing its unique contributions in relation to the extant literature alongside key recommendations to move the field forward.

7.2. SUMMARY OF FINDINGS

The overarching aim of the present thesis was to gain an understanding of friendships and self-harm in young people, in terms of roles, influence and experiences. The chapters presented consider young people who self-harm and friends of young people who self-harm. Within the mixed-methods framework adopted, each study provides specific insights into the topic ranging from a) objective perspectives within the systematic review and social network chapter, and b) subjective understandings obtained through qualitative research.

Chapter 3 presented a systematic review and narrative synthesis of the extant literature considering friendships and self-harm in young people (11-25 years old). Findings highlight evidence of friends' negative influence on self-harm, primarily through direct and indirect social influence, and of friends' supportive role. Research on friends of young people who self-harm is notably scarce, yet compellingly shows negative outcomes experienced among bereaved friends and friend supporters. Across the literature there is an evident lack of interventions incorporating friendships either as targets or components of interventions.

Chapter 4 explored the friendship and self-harm experiences of young people who self-harmed during adolescence. Findings emphasise the interdependent nature of friendships and self-harm, whereby these influence one another over time, conferring risk and protective effects. Characteristic features of friendship acquire distinct meanings, dynamics and expectations throughout the experience of self-harm.

Chapter 5 focused on the experiences of friends of young people who self-harmed in adolescence. Findings highlight that friend experiences are embedded within and transition alongside that of their self-harming peers. The role of friend supporters is associated with a

range of negative feelings, for which formal support is rarely sought, alongside positive

outcomes for friendships and improved understanding of self-harm and mental health.

Chapter 6 explored potential mechanisms of peer support and their relationship to daily

mood, using a longitudinal social network design (RSiena). Findings showed evidence for

mood homophily on support provision. That is, individuals were more likely to receive

disclosures from (and provide support to) peers who reported similar mood as them,

suggesting that emotional similarity may be a key element for everyday supportive

interactions.

The following sections discuss findings from above studies, in reference to the specific

research questions they were designed to address, alongside relevant background research and

theoretical perspectives.

7.3. WHAT IS THE RELATIONSHIP BETWEEN FRIENDSHIPS AND SELF-HARM IN YOUNG PEOPLE? THE CURRENT STATE OF RESEARCH

The present thesis considers friendships and self-harm from the perspectives of young people

who self-harm and friends. This section aims to integrate and discuss the evidence gathered

across these populations and introduces a third population emerging at the intersection

between the two. Primarily, findings from the systematic review (Chapter 3) are discussed.

7.3.2. Young people who self-harm and their friendships

The study of friendships in the context of young people's self-harm presents mixed views,

consistent with the dichotomy present among traditional theories of friendship (Berndt, 1992).

Within these theories, positive friendship characteristics (e.g. friendship quality, support) are

viewed as protective against antisocial and health-risk behaviours and as promoters of

psychosocial adjustment, whereas friends' negative characteristics account for the opposite

effects (Berndt, 1992). The findings presented in this thesis broadly mirror such a view as applied to self-harm, whereby friendships are considered a 'double-edged sword' given their protective and risk effects on self-harm (Copeland et al., 2019).

Predominantly, the largest proportion of studies in the systematic review focused on friends' negative influence on self-harm through processes of social transmission or contagion. These studies indicated that friends' self-harm was an important source of distal and proximal risk for self-harm, particularly its enaction and onset (Jarvi et al., 2013; Stänicke, Haavind, Rø, & Gullestad, 2020). This quantitative finding was echoed by young people in qualitative studies which provided further insight on underlying cognitive, affective and psychological mechanisms of risk. Alternatively, evidence of the positive and supportive influence of friends appeared scarce and superficial in quantitative research, yet emerged more clearly across the qualitative literature whereby young people reinforced its valuable impact. Overall, the exact nature of peer support, its mechanisms of action, and how these manifest across the distinct phases of self-harm (risk, ideation, enaction) remain poorly understood.

These two paradoxical aspects of friendship are generally considered separately within the literature. The results obtained in this thesis challenge this dichotomous view and propose that positive and negative aspects interact and co-occur in the context of complex behaviours, such as self-harm, and operate at distinct levels of experience, i.e., the individual, the friend and the friendship (Berndt, 1992). To reflect on this further, I highlight two fundamental issues with traditional discourses of friendships, namely the conceptualisation and study of friendships, and I propose an alternative understanding of friendships in the context of self-harm.

First, the set of assumptions and orientation under which self-harm and friendships are studied can represent a source of bias. The friendship literature is extensively dictated by the

pervasive view that friends can either be 'good' or 'bad', often based on the behaviours they display (e.g., prosocial versus antisocial behaviours e.g., drinking) (Boman & Mowen, 2019). This view is not strictly adopted by young people, who perceive friends as having positive and negative characteristics. A clear example can be drawn from the drinking literature, whereby friends have traditionally been negatively conceptualised as 'bad' influences (MacArthur, Jacob, Pound, Hickman, & Campbell, 2017). Young people acknowledge the risks of these friendships in sustaining their own drinking habits, yet recognise positive effects such as the enhancement and expansion of social relationships (MacArthur et al., 2017). This is likely the case for self-harm transmission. For instance, friends' self-harm and negative influence is typically present and has a stronger influence in contexts of support, mutual understanding and high-quality friendships (e.g., Smith-Gowling et al., 2018; Wadman et al., 2018). Whilst these friendship contexts can facilitate support, they can also promote the transmission of self-harm. This demonstrates that friendships are rather ambivalent (Bushman & Holt-Lunstad, 2009). Therefore, they are better understood in terms of having risk and protective effects, which cannot be neatly separated. Importantly, whilst these effects can occur separately across different friends, in many cases they are present concurrently or manifest sequentially over time in relation to the same friend.

These examples highlight a second source of bias in the study of friendships and self-harm. That is, research typically focuses on single dimensions or layers of friendships (i.e., individual, friend, friendship) and adopts self-harm as the only outcome. If only investigating friend characteristics or factors (e.g., friend self-harm behaviour) and their influence on specific individual behaviours or outcomes (e.g., self-harm), possible processes and outcomes occurring at the friendship level (e.g., mutual understanding, closeness) may be overlooked. For instance, maintaining self-harm may be a way of obtaining support and retaining

friendship closeness. Therefore, it is important to consider these three interrelated dimensions with the understanding that they interact in complex positive and negative ways, producing complex outcomes.

Overall, findings from the systematic review and qualitative studies propose the reconsideration of friendships as ambivalent and complex in nature. Friendships are characteristics, processes, as well as outcomes themselves (Bukowski, Motzoi, & Meyer, 2009; see Figure 14). By the same token, while self-harm is typically understood as an outcome, it can also represent a process motivated by and serving underlying social needs, such as the need
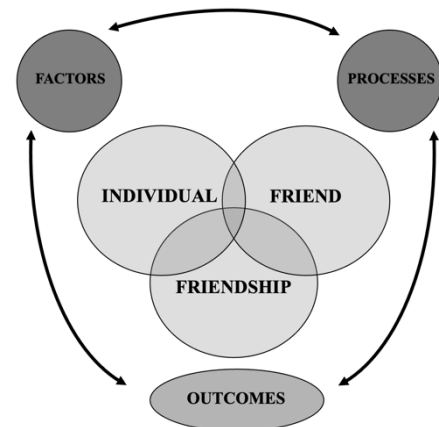
Figure 14: The Individual, the Friend and the Friendship dimensions. Factors, processes and outcomes mutually influence and occur within these three interrelated dimensions

for closeness, support and belonging (Edmondson et al., 2016; Prinstein, 2005). It is important to integrate friendships as possible outcomes alongside self-harm, particularly under the understanding that both can influence one other to meet specific underlying needs. The consideration of underlying needs can enhance our understanding of the behaviour and has important implications for interventions, given that self-harm may serve needs which need to be addressed first in order to observe improvements in the behaviour (Kong, 2019).

7.3.2. Friends of young people who self-harm

The previous considerations also emphasise the importance of friends of young people who self-harm. Findings from the systematic review suggest that friends' role and experiences, as opposed to other social groups such as family or healthcare professionals, are seldom considered within the literature. When they are, friends are typically included as sources of

information about the young person who self-harms, while rarely being the targets of research (Heath, 2016). This is at odds with evidence of friends generally being primary recipients of disclosure and providers or support for young people who self-harm – as observed across this thesis and the wider literature (Hasking et al., 2013; Rowe et al., 2014).

No less important is evidence that this population may be at an increased risk of experiencing negative outcomes likely associated to their position and role of confidants (Hall & Melia, 2022; Gayfer et al., 2020). This is well-documented in the bereavement literature. The experience of bereavement from a friend's suicide has been observed to exacerbate negative feelings, experiences of grief, mental health issues and substance use (Brent et al., 1993c; Abbott & Zakriski, 2014). In some cases, experiences of 'resolution' or 'closure' were observed among bereaved youth following the provision of timely support (Labestre & Gayoles, 2021; Cha et al., 2018). The systematic review highlighted similar negative outcomes in the friends of young people who self-harm, with and without suicidal intent (Gayfer et al., 2020; Bartik et al., 2013). However, unlike their bereaved counterparts, feelings of 'closure' may be less achievable for friends of young people who self-harm, given the repeated and cyclical nature of the behaviour and support provided (Edyta, 2012).

These findings highlight two important aspects about friends' experiences. First, the impact of exposure among friends is moderated by factors such as relationship quality and closeness, as well as the presence of pre-existing vulnerabilities (Abbott & Zakriski, 2014; Melhem et al., 2004). This suggests that the processes of support provision in the context of self-harm, characterised by intimacy, closeness and emotional sharing, may interact with friends' vulnerabilities and amplify negative outcomes among supporters. Second, the important position friends hold as confidants may prevent them from seeking help for themselves, in

light of prioritising their friends' wellbeing and confidentiality (Hall & Melia, 2022; Fisher et al., 2017). More concerningly, support seeking may be precluded not only by a supporter's struggles in acknowledging the negative impact of their role – possibly attributable to their developmental stage and comparisons with their peers' situation – but because this may also not be recognised by others (e.g., teachers, counsellors). This is further evidenced by the relative absence of research, interventions and resources for friends currently supporting young people who self-harm. Despite the availability of prevention and postvention strategies for adolescent suicide and self-harm– likely given that their need among their respective target groups is easily recognised – these resources may not be specific or tailored enough to the experiences of friend supporters. This underlines an important gap and identifies a specific subgroup of supporters consistently overlooked in research and current policy (Department of Health and Social Care, 2023).

7.3.3. The population in-between: The supporters who self-harm

Across studies, the development of self-harm within the friend population raises an important consideration, namely the existence of a third population: friends of young people who self-harm who also engage in self-harm. They represent a substantial portion of the population,
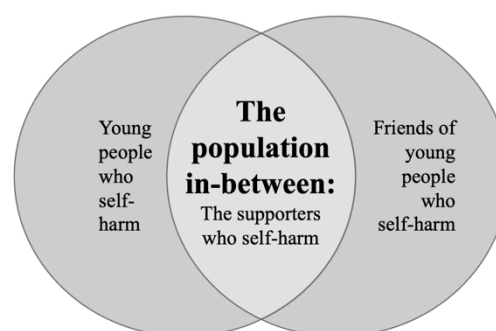
Figure 15: Representation of the population in-between: young people who self-harm who have friends who self-harm

given evidence of self-harm clusters, especially among adolescents (Benson et al., 2022). However, these are not differentiated in research and are included as part of either group. Yet, they represent a unique population with different characteristics and potentially different

trajectories of self-harm, given that they are not only exposed to the issues and outcomes associated with self-harm, but also those associated with the role of supporter. The order in which these outcomes may manifest – i.e., whether their role as supporters is a precursor of their own self-harm or a risk factor for its maintenance – should be investigated further given its relevance for understanding the social context and mechanisms of the behaviour.

Particularly, the unique profile of this population offers opportunities to gain insight into novel pathways of risk and protection, as well as providing further evidence and specific additions for the IMV model. Throughout our findings it appeared that mere exposure to friends' self-harm did not always lead to self-harm, unless it occurred in a context of pre-existing vulnerabilities or shifts in individuals' circumstances, thoughts and feelings (cf. Hasking et al., 2013; Gould et al., 2018). This is key for early identification and prevention among at-risk youth. Similarly, offering support, guidance and resources to individuals who may find themselves in a supportive role for which they feel unprepared and unsupported, is also important to minimise future risk.

7.4 EXPERIENCES OF FRIENDSHIPS AND SELF-HARM: INSIGHTS FROM QUALITATIVE EVIDENCE

The findings from the qualitative studies consider the experiences of young people who self-harm and friends of young people who self-harm. These two groups have rarely been considered together within the same study (Shepherd, 2020). Despite this being the intention in our qualitative investigation, the richness and uniqueness of the data warranted the consideration of both populations separately. The unique contributions of each study have been discussed in their respective chapters (Chapter 4 and 5). Given their methodological similarities, this section is able to integrate their findings in order to identify similarities and

disjunctions across narratives, and gain insight on relational processes and dynamics within friendships.

7.4.1. Common views on friendships and mutual understandings of self-harm

When considering the experiences of these two populations, commonalities were observed in their understandings of self-harm and their perceptions of friends' characteristics, shedding light on young people's consideration of friends as primary confidants.

One key finding observed across both studies is the importance of friends, their prominence in young people's lives and their understanding of self-harm. On one hand, friends were able to provide extensive detail of their friends' self-harm, this closely resembling the experiences shared by young people who self-harmed. This was particularly apparent in similar CaTS configurations emerging across the two populations. Notably, all participants reflected on the topic of isolation across interviews. That is, young people who self-harmed mentioned isolation as an important precursor, risk factor and consequence of self-harm as well as a help-seeking strategy to signal distress (Chapter 3). Interestingly, this signal was perceived by friends who consistently reflected on their friends' isolation, as a noticeable subtle change in their behaviour (Chapter 4). This reflects how friends' assumptions consistently and accurately matched and reflected young people's intentions. Given that adolescents typically spend much of their time with friends, the unique position of friends to readily recognise these issues becomes apparent.

Relatedly, the CaTS configurations and accounts across these two populations also closely resembled the complex structure of the IMV model (O'Connor & Kirtley, 2018). Young people and friends may hold shared knowledge and awareness of the complexity of self-harm, and the several factors contributing to and being influenced by it. This shared knowledge has

previously been observed in studies comparing the two populations (Doyle, 2017). It further reflects that peers may have a unique or enhanced ability to identify, understand and empathise with the issues experienced by their self-harming friends compared to adults, given they are going through a similar developmental stage, feelings and challenges (Roach, 2018; Mead & Copeland, 2004).

Taken together, these findings have several implications. First, it is well documented that young people encounter significant barriers in disclosing self-harm to adults, whether family or educational/health professionals, including power imbalances, distrust, and negative consequences associated with disclosure (Oldershaw et al., 2008; Klineberg et al., 2013). In contrast, the characteristic features of friendships (e.g., closeness, intimacy) may place friends in a uniquely privileged and critical position to recognise and respond to possible warning signs, which can facilitate empathetic responding and helpful support (Mead & Copeland, 2004). This may represent an underlying motivation for young people to initially confide in friends as opposed to other sources of support.

The perspectives of friends should be incorporated in research – to improve recognition of at-risk individuals and to inform prevention strategies – while their role and experiences should be acknowledged and included in practice. For instance, in the refinement of peer-led and peer support interventions for self-harm, as well as the development of interventions for friends. Importantly, the integration of friends should be critically considered in light of evidence that both populations agreed on the limitations and possible risks associated with adopting the role of supporter.

7.4.2. Conflicting views: Relationship dynamics and the imbalance of support

The multiple friendship and self-harm trajectories observed in our findings reflect that despite much shared knowledge, mismatches in perceptions, attitudes and expectations may also be present within friendships. Differences in individuals' views about the nature of friend support and its impact emerged among young people who self-harmed (Chapter 4) and friends (Chapter 5). This section integrates their perspectives to reflect on possible reasons for these discrepancies.

One interesting finding, in contrast to prior arguments, relates to self-harm recognition. Despite friends' awareness and understanding of young people's struggles across interviews, it transpired that self-harm was not an expected outcome, thus was not initially recognised nor responded to. Possible explanations for this can be speculated. On one hand, friends' general understanding of mental health and their friends' struggles may have initially been limited (and later acquired) or, despite being present, may have not translated into self-harm recognition, given its more extreme, stigmatised and concealed nature (Long, 2018). Consequently, friends may have limited awareness and knowledge about the behaviour alongside misconceptions and stereotypes about who may be at risk of self-harm, and its prevalence (Chapter 4; Doyle, 2017). On the other hand, research suggests that friends often expect young people to seek help and reach out when struggling, underestimating the discomfort this may cause (Bohns & Flynn, 2010). This is in contrast with the experience of young people who may self-harm as a form of communication and help-seeking, with the expectation that others will notice and initiate these uncomfortable conversations (Chapter 3). This mismatch in attitudes and expectations may have resulted in self-harm initially falling

under the radar and not being responded to. This was a critical observation made by both populations, with important implications for awareness and prevention strategies.

These contrasting experiences extended to differences between the support friends thought they provided (i.e. a significant contribution) and the support young people who self-harmed felt they received (non-existent, inadequate, misjudged). The topic of perceived versus received support has been widely debated, with extensive evidence suggesting that perceived support, as opposed to enacted support, is more closely related to health outcomes, including self-harm (Rueger et al., 2016). Evidence suggests that support is dependent on a) the needs of the person receiving the support and b) the resources of the supporter (Wrzus et al., 2017; Melrose, Brown, & Wood, 2015). These may be compromised in the context of self-harm with support needs typically being amplified and support resources reduced. To unpack this further, I will reflect on concrete aspects arising from the qualitative findings (Chapters 4, 5).

First, the support needs and challenges of accessing support were expressed across interviews of young people who self-harm (Chapter 4). Meeting these needs may be difficult for young people who may not have the necessary resources to deal with personal struggles (e.g., emotion-regulation strategies; Andover & Morris, 2014). Furthermore, relying on others such as friends for support may be hindered by the experience of self-harm. Self-harm – and the associated changes in mood – may distort and alter young people's perceptions of themselves and others (e.g., feeling unloved, burdensomeness; Pilkington, Younan, & Bishop, 2021). On one hand, this may account for barriers to help-seeking, the behaviour remaining concealed and ultimately, access to support being precluded. These are likely to happen when adolescents are most in need, thus contributing to feeling that their needs are not met. On the other hand, these distorted perceptions and negative cognitive biases may account for the

support received not being perceived as helpful. This should be investigated further given evidence that satisfaction with social support is protective for self-harm (Rossow & Wichstrøm, 2010).

Second, difficulties in providing helpful support were also noted by supporters, the contributions and resources of which may be a) limited, b) overestimated or c) in contrast with receivers' needs. Friends noted initially having limited mental health literacy, skills and resources to effectively respond to self-harm, suggesting not feeling qualified to take on the role of supporter (Chapter 5). This potentially resulted in support not being experienced as appropriate by young people (Roach, 2018). Second, it is possible that friends may have overestimated the usefulness of the support provided, this likely attributed to the egocentric bias characteristic of adolescence (Riva, Triscoli, Lamm, Carnaghi, & Silani, 2016). Finally, across both populations it appeared that the type of support provided was incompatible with the needs of young people. Examples mentioned across interviews include overreaction, overprotectiveness, and disclosure to adults (Chapter 4). Contrasting views regarding the appropriateness of these responses may stem from competing interests between the friend and the young person (Fisher et al., 2017). For instance, friends may perceive disclosure to adults as necessary to ensure appropriate support can be accessed, whilst loyalty and privacy in concealing self-harm may have been expected from young people (cf. Fisher et al., 2017); (Hall & Melia, 2022). Altogether, it is necessary to consider how individuals' needs and supporters' capabilities interact together and account for distinct outcomes among young people who self-harm and friends. This can allow identification of areas needing further improvement, particularly in regards to the resources and support provided to young people.

Overall, the results from the qualitative chapters (Chapter 4 and 5) indicate that young people who self-harm and friends have a shared understanding of the experience of self-harm. Yet, possible discrepancies were also apparent given their differing expectations and needs, these having implications for self-harm, its evolution and impact.

7.5 FRIENDSHIP MECHANISMS OF SUPPORT AND FINDINGS FROM RSIENA

The field of self-harm has greatly benefited from the development of predictive models capable of identifying at-risk individuals, predict who will develop self-harm thoughts and behaviours (and when) as well as informing the development of interventions (Suicidal Behaviour Research Laboratory, 2016). However, research is currently predominantly descriptive and mechanisms have been far less explored (Klonsky, 2007).

Mechanisms are processes defined in terms of the outcome they produce (Hedström & Ylikoski, 2010). In the social sciences, mechanisms are the causal processes producing a phenomenon, which are broken down into smaller low-level processes (Povich, 2021). Low-level processes in psychology can refer to interrelated components of cognitive, psychological, social or behavioural nature (Krickel, 2017; Hedström & Ylikoski, 2010). In our review of the literature, high-level mechanisms are identified (e.g., social contagion, social support) which can help set the direction for research and consider general trends and patterns. Yet, these may result in simplistic mechanistic based explanations of self-harm. Hence, the underlying functioning of these overarching mechanisms through low-level processes (e.g. verbal communication, shared stress) should be explored further. These can provide an in-depth understanding of the relationships of interest, as well as representing viable targets for intervention.

Given that mechanisms were a primary focus of the thesis, this section gathered evidence across all the empirical studies. The mechanisms identified in the literature (Chapter 3), experienced by young people (Chapter 4 and 5) and tested in the present thesis (Chapter 6) are discussed in the following sections.

7.5.1. Risk mechanisms of social influence

A large portion of the literature focuses on mechanisms of peer influence, primarily the role of exposure to self-harm leading to the social transmission of the behaviour among friends (i.e., contagion; Jarvi et al., 2013). Evidence has been observed across the systematic review and qualitative chapters emphasising the strength and robustness of this effect (Beck et al., 2018; Seong et al., 2021). Social influence is a particularly potent contributor to self-harm onset, the underlying low-level processes of which remain largely unknown (Stänicke et al., 2020).

Qualitative accounts propose distinct pathways through which friends influence self-harm. Several mechanisms mentioned revolved around suggestion, normalisation, and imitation of self-harm (Chapter 4). These may reflect distinct processes of influence consistent with the intrapersonal and interpersonal functions of self-harm (Prinstein, 2005). For instance, we observed that young people exposed to friends' self-harm may be influenced to engage in self-harm as a coping strategy to deal with their own struggles (i.e., intrapersonal functions adopted through social influence; Chapter 4). Equally, exposed friends may engage in self-harm upon seeing others' supportive responses to their friends' self-harm. In this case, self-harm may be used to communicate struggle and emotional pain and potentially obtain support (i.e., interpersonal functions of self-harm; Prinstein, 2005). A distinct, and more indirect, pathway of social influence considers the implications of self-harm exposure, specifically when this is accompanied by support provision. The findings presented throughout this thesis

have emphasised the impact of supporting a young person who self-harms, which in itself becomes a stressor and source of vulnerability for friends, eventually contributing to their own self-harm (cf. Smith-Gowling et al., 2018).

These examples allude to social processes – such as suggestion, normalisation and contagion – interacting with individual factors. Particularly, individual risk and vulnerabilities may have been already present among both members of the friendship or may emerge, including as a result of providing support. This should be taken into account in clinical practice, especially when coming into contact with young people who self-harm it is necessary to identify key relationships within their social environment who may also be or come into risk. Altogether, these examples mirror evidence that social influence is stronger for self-harm onset, while the behaviour is later maintained to address intrapersonal needs (Jarvi et al., 2013). This is an important area for consideration given the implications that self-harm, sometimes being an isolated occurrence product of experimentation and social influence, can be further adopted and maintained to fulfil intrapersonal functions among individuals at risk.

Importantly, what these examples suggest is that friends' negative influence interacts with the individual in multiple complex ways resulting in self-harm. Research should not reduce this nuance to mere exposure to friends' self-harm, and should focus on establishing concrete pathways of influence.

7.5.2. Protective mechanisms of social support

The study of friend support has generally found strong evidence for its positive and protective effects, specifically across qualitative evidence (Shepherd, 2020; Smithson et al., 2011). Across studies presented in the systematic review, friendship factors adopted distinct roles across mechanistic models, reflecting their direct and indirect protective contributions to self-

harm (Chapter 3). However, these possibly distinct social factors were all described under the same term, namely peer support. This is partly explained by the conceptualisations of peer support as one characteristic of individuals' social environment (e.g., feeling supported, having supportive friends), rather than a multicomponent relational process impacting individuals (e.g., type of support, supportive interactions) (van Rijsewijk et al., 2016).

Peer support as a high-level mechanism is not sufficiently conceptualised or described to discriminate the distinct factors, effects and pathways of influence on self-harm. The multiple roles and characteristics of peer support explored in the literature acquire meaning when considered in the context of the IMV model (risk, ideation, enaction). For example, peer support may represent a distal environmental variable reflecting high quality friendships, capable of buffering the effects of risk factors typically associated with self-harm and suicidality (Tham, Ibrahim, Hunt, Kapur, & Gooding, 2020). Proximally, support may represent social connectedness, thus becoming a motivational moderator potentially reducing negative mood and feelings of burdensomeness and thwarted belongingness (i.e., ideation; (O'Connor & Kirtley, 2018; Snir et al., 2018). Finally, other possible mechanisms point at support in the form of distraction which can momentarily reduce self-harm thoughts and urges (i.e., influencing possible enaction).

One of the primary premises of the IMV is the recognition that ideation and enaction have fundamentally different mechanisms and factors. As discussed throughout the present thesis, little is known about peer support. It is essential to understand how friend support is translated into supportive interactions to establish whether (and which) specific types of support (e.g., emotional, distraction) influence distinct manifestations of self-harm (e.g., thoughts, behaviours) or whether the latter are the result of emotional consequences of the aftermath of

support. This should be investigated through causal designs to test possible mechanisms of action of peer support operating across the IMV phases in order to predict outcomes for young people and friends.

7.5.3. The introduction of mechanisms of protection and risk: Support and emotional similarity

Previous sections highlight that risk mechanisms are uniquely distinct from protective mechanisms occurring within friendships. However, these intersect in the context of support, whereby the effects of friend support may be sources of both risk and resilience.

One hypothesised low-level process explaining the relationship between friend support and its distinct outcomes, is mood states. The relationship between supportive interactions and daily mood was mechanistically explored and tested in Chapter 6. Reflecting on these findings in the context of self-harm may shed light on potential explanations of risk and protection of support considered in earlier sections (section 7.3). First, findings in this study did not find evidence of peer support contributing to positive or negative mood in everyday interactions, contrary to previous evidence (Snir et al., 2018). However, the presence of homophily indicated that adolescents provided support to peers experiencing similar mood states. This can be interpreted in multiple ways in relation to the long-term changes and outcomes occurring at the individual, friend and friendship levels.

At the individual level, homophily may result in two contrary outcomes. In the context of shared positive mood, peer support may represent a general protective mechanism operating multiplicatively (consistent with the General Benefits Model; Rueger et al., 2016). That is, positive mood is protective for mental health, general wellbeing and self-harm. These effects are likely amplified in the context of supportive interactions. That is, positive mood may

contribute to support being perceived and experienced more positively within the friendship, thus potentially contributing to added protective benefits. Instead, negative mood and potentially self-harm can represent acute periods of stress (Stress-Bufferring Model; Rueger et al., 2016). In this case, emotional similarity may be particularly important for promoting self-disclosure, understanding attitudes and support, potentially ameliorating negative mood and self-harm (Snir et al., 2018). However, it may also lead to co-ruminative processes maintaining negative mood among both individuals. This latter could also reflect or contribute to the reinforcement of self-harm behaviours within friendships, or evidence of friends self-harming together (Heath et al., 2009). Future research should consider how emotional similarity is recognised within friendships, whether it is through the act of verbal disclosure or through non-verbal cues. This can shed light on barriers and facilitators of help-seeking alluded to in qualitative chapters and previous sections (section 7.4).

At the friend level, the possible presence of homophily and emotional similarity may explain young people's reliance on specific friends for support, consistent with the idea of mutual understanding presented in Chapter 4. That being the case, it is possible that friends' shared negative mood or vulnerability, may inadvertently contribute to their exposure to potential transmission of distress and self-harm (Giletta et al., 2013). Emotional similarity may represent a salient mechanism through which support may lead to self-harm transmission, as suggested in previous chapters (Chapter 4 and 5). The mechanisms of risk among friend supporters should be further explored in relation to a wider range of possible negative outcomes beyond self-harm, including psychopathology and emotional difficulties.

At the friendship level, shared characteristics or homophily are typically known to influence friendship formation and maintenance (cf. Kandel, 2017). However, self-harm may disrupt

these traditional friendship dynamics. Particularly, the experience of self-harm may contribute to emergent dissimilarities (in mood or self-harm) within friendships. Such dissimilarities may be responded to in different ways at the friendship level, possibly contributing to distinct friendship trajectories. One possibility is friendship termination, whereby differences in self-harm, thoughts and feelings and how these are responded to by friends may contribute to friendship dissolution, as observed in previous studies (Chapter 4 and 5). In some cases, it is possible that the importance of friendship durability, commitment and support may override homophily effects, i.e., dissimilarities in mood and self-harm between young people and their friends become less relevant for friendship maintenance over time. This mirrors the views expressed by young people across qualitative studies, whereby they noted that friends remained supportive despite possible differences, this ultimately contributing to the strengthening of friendships (Chapter 4 and 5). Considering whether the aspects of friendships being reinforced are enough to buffer potential detrimental consequences among supporters (e.g., negative feelings) and young people who self-harm (e.g., self-harm transmission), needs to be investigated further.

Altogether, these represent distinct contextually relevant pathways towards risk and resilience, which can be translated into concrete mechanistic testable models.

7.6 LIMITATIONS AND KEY ISSUES RAISED IN THE THESIS

The findings discussed in the present thesis should be apprehended in light of general limitations. While specific concerns have been raised within each chapter, this section summarises limitations and issues present across chapters.

7.6.1 Sample Limitations and issues around recruitment

First, one particular challenge identified throughout the present thesis relates to the sample recruited. Across studies, sampling biases are noted, these possibly compromising the quality of the data and generalisability of the results. A potentially more serious issue is self-selection bias across the qualitative studies, resulting in over-representation of the experiences of individuals with particular characteristics (e.g. high level of education, positive resolution of self-harm/support trajectory). Consequently, other experiences may have been missed, especially those of at-risk marginalised populations and individuals with more severe or negative experiences (Polanco-Roman & Miranda, 2022). The importance, yet difficulty, of including individuals at high-risk is a common consideration in the field of self-harm (Nock et al., 2021). It is important to explicitly recruit these populations (e.g., stating that all experiences are welcomed), consult them to understand the best strategies to facilitate their participation (e.g., consider potential barriers) and to implement appropriate safety measures to ensure resources and support are available for participants (Nock et al., 2021). This could shed light on how more difficult friendship dynamics may contribute to long-term negative outcomes in providers and receivers of support.

7.6.2. Timeframe within sequential mixed methods

The present thesis focused on young people's experiences, yet distinct timeframes were adopted throughout the studies. For instance, the qualitative studies intended to capture the self-harm experience ranging from onset to maintenance and possible recovery. Adopting this timeframe allowed the researcher to obtain an overarching view of the trajectory of self-harm and friendships, at the cost of possible retrospective biases (Neusar, 2014). By contrast, the study presented in Chapter 6 gathered data over four days. In this thesis, translating findings and proposed mechanisms between studies conducted at different timescales, rather than

enabling in-depth exploration of the processes of interest, may instead have resulted in examination of distinct phenomena. However, it could be argued that both are necessary steps of knowledge production. General explanations derived from adopting broad timeframes can be explored through taking more micro timeframes to tap into refined, low-level explanatory processes. In turn, each of these processes may be relevant for different phases of self-harm, ideation and enaction, also occurring on distinct timescales. The field of self-harm still presents discrepancies regarding the ideal timeframe to be adopted in the study of the behaviour, its affective and cognitive aspects. The study of peer interactions and mood presents similar caveats. Establishing the appropriate timescale for outcomes of interest is essential to obtain informative findings about the phenomena of interest. Whilst potentially considered a limitation, adopting a combined broad and fine-grained view through qualitative and RSIENA studies represents an initial step in this process.

7.6.3. Levels of measurement: Friendships and self-harm

Beyond the different timescales considered, we also observed distinct levels of measurement for the primary constructs: friendships and self-harm. This is an issue identified within the self-harm literature considered in the systematic review, as well as the studies conducted in the present thesis.

Friendships are multidimensional, yet studies may only be able to tap into one aspect at a time (e.g., friend characteristics, friendship quality). This may be problematic given the presence of distinct friendship constructs, ranging from the individual (e.g., friend characteristics), the dyad (e.g., friendship interactions) and the friendship context (e.g., friendship environment). The same can be said for self-harm, whereby its behavioural manifestation is typically accompanied by feelings and cognitions (e.g., fleeting thoughts, intense thoughts, and urges).

The latter are typically overlooked, despite potentially being those most proximally impacted by social factors, as suggested in the IMV model (O'Connor & Kirtley, 2018).

The qualitative methodologies utilised in the present thesis allowed the possibility of considering individuals' overarching understanding of these constructs, and specifically the dimensions most related to their experiences. However, it did not allow to draw direct parallels nor establish causal pathways between these. Equally, while specific outcomes can be measured through quantitative studies, it typically becomes more difficult to account for all possible dimensions of friendships or self-harm. Basic research needs be conducted to determine which aspects of friendship are most closely related to each dimension of self-harm. This is an initial step into understanding causal mechanisms and developing a more refined understanding of the relationships between these constructs.

7.7. RECOMMENDATIONS FOR FUTURE RESEARCH

As emphasised across the chapters of this thesis, friendships have a unique role and position in self-harm. This thesis advocates for greater consideration to be paid in self-harm research to young people's social context and relationship systems, in particular their friendships.

As outlined in the systematic review, research on friendship and self-harm needs methodological advancement in measures of friendship to capture its multidimensional nature. At the same time, this should be accompanied by the consideration of self-harm thoughts, urges and behaviours. Research is recommended to replicate key findings and map causal mechanistic pathways between specific friendship aspects (e.g., quality, interpersonal processes, friend behaviours) and particular dimensions of self-harm (i.e., NSSI, suicidal ideation, self-harm thoughts and urges). This should be informed by considerations of appropriate timeframes for their study. For instance, the impact of general support (e.g., high

quality of friendships, perceived support) may operate on long-term outcomes such as intensity or time-course of self-harm, while particular supportive behaviours (e.g., distraction) may operate on smaller timescales, such as self-harm thoughts and urges.

Additionally, friendships should be studied as systems and processes composed of mutually influential entities (Brown & Larson, 2009; Berndt, 1992). Specifically, research should consider the *individual*, the *friend* and the *friendship* (see section 7.3; Figure 14). This is particularly relevant in light of evidence of juxtaposing effects occurring across these multiple dimensions. Relationship dynamics within the context of self-harm should be explored further, particularly, the tension emerging between negative influence and social support. Dyadic studies, observation and coding of support exchanges within naturalistic settings, alongside qualitative work may support this initial understanding (cf. Shepherd, 2020). Similar research should consider supporters' outcomes and pathways of risk in this group.

Relatedly, the study of mechanisms needs to be expanded as suggested in this thesis and previous work (Crudgington et al., 2023). Several well-established mechanisms have been observed in Chapter 3 (e.g., self-harm and mood contagion). These should be a) replicated across populations, b) conducted over larger and smaller timescales and c) tested using appropriate methods (e.g. RSiena). Furthermore, the identification and preliminary study of low-level processes should be incorporated. Possible directions include the study of verbal and non-verbal influence mechanisms, social influences on mood, and support mechanisms.

Finally, given young people's use of social media and technology for peer communication, understanding the social dynamics occurring across online spaces and their relation to self-harm is of primary importance (Mihailidis, 2014; Marchant et al., 2017). This is an aspect particularly emerging across the synthetised literature, highlighting its potential relevance for

future research (Chapter 3). Particularly, evidence points at possible risks associated with unregulated online content and self-harm promotion, alongside possible opportunities for protective effects through online interventions (Marchant et al., 2017). Online spaces provide a series of opportunities for the study of friendships and self-harm, including the exploration of a) existing offline relations adopting new dynamics in online platforms, b) new ways of communication, c) new social configurations consisting of online only friends. Increasing our understanding of online friendships in the context of self-harm will allow the development of appropriate guidelines to ensure safer online interactions.

7.8. UNIQUE CONTRIBUTIONS TO KNOWLEDGE AND IMPLICATIONS

The present thesis presents a set of novel contributions to research on friendships and self-harm among young people. Research on the topic has typically been framed around two major views of friendships, as either risk or protective factors (Copeland et al., 2019). The studies presented across this thesis aim to break with traditional discourses and propose an alternative understanding. Friendships are complex relational systems, and friends are interdependent and mutually influential. Equally, self-harm be impacted by, and have an impact on friend relations, expectations and needs. Both are complex, interrelated and evolving experiences which should be apprehended within the context in which they occur. A key finding is that competing interests and contradictory outcomes may emerge from complex interactions between the individual, the friend and the friendship. This may explain why supporters may compromise personal outcomes in favour of support provision and improved friendship quality, or why friendships encouraging self-harm may be maintained. The consideration of both perspectives in this thesis was particularly important to generate this understanding and is a key contribution emerging from this research.

The mixed-methods approach facilitated our understanding of friendships and self-harm. First, the use of qualitative methods provided a broad understanding of these constructs, that otherwise could have not been obtained (Hartup, 2005). These methods tapped into multiple aspects of friendships, including friends' characteristics and the friendship relationship and dynamics, in relation to multiple manifestations of self-harm (e.g., self-harm thoughts, feelings and behaviours). Furthermore, they offered novel and nuanced ways of thinking about the influence, evolution and role of friendships and self-harm respectively. In turn, the use of qualitative methods as an intermediate step within a sequential framework allowed subsequent quantitative research to be driven by young people's experiences. This is in line with the importance placed on engaging in participatory research (e.g., Patient and Public Involvement or PPI), especially for complex and sensitive topics (Brett et al., 2014). The value of shaping research based on young people's insights, experiences and personal understandings on topics of relevance to them is emphasised.

Secondly, the use of stochastic actor-oriented models (SAOMs) extrapolated the previous knowledge into effective lines of questioning to obtain peer nomination data, and test causal/mechanistic hypotheses regarding peer support. SAOMs are uniquely powerful methods to ascertain distinct relational processes and causal mechanisms (Crudgington et al., 2023). Chapter 6 represents the first attempt to use SAOMs for the study of daily peer supportive interactions in a school setting. The results obtained allowed for interesting speculations and concrete suggestions for research.

Finally, throughout the present thesis, the complex role of peer support in the experience of self-harm emerged organically. The present thesis delved deeper into the concept of peer support as an ongoing process, rather than a static quality, reflecting on its nature and

mechanisms of action (Gidugu et al., 2015). Novel contributions of the present work emphasise ambivalent perspectives on peer support, this dependent on the interaction between individual, social and relational aspects. Importantly, I argue for the importance of timely and effective support for young people who self-harm and their peers. This has implications for developing universal prevention strategies around social connectedness and communication (e.g., tMHFA; Hart et al., 2020) alongside targeted peer-led interventions (e.g., online/offline support groups; Abou et al., 2022) for young people who self-harm and friend supporters.

7.9. CONCLUSIONS

The present thesis contributes to the self-harm literature through the exploration of young people's social environment, specifically friendships. Four empirical studies are presented, each considering different aspects of friendships and self-harm, each adopting distinct methodologies and each contributing to the field in distinct ways. Altogether, findings provide further evidence for well-established relationships, including self-harm transmission within friendships, the importance of support for young people who self-harm and the negative impact among friend supporters. The temporal transitions of friendships and self-harm observed across the literature, lived experiences and quantitative evidence suggest that both friendships and self-harm – including thoughts, urges and behaviours – are mutually influential and coevolve over time. This justifies their consideration over small and large prospective timescales, to replicate and test possible mechanisms of risk and protection. Specifically, this thesis highlights the consideration of peer support as an important path to risk and resilience, a topic that warrants further investigation. Importantly, this thesis reflects that young people's experiences of self-harm are embedded within their social context, of which friendships are an integral part.

APPENDICES

Appendix A. Ethics in Research

A series of ethical considerations were reflected upon throughout the planning, conduct, and presentation of the studies in the current thesis. These related to the sensitive nature of the topic, the population and the methods of data collection, Each will be discussed in the following sections.

2.4.1 Self-harm research in young populations

The present thesis primarily focuses on self-harm, which is a private, personal and sensitive topic. Several ethical considerations were made throughout different stages of the research.

First, there is a long-standing concern in research and practice with asking questions about self-harm in an already at-risk population (e.g., adolescents), given the potential for increasing self-harm risk, severity or onset (Ford et al., 2021). Several reviews and studies among young people show that asking about self-harm does not have iatrogenic effects and may even show slight beneficial improvements (Dazzi et al., 2014; Lockwood, Townsend, Royes, Daley & Sayal, 2018). The inclusion of young people in the present thesis still required careful ethical and procedural considerations. In the interview study (Chapters 4 and 5), the need to seek parental consent for participation among adolescents may have generated issues around self-harm disclosure and the possibility of compromising participants' privacy (Sharkey et al., 2011). For that reason, we considered appropriate to recruit a young adult population and adopted a retrospective approach. These presented several advantages, such as allowing participants to make informed decisions about their eligibility and wish to participate in the research. In turn, most participants considered they were able to be more self-reflective and felt more comfortable talking about their experiences in retrospect. The knowledge gathered informed the exploration of relevant friendship dynamics among adolescents in a subsequent study (Chapter 6).

Throughout the studies potential risk had to be considered. The usefulness of implementing a 'risk protocol' or 'action plan' early on in the research process was emphasised (Sharkey et al., 2011). This involved the development of steps to assess potential risk among participants and in order to respond in a timely manner. In turn, participants were reiterated the content and conduct of each study at each stage. This ensured transparency, lack of coercion and the possibility of participants to decide whether they felt comfortable taking part in the research.

Issues around data collection presented particular considerations across each study given the uniqueness of the methods adopted. These are be discussed in the following sections.

2.4.2 Ethical Conduct in Qualitative Research

The first two empirical studies consisted of qualitative studies. The topic, methodology and approach raised some ethical concerns.

First, we considered important to ensure participants were comfortable entering the study, for which the sensitive nature of the topic was discussed beforehand. An initial session was offered to discuss the content that would be discussed in interviews. This allowed participants to establish initial rapport and have an initial contact with the researcher. This represented an opportunity to obtain information, ask questions and resolve possible issues, ultimately enabling participants to make informed decisions about their participation (Chandler, 2017).

A particular challenge during data collection pertained to the online format (via Zoom) adopted in the study. The approach conferred some advantages, while also presenting some challenges. On one hand, participants were able to take part in the study in a practical and comfortable environment, thus reducing the burden of participation (e.g., time, cost) and ensuring inclusivity (e.g., everyone with access to a phone/ laptop was able to participate) (Carter, Shih, Williams, Degeling & Mooney-Somers, 2021). However, issues around anonymity arose alongside considerations around the emotional impact of interviews. For instance, to ensure participants were comfortable, they were given the choice to turn their camera on/off based on their preference. Whilst contributing to participants' sense of anonymity and privacy, keeping the camera off also reduced opportunities for empathetic responding. The lack of physical cues to detect discomfort is a common issue mentioned in online studies (Carter et al., 2021; Reisner et al., 2017). This became especially relevant in the context of sensitive and potentially distressing conversations. Some solutions included checking participants' mood prior to and after the interview, ensuring adequate debriefing and following up interviews in order allow participants to express any thoughts and experiences.

Issues around consequences of disclosure were also discussed and a plan for imminent danger and risk was drafted and followed. First, we asked participants not to share the identities of their friends (especially during interviews with friends of young people who self-harmed) and to use nicknames instead. Second, participants were informed of the procedure for assessing risk, at the start, during and at the end of each study. This was emphasised in writing (in the Information and Debrief Sheets) and verbally in the introductory session as well as prior to and following the interview. This informed participants about the circumstances in which confidentiality may be breached and the possible escalation provided imminent danger was identified. Whilst no imminent danger was identified in the interviews, debriefing, follow-up and the provision of contact details of support services was ensured.

2.4.3 Sensitive Daily Data Collection

Survey data collection was not exempt of ethical considerations. The collection of daily data on social interactions, self-harm and mood, required a series of decisions to ensure a transparent and ethical process.

First, research on the use of ecological-momentary assessment methodologies is still nascent and inconclusive regarding the burden of asking about self-harm everyday (Rodríguez-Blanco, Carballo & Baca-García, 2018). The use of these methods in adolescent populations is scarce, hence evidence and guidance regarding the ideal timeframe and potential impact of these methods is currently limited (Rodríguez-Blanco, Carballo & Baca-García, 2018). To inform decisions around study design we consulted participating schools. This influenced the variables selected and the study period. Particularly, participating schools showed reticence around self-harm research and the potential for suggestion and spread of the behaviour. This informed the decision to not include self-harm. Instead, we considered a relevant and related variable, mood states, which still provided important insights on friendships in the context of adolescent wellbeing. Second, school constraints and availability reduced the study period to one week. This was considered appropriate to reduce the burden on participants, ensuring high participation and the gathering of relevant information on variables of interest.

The consideration of both mood states and the social context within the same study represents an advancement for Ecological Momentary Assessment methods which typically overlook situational contexts (Rodríguez-Blanco et al., 2018). Overall, these findings obtained, whilst not strictly applicable to self-harm, they represent a starting point for future research on the behaviour.

Appendix B. Systematic Review Additional Study Information

Characteristics of studies of young people who self-harm

1.1. Quality assessment

The application of the Quality Assessment frameworks revealed that the majority of studies had high (n = 28) and moderate quality (n = 17), whilst two studies were deemed to be low quality (n = 1). Therefore, results will primarily focus on the two former categories.

1.2 Study Characteristics

Forty-seven studies were identified across 46 articles (see Table 2 and Table 3). The majority are quantitative (n = 40), whereas six are qualitative (n = 6). Of the quantitative studies, most are prospective (n = 18) and cross-sectional (n = 17) studies, with a small number of case-control (n = 2) and intervention studies (n = 3).

1.3 Sample characteristics

The majority of the sample consisted of adolescents between the ages of 11–18 years old (n = 37 studies). Most articles included high-school adolescents (n = 26), while other studies included community samples of adolescents (n = 5) or clinical samples of adolescents generally recruited from inpatient units (n = 7). One article by Prinstein and colleagues (2010) contained two studies which used community and clinical sample of adolescents respectively.

A total of eight studies focused on young adults between the ages of 18-25 years old. Of these, articles included university students (n = 2), community samples of young adults (n = 3), and clinical samples of young adults (n = 1), while two articles considered online samples of young adults (n = 2).

The majority of studies used mixed-gender samples, however, in a large proportion of these there was an overrepresentation of females, consistent with the literature (Knipe et al., 2022). Two studies recruited females exclusively (Eisenlohr-Moul et al., 2018; Shepherd, 2020) whereas one study included males exclusively (Calear et al., 2021).

Half of the included studies (n = 23) did not provide information about ethnicity. The majority of studies which did report ethnicity included primarily White/ Caucasian samples. A few

exceptions include Abbott et al., (2019) in which the majority of the sample were Black/African American, Ivanich et al., (2022) in which the entire sample was American Indian, Wei et al., (2021;2022) in which the entire sample were Asian and Winterrowd et al., (2010) in which the sample was entirely composed of Mexican American Adolescents.

1.4 Ego Self-Harm Assessment: Outcome Variables

Included studies defined and assessed a variety of ego self-harm behaviours, including NSSI, suicide ideation and suicidal attempts/behaviour. The majority of quantitative studies included both suicide ideation and suicidal behaviour (n = 15) as outcome variables, followed by studies which uniquely focused on NSSI (n = 14), on suicide ideation (n = 3) and on suicidal attempt (n = 2), or which focused on the former three (n = 4).

Generally, in the majority of quantitative studies (n = 20), suicidal ideation and behaviour and NSSI were assessed using a non-standardised and /or single item question. A few studies used standardised measures of suicidal ideation/ behaviour and NSSI (n = 18) (see Table 2 and 3). One quantitative study included no measures of suicide ideation or behaviour, but rather this was a sampling procedure (Ivanich et al., 2022).

Six studies were qualitative, thus, no quantitative assessment of self-harm was used. Here, self-harm was often a sampling characteristic (Bailey et al., 2021; Lavis & Winter, 2020; Shepherd, 2020; Smith-Gowling et al., 2018; Smithson et al., 2011; Yip et al., 2002). Some qualitative studies focused on experiences of self-harm, with and without suicidal intent (Lavis & Winter, 2020, Shepherd, 2020), Smith-Gowling et al., 2018; Smithson et al., 2011), one study considered NSSI only, namely self-cutting (Yip et al., 2002) and one study focused on suicidal ideation (Bailey et al., 2021).

1.5 Assessment of Friendship Characteristics

Across studies focusing on young people who self-harm, measurement of their friendships depended on the focus of the research (e.g., friend behaviour, friendship closeness, friend environment), thus a variety of measurements were used.

A number of studies assessed friend characteristics. For instance, several studies measured the self-harm behaviour of participants' friends (n = 22), all using non-standardised assessments

or single-item questions. This information was either obtained directly from friend reports on their own behaviour, or from participants' reports and perceptions of their friends' behaviour. Friend deviancy was typically assessed through standardised scales (Abbott et al., 2019; Wei et al., 2021; Winterrowd et al., 2010; 2011; Winterrowd & Canetto, 2013) except for one study (Wei et al., 2022).

Armiento et al. (2014) and Schwartz-Mette & Lawrence (2019) assessed friendship quality through standardised questionnaires. Friend support was assessed through standardised measures (Heath et al., 2009; Liu et al., 2022; Tseng & Yang, 2015) except for one study (Snir et al., 2017). Ego help-seeking within friendships was assessed through standardised measures (Calear et al., 2021; Hasking et al., 2015). Two studies assessed disclosure within friendships through non-standardised measures (Armiento et al., 2014; Heath et al., 2009).

Six studies were qualitative, whereby the friendships of young people who self-harm were explored through semi-structured interviews (Bailey et al., 2021; Lavis & Winter, 2021; Shepherd, 2020; Smith-Gowling et al., 2018; Smithson et al., 2011; Yip et al., 2002). Finally, in two intervention studies, friendship quality and support-seeking were the focus of the intervention rather than a variable measured (Kruzan et al., 2022; Tyler et al., 2022).

Appendix B. Characteristics of studies of friends of young people who self-harm

2.1 Quality assessment

The application of the Quality Assessment frameworks revealed that the majority of studies had high (n = 9) and moderate quality (n = 22), whilst a few studies were deemed to be low quality (n = 2).

2.2 Study Characteristics

Thirty- three studies were identified (See Table 3 and Table 4). Twenty-four studies are quantitative of which a portion are cross-sectional (n=7), prospective (n=1), intervention (n=6) and case-control (n=7) studies, while three are prospective case-control studies (n=3).

Nine studies took a qualitative approach (Bartik et al., 2013; Fisher et al., 2017; Gayfer et al., 2020; Hall & Melia, 2021; Shepherd, 2020; Shilubane et al., 2014; Smith-Gowling et al., 2018; Smithson et al. 2022; Yip et al., 2002).

2.3 Sample characteristics

The majority of studies considered adolescent samples, eighteen studies recruited such samples from high-school (N=18), the community (n=1) and clinical settings (n=1). The remainder studies considered samples of young people, mainly community young people (n=10), with a couple of studies focusing on university students (n=2) and one study recruiting online samples (N=1).

Virtually all studies used mixed-gender samples (n=30). Three studies used an all-female sample (Fisher et al., 2017; Hall & Melia, 2021; Shepherd, 2020).

Samples were predominantly White/ Caucasian when this information was reported (n=17). Sixteen studies included did not report or collect information about participants' ethnicity.

2.4 Self-Harm Assessment: Sampling and Outcome Variables

A large proportion of studies did not focus on self-harm as an outcome measure among friends, but rather used it as a characteristic of the population being sampled, i.e., that of being friends of young people who self-harm. Samples were largely self-selected based on self-

report of being exposed to a peer's self-harm or suicide behaviour (n=22), except for 11 studies which used measures to assess this friend status. Four of these studies used non-standardised assessments of whether participants were friends with a young person who engaged in NSSI ideation/behaviour (n = 1; Berger et al., 2017) or who presented in suicidal ideation, behaviour or death (n = 3; Cerel et al., 2005; Kalafat & Elias, 1992; 1994). Another way studies assessed friend status was through measures of exposure to peer's self-harm. Six studies utilised the same standardised measure of exposure to peer's suicidal behaviour (i.e., Characteristics of Exposure instrument; Brent et al., 1992; 1993a; 1993b;1994;1995; Bridge et al. 2003), whereas one study used a non-standardised measure (n = 1; Overholser et al., 1989). Finally, one study used a non-standardised measure of having experience of a peer's self-harm disclosure (n = 1; Gayfer et al., 2020).

Six studies did assess self-harm and suicide as an outcome variable among participants. One study utilised a standardised assessment of NSSI (n=1; Berger et al., 2017). Instead, five studies measured suicidal ideation and behaviour using non-standardised assessments. Specifically, three studies measured both suicidal ideation and suicidal behaviours (N=3; Cerel et al., 2005; Gould et al., 2018; Hazell & Lewin, 1993), whereas one focused only on ideation (N=1; Eskin et al., 1999) and one on behaviour only (n=1; Ho et al., 2000).

Qualitative studies focused utilised peer's self-harm as sampling characteristic as well as considering self-harm as part of the interview schedule of semi-structured interviews (n=9).

2.5 Friendship Assessment

Similarly, the quality of being a friend or friendship variables were primarily used as sample characteristics and thus, they were part of the sampling process. This was particularly true for qualitative studies (n=9) and intervention studies (n=6).

However, the majority of studies did additionally consider specific aspects of friendships, for example, closeness to the friend who self-harmed or who attempted suicide (n=10). Of these, a portion utilised a standardised scale, namely the Adolescent Relationships Inventory (n=6; Brent et al., 1992; 1993a; 1993b; 1994; 1995; 1996). The remaining studies relied on non-standardised measures (n=4; Abbott & Zakriski, 2014; Gould et al., 2018; Hazell & Lewin, 1993; Ho et al., 2000).

Appendix C. Reflexive Statement

The use of qualitative methods inherently assumes that research is contextual and subjective (Dogson, 2019; Olmos-Vega, Stalmeijer, Varpio & Kahlke, 2023). This subjectivity and researchers' own position, characteristics, experiences and their role in shaping the research, should be reflexively considered (Macbeth, 2001; Dogson, 2019).

Throughout this doctoral degree, I engaged in distinct reflexive exercises particularly during its qualitative components. This allowed me to recognise the distinct ways my own position and experiences have shaped the research, from its conceptualisation to the conducting and analysing of interviews to reflections around the meaning of findings.

First, the conceptualisation of the study and the preparation of materials, required an initial revision of my prior assumptions about self-harm and friendships. First, I lacked experiential knowledge of self-harm. This became a source of personal tension and initial uneasiness in regards to how to best approach the topic, particularly throughout the interview process. Given this, I ensured to engage in multiple discussions with various experts in the field and the literature. This informed the conceptualisation of the research in a sensitive and appropriate manner. Finding a balance and negotiating how to also integrate my own reflections and views of self-harm, and how I wanted to approach it in the research, was a particularly important part of the process. This particularly influenced decisions around self-harm definitions within the interview study. Whilst a definition of self-harm was adopted in the general research, for the interviews I considered important to allow participants to self-define self-harm and self-select themselves as suitable participants, rather than applying exclusion criteria. I primarily wanted to avoid imposing expectations of what self-harm should look like, which may contribute to participants feeling excluded and as they themselves reflected, that their self-harm was 'not valid enough'.

This led to the adoption of a 'blank slate' approach throughout the interviews, in which I chose to be guided by participants' own self-harm meanings, stories and experiences, and what they found important (e.g., regardless of whether it was the self-harm behaviour or associated feelings and thoughts). Altogether, I believe this was particularly helpful in my growth as a researcher within the field, as well as increasing my own personal awareness

about mental health and self-harm enabling my previous views to be challenged and encouraging new understandings to be adopted.

Throughout the interview stage, the idea to meet participants online prior to online interviews was a decision which appeared to facilitate participation. This allowed to establish prior familiarity between participants and the researcher, which contributed to creating initial rapport and some prior knowledge about participants' circumstances. This was feasible given the two sessions were conducted online via Zoom (in our respective homes). Online sessions further helped reduce the appearance of a strictly 'professional' setting and may have contributed to participants feeling in a more comfortable environment. One downside of this method is difficulty in disengaging following interviews.

During interviews, certain aspects of conducting interviews online presented a series of challenges, particularly the aftermath of interviews. Whilst I expected interviews to be emotionally difficult, I did not predict the extent of their impact. This potentially emerged as a result of the rapport built through the interviews, the nature of the content being discussed, and a sense of relatability with participants' experiences. The emotional consequences following interviews was something that I became increasingly aware of during interviews, which made me reflect on the potential for this to also be experienced on the other end, i.e., among participants. Given this, a series of steps were implemented. First, I ensured some form of closure with participants upon the end of interviews and following debrief, prompting some casual conversation to facilitate emotional de-escalation. This was favourably received by most participants, who engaged in broader conversations around psychology, career paths or other experiences (which my position as a young researcher in training may have facilitated). In turn, following interviews I made sure to talk to my supervisors, when possible, and wrote down any emergent thoughts about the interview. These steps helped me distance myself from the interviews, also useful during data analysis.

It is worth noting that my position as being relatively close in age appeared to facilitate certain conversations as well as contributed to understanding the context in which certain self-harm experiences occurred (e.g., Tumblr, online friendships). This allowed to create relatability and potentially reduce power dynamics within the interview, which may have contributed to more open and honest conversations. This appeared to be the case as participants felt able to ask additional questions and share a wide variety of experiences and

perspectives on things. This was also important for making sense of the findings in the context in which they occurred.

Throughout data analysis, it was important to be reflexive, not to make assumptions about participants' experiences and trying to keep close to the data. This raised some challenges in trying to make sense of themes and connecting relevant ideas. My own ambivalent views towards friendships (where these are not always positive) and self-harm (where it can serve multiple functions for some young people) were particularly helpful in finding meaning in contradictory ideas emerging in the data.

Furthermore, my interpretations of the findings were to an extent influenced by the literature I was consulting at the time (through a systematic review on friendships and self-harm) as well as discussions with my supervisors. Check-in meetings with my supervisors and with various research groups were particularly helpful for discussing issues arising during data analysis and interpretation. This helped frame and contextualise findings as well considering whether these were in line with young people's experiences of self-harm. Whilst generalisability falls outside the scope of qualitative investigations, I considered it was important to ensure to ensure participants' experiences were sensitively represented and findings were expressed and communicated clearly.

Appendix D. Materials Qualitative study of young people who self-harmed

Card-Sort Task for Self-Harm about Friends (CaTS-AF)

A+E staff were friendly and understanding	A+E staff were not friendly and understanding	I felt better after self-harm	I went to hospital for overdose or self-injury	(Heath et al., 2009) My friends were doing it	I read about self-harm on the internet	I discussed self-harm in a forum on the internet	I was rejected by my parents
I felt worse after self-harm	Self-harm stopped me from killing myself	Someone listened to me and took me seriously	(Hunter et al., 2013) Someone was dismissive of me	I was taken into residential/foster care	I received no support from caregivers	I was bullied/ cyberbullied	I had a problem at school/work
I went to therapy/ counselling which helped	I went to therapy/ counselling which did not help	I talked to a friend which helped	I talked to a friend which did not help	Someone close to me died/left	(Nock & Prinstein, 2005) I tried to avoid problems/conflict	I moved to a different home/ school	(Mitchell et al., 2019) I discussed self-harm with my friends
I talked to a family member which helped	I talked to a family member which did not help	I saw my GP which helped	I saw my GP which did not help	I was having problems in a close relationship	(Kaminski et al., 2010) I was rejected by my friends/peers	(Zhang et al., 2019) I was pressured to do things I did not want to do	I wanted to die
I phoned/ texted a helpline which helped	I phoned/ texted a helpline which did not help	I read self-help information – it helped	I read self-help information – it did not help	I was not afraid of death	There was no one to turn to for help	I could not trust anyone	I struggled to make decisions
I depended on _____ for help and support	I talked to _____ which helped	I talked to _____ which did not help	I was angry	I could not think of anything else to do	I wanted to kill myself	I could not solve a problem I faced	I could not tell anyone how I was feeling
(Muehlenkamp et al., 2013) I was angry at someone	The mental pain was unbearable	I felt depressed and sad	I felt abandoned	No one listened to me or took me seriously	I thought about being badly treated as a young child	I trusted a caregiver	(Gratz et al., 2003) I was trying to push people away
I felt very anxious	I felt worthless	(Gilbert et al., 2010) I felt worthless compared to others	(Edmondson et al., 2016) I felt strong/ tough	(Edmondson et al., 2016) I was trying to put people off	(Nock & Prinstein, 2005) I wanted someone to turn to for help	(Rowe et al., 2014) I trusted a friend	I was very agitated and restless
I felt energized	I hated myself	(Edmondson et al., 2016) I hated others	I felt hopeful about the future	I was drinking/drunk	I was high on drugs	I had unprotected sex	I was having nightmares
I felt I could change for the better in the future	I felt I could not change for the better in the future	I felt ignored	I felt trapped	I got involved with a gang	(Copeland et al., 2019) I got involved with a new group of friends	I am insensitive to pain	I was taking illegal drugs
I felt defeated	I felt I could not escape from feelings or situations	I felt like a burden on people	I felt very hopeless about the future	I planned it carefully	I isolated myself from others	I did other things to hurt myself (starved myself, drank too much)	I had access to the means to hurt myself
I felt like I did not belong	I felt numb	I felt disgusting	I felt exhausted	I did it on impulse without planning	I got into trouble at school/work	I got into trouble at home	(Copeland et al., 2019) I got involved with a new group of friends who self-harm
I felt humiliated	I felt rejected	(Edmondson et al., 2016) I felt accepted/ I felt I belonged	I did not know what I was feeling	I was not able to sleep			
I was being abused physically	I was being abused mentally	I had an argument with my friend	I had an argument with my boyfriend/ girlfriend				
I had an argument with my parent/ caregiver	I was raped	I got into trouble with the police	Someone I knew killed themselves				
I was a victim of a crime	I knew someone who was self-harming	Someone suggested I self-harm	Lots of people I knew were doing it				

Legend
- ● Cards Modified
- ○ Cards Added
  (References)

Appendix D. Example Interview Schedule for young people who self-harmed

Below is an example of some of the questions developed for the interview schedule. These were developed to guide interviews, whether they were explicitly used and when was unique to each interview.

Self-harm Onset
General Questions about participants' self-harm onset
- Could you tell me a bit more on what brought you to this study? What motivated you to get in touch?
- How would you describe self-harm?
- How would you describe one of the first episodes in which you self-harmed?
- What is the thing(s) you remember most about that time? What comes first to mind when thinking back to that day?

Specific questions about motivations
- Can you tell me a bit more why you self-harmed for the first time? Can you walk me through your experience using the CaTS…
- How did you come across self-harm?
- Did you know of someone who self-harmed?

Specific questions about experience/ context
- What was your situation like before self-harming for the first time? (e.g. feelings, relationships, friendships)
- Did you tell someone back then? Who? Why?
- Can you tell me about what happened when you told ()? /How did they respond?
- Could you think of anyone who was important in some way when you started self-harming? Why? What role did they play?
- What role did your friends, if any, had in your experience?

Recent self-harm
Questions about changes
- If thinking about a recent episode in which you self-harmed, what would you say was different, if anything, compared to when you started self-harming?
- What made you self-harm again after the first time?
- Did your reasons/motivations to self-harm change at all since you first started?
- Thinking about your peers, did anything change from the first time to recently?
- How would you describe your sources of support during this recent period?

Episode in which they did not self-harm
- Have there ever been times when you thought of self-harm but didn't do it?
- What was particularly different compared to times when you did self-harm?

Advice to help others
- What three things would you have told your younger self?
- What do you think could have been useful or could have been done to support you (or others in your situation)?
- What do you think friends could do to better support people in your situation?
- If you had your friends in front of you, what three things would you like them to know.

Card-Sort Task for Self-Harm For Friends (CaTS-FF)

A+E staff were friendly and understanding	A+E staff were not friendly and understanding	My friend felt better after self-harm	My friend went to hospital for overdose or self-injury	My friend's friends were doing it	My friend read about self-harm on the internet	My friend discussed self-harm in a forum on the internet	My friend was rejected by their parents
My friend felt worse after self-harm	Self-harm stopped my friend from killing themselves	Someone listened to my friend and took them seriously	Someone was dismissive of my friend	My friend was taken into residential/foster care	My friend received no support from caregivers	My friend was bullied/cyberbullied	My friend had a problem at school/work
My friend went to therapy/counselling which helped	My friend went to therapy/counselling which did not help	My friend talked to a friend which helped	My friend talked to a friend which did not help	Someone close to my friend died/left	My friend tried to avoid problems/ conflict	My friend moved to a different home/ school	My friend discussed self-harm with their friends
My friend talked to a family member which helped	My friend talked to a family member which did not help	My friend saw the GP which helped	My friend saw the GP which did not help	My friend was having problems in a close relationship	My friend was rejected by their friends/peers	My friend was pressured to do things they did not want to do	My friend wanted to die
My friend phoned/ texted a helpline which helped	My friend phoned/ texted a helpline which did not help	My friend read self-help information – it helped	My friend read self-help information – it did not help	My friend was not afraid of death	There was no one to turn to for help	My friend could not trust anyone	My friend struggled to make decisions
My friend depended on _____ for help and support	My friend talked to _____ which helped	My friend talked to _____ which did not help	My friend was angry	My friend could not think of anything else to do	My friend wanted to kill themselves	My friend could not solve a problem they faced	My friend could not tell anyone how they were feeling
My friend was angry at someone	The mental pain was unbearable	My friend felt depressed and sad	My friend felt abandoned	No one listened to my friend or took them seriously	My friend thought about being badly treated as a young child	My friend trusted a caregiver	My friend was trying to push people away
My friend felt very anxious	My friend felt worthless	My friend felt worthless compared to others	My friend felt strong/ tough	My friend was trying to put people off	My friend wanted someone to turn to for help	My friend trusted a friend	My friend was very agitated and restless
My friend felt energized	My friend hated myself	My friend hated others	My friend felt hopeful about the future	My friend was drinking/drunk	My friend was high on drugs	My friend had unprotected sex	My friend was having nightmares
My friend felt they could change for the better in the future	My friend felt they could not change for the better in the future	My friend felt ignored	My friend felt trapped	My friend got involved with a gang	My friend got involved with a new group of friends	My friend is insensitive to pain	My friend was taking illegal drugs
My friend felt defeated	My friend felt they could not escape from feelings or situations	My friend felt like a burden on people	My friend felt very hopeless about the future	My friend planned it carefully	My friend isolated themselves from others	My friend did other things to hurt themselves (starved, drank too much)	My friend had access to the means to hurt themselves
My friend felt like I did not belong	My friend felt numb	My friend felt disgusting	My friend felt exhausted	My friend did it on impulse without planning	My friend got into trouble at school/ work	My friend got into trouble at home	My friend got involved with a new group of friends who self-harm
My friend felt humiliated	My friend felt rejected	My friend felt accepted/ They felt they belonged	My friend did not know what they were feeling	My friend was not able to sleep			
My friend was being abused physically	My friend was being abused mentally	My friend had an argument with their friend	My friend had an argument with their boyfriend/ girlfriend				
My friend had an argument with their parent/ caregiver	My friend was raped	My friend got into trouble with the police	Someone my friend knew killed themselves				
My friend was a victim of a crime	My friend knew someone who was self-harming	Someone suggested my friend to self-harm	Lots of people my friend knew were doing it				

Appendix E. Example Interview Schedule for friends of young people who self-harmed

Below is an example of some of the questions developed for the interview schedule. These were developed to guide interviews, whether they were explicitly used and when was unique to each interview.

Knowledge of self-harm
General Questions about participants' understanding of self-harm
- Could you tell me a bit more on what brought you to this study? What motivated you to get in touch?
- What do you know about self-harm? / How would you describe it?
- Why do you think your friend or anyone may self-harm?

Specific questions about their friend's experience (Refer to cards)
Can you walk me through your friends' experience using the CaTS…
- What do you think may have led your friend to self-harm?
- How do you think your friend came across self-harm?
- Did you/ or your friend know other people who self-harm?
- How was your friend's life in regard to their relationships with their friends?
- Can you tell me a bit more about your relationship with your friend?

Disclosure & Reactions to Self-Harm
Questions about knowing their friend self-harmed
- How did you find out your friend was self-harming?
- How did you feel when you found out your was self-harming? Why?
- How did you respond? / What was your reaction?
- Did anything change for you since first knowing your friend self-harmed?
  * In relation to your understanding of self-harm/ your thoughts about self-harm
  * In relation to your own relationship with them
  * In relation to your own well-being
- How was your relationship with your friend since you found out?

Helping Behaviour
Questions about support provision/helping behaviours for their friends
- Could you tell me if there was any particular strategy or strategies that helped your friend? / Was there anything that you did that you or friend considered helpful?
- What three things do you think could have helped your friend and others in their situation?
- What role could friends have in helping people who self-harm?
- What three things would you have liked to tell your friend back then?

Their own wellbeing/ support needs
Questions about the impact of their friend's self-harm on their own well-being
- How did you feel after knowing your friend self-harmed?
- What three things would you have told your younger self?
- Was there anything that you did for yourself that helped you manage your feelings about your friend?
- How can friends of people who self-harm be supported?

Appendix F. RSiena Full Model Results

RSiena Results Full Model 1 (General Mood Model)

	est.	s.e.	sig
1. rate: constant provsupp.interactions rate (period 1)	23.46	(-14.31)	-1.64
2. rate: constant provsupp.interactions rate (period 2)	1.92	(-0.51)	-3.78*
3. rate: constant provsupp.interactions rate (period 3)	1.32	(-0.44)	-2.97*
4. eval: provsupp.interactions: outdegree (density)	-7.96	(-0.65)	12.29*
5. eval: provsupp.interactions: reciprocity	-0.44	(-0.97)	0.46
6. eval: provsupp.interactions: GWESP I -> K -> J (69)	0.90	(1.12)	0.80
7. eval: provsupp.interactions: indegree - popularity	0.12	(0.28)	0.42
8. eval: provsupp.interactions: outdegree - activity	0.70	(-0.12)	-5.80*
9. eval: provsupp.interactions: indegree - activity	-0.38	(0.07)	-5.39*
10. eval: provsupp.interactions: friendship	3.17	(-0.48)	-6.63*
11. eval: provsupp.interactions: supportive	1.19	(-0.31)	-3.88*
12. eval: provsupp.interactions: depr alter	-0.00	(-0.01)	0.28
13. eval: provsupp.interactions: depr ego	0.00	(-0.01)	-0.38
14. eval: provsupp.interactions: depr similarity	0.05	(-0.67)	-0.07
15. eval: provsupp.interactions: from daily.mood.net agreement	0.38	(-0.19)	-1.93*
16. rate: constant daily.mood.net rate (period 1)	3.01	(-0.39)	-0.94
17. rate: constant daily.mood.net rate (period 2)	2.34	(-0.29)	-7.94*
18. rate: constant daily.mood.net rate (period 3)	1.90	(-0.25)	-7.62*
19. eval: daily.mood.net: outdegree (density)	-0.96	(-0.17)	5.71*
20. eval: daily.mood.net: outdegree - activity	0.09	(-0.03)	-3.14*
21. eval: daily.mood.net: depr ego	0.01	(-0.00)	-1.81
22. eval: daily.mood.net: upset_dummy alter	-0.12	(-0.19)	0.59
23. eval: daily.mood.net: excited_dummy alter	-0.33	(-0.21)	1.60
24. eval: daily.mood.net: nervous_dummy alter	-0.04	(-0.21)	0.17
25. eval: daily.mood.net: irritable_dummy alter	0.09	(-0.24)	-0.36
26. eval: daily.mood.net: happy_dummy alter	0.0698	(-0.23)	-0.31
27. eval: daily.mood.net: provsupp.interactions to agreement	0.0698	(-0.25)	-0.28

*Notes. * p<.05*

Notes. This model includes rate parameters (1-4 period; i.e., parameters of network change), structural network effects (outdegree, reciprocity, transitivity, indegree popularity, outdegree activity, indegree-activity), dyadic network effects (sociability, popularity) and covariate effects (baseline friendship status). Mood Networks also included rate parameters (1-4 period), structural network effects (outdegree, outdegree activity), influence of negative mood on positive mood (and vice versa), and dummy variables for all mood categories. Highlighted variables were retained in a subsequent simplified model including standard, relevant and significant effects (variables which were not significant were removed).

Appendix F. RSiena Results Full Model 2 (Valence Mood Model)

	est.	s.e.	sig
1. rate: constant provsupp.interactions rate (period 1)	6.06	-2.76	-2.19*
2. rate: constant provsupp.interactions rate (period 2)	1.61	0.39	4.09*
3. rate: constant provsupp.interactions rate (period 3)	1.21	0.38	3.21*
4. eval: provsupp.interactions: outdegree (density)	-8.99	1.84	-4.88*
5. eval: provsupp.interactions: reciprocity	4.09	1.02	4.01*
6. eval: provsupp.interactions: GWESP I -> K -> J (69)	3.21	1.12	2.87*
7. eval: provsupp.interactions: indegree - popularity	-0.02	0.31	-0.05
8. eval: provsupp.interactions: outdegree - activity	0.79	0.19	4.09*
9. eval: provsupp.interactions: indegree - activity	-0.31	0.78	-0.39
10. eval: provsupp.interactions: depr alter	0.00	0.02	0.10
11. eval: provsupp.interactions: depr ego	-0.02	0.02	-0.89
12. eval: provsupp.interactions: same depr	-0.24	1.01	-0.24
13. eval: provsupp.interactions: outdeg.^(1/2) pos.mood popular	-1.20	1.10	-1.09
14. eval: provsupp.interactions: outdeg.^(1/2) pos.mood activit	0.89	0.61	1.46
15. eval: provsupp.interactions: from pos.mood agreement	1.07	0.72	1.48
16. eval: provsupp.interactions: outdeg.^(1/2) neg.mood popular	-1.60	1.39	-1.15
17. eval: provsupp.interactions: outdeg.^(1/2) neg.mood activit	0.46	0.67	0.69
18. eval: provsupp.interactions: from neg.mood agreement	0.98	0.74	1.32
19. rate: constant pos.mood rate (period 1)	5.15	1.95	2.65*
20. rate: constant pos.mood rate (period 2)	5.19	2.69	1.93
21. rate: constant pos.mood rate (period 3)	2.92	1.28	2.29*
22. eval: pos.mood: outdegree (density)	-3.98	0.33	-11.90*
23. eval: pos.mood: outdegree - activity	1.22	0.11	10.77*
24. eval: pos.mood: depr ego	-0.01	0.01	-0.79
25. eval: pos.mood: happy_dummy alter	0.38	0.34	1.10
26. eval: pos.mood: excited_dummy alter	-1.30	0.42	-3.06*
27. eval: pos.mood: provsupp.interactions to agreement	-0.46	0.57	-0.81
28. eval: pos.mood: outdegree^(1/2) neg.mood activity	-0.16	0.22	-0.74
29. rate: constant neg.mood rate (period 1)	3.26	0.81	4.02*
30. rate: constant neg.mood rate (period 2)	2.96	0.80	3.71*
31. rate: constant neg.mood rate (period 3)	2.67	0.62	4.33*
32. eval: neg.mood: outdegree (density)	-2.42	0.25	-9.81*
33. eval: neg.mood: outdegree - activity	0.57	0.06	9.65*
34. eval: neg.mood: depr ego	0.03	0.01	3.06*
35. eval: neg.mood: upset_dummy alter	-0.63	0.29	-2.18*
36. eval: neg.mood: nervous_dummy alter	-0.37	0.29	-1.28
37. eval: neg.mood: irritable_dummy alter	0.06	0.28	0.23
38. eval: neg.mood: provsupp.interactions to agreement	-0.04	0.24	-0.15
39. eval: neg.mood: outdegree^(1/2) pos.mood activity	0.28	0.19	1.45

*Notes. * (p<.05)*
Notes. This model includes rate parameters (1-4 period; i.e., parameters of network change), structural network effects (outdegree, reciprocity, transitivity, indegree popularity, outdegree activity, indegree-activity), dyadic network effects (sociability, popularity) and covariate effects (baseline friendship status). Mood Networks also included rate parameters (1-4 period), structural network effects (outdegree, outdegree activity), influence of negative mood on positive mood (and vice versa), and dummy variables for all mood categories. Highlighted variables were retained in a subsequent simplified model including standard, relevant and significant effects (Variables which were not significant were removed).

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