

*Untangling the Complexities of Bullying: Validation of the Bullying Experience
Questionnaire and Exploring the Network Dynamics between Bullying Victimization,
Childhood Trauma, Attachment, Mentalization and Borderline Personality Disorder.*

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Chapter I: Lay Summary

Theoretical Background

Have you ever wondered why we feel safer with some people and nervous around others? The study of the attachment theory helps us understand how we form special bonds, known as attachment styles, with important people in our lives, such as our family or friends, and how these attachment patterns shape our actions and the relationships we make in the future.

Experts categorise our attachment styles into several types. Some of us are naturally open and trusting (known as secure attachment). Some prefer to be independent (avoidant attachment). Some are constantly worried about their relationships (anxious attachment), while others show mixed feelings (disorganised attachment). Alongside this, there is a newer concept called 'mentalization' that is gaining attention in the psychology research. Mentalization is our ability to understand our own emotions, thoughts, and behaviours, as well as those of others around us.

Individuals who experience strong, supportive bonds in their childhood (secure attachment) generally grow up to understand emotions better (effective mentalising abilities). However, those who lacked such bonds during childhood might struggle with understanding their own and others' emotions, thoughts and behaviours (ineffective mentalising abilities). This can lead to challenges in the way they seek support in times of distress. Such challenges can, over time, potentially worsen mental health difficulties.

Thus, this research project aims to understand the link between these attachment styles that are formed during childhood and the ways we seek support from others when encountering mental health difficulties as young adults, as well as how these difficulties evolve as we mature into adulthood.

Systematic Review

Chapter two encompasses a systematic review (SR) which is a detailed review of previous studies. This review examines how young people's (YP) attachment styles affects their willingness and approach to seeking help.

A thorough search was made by two reviewers, across major online libraries like PsycInfo, Web of Science, and PubMed to gather relevant studies. The focus was strictly on YP aged between 10-25 years, while adults, qualitative studies, unpublished papers, and studies investigating help-seeking related to physical health and within romantic relationships were excluded. In total, 24 studies were identified. To make sense of all the information, the main points found from the studies were put together in a simple story format.

The findings found were:

1. YP with secure attachment tended to seek help more.
2. Those who had avoidant attachments tended to seek help less.
3. For those with anxious attachment had a more varied approach: some seek help a lot but are unsure about the help received.
4. Factors influencing the attachment-help-seeking relationship are: Psychological distress, self-stigma of seeking help, perceived risk, and benefits of help-seeking and perceived social support.
5. Factors that can change the attachment-help-seeking relationship are: gender, psychological distress, and severity of stressors.

The strength and limitations of the review are discussed, emphasizing the need for future studies to look at these attachment styles over a longer time and with different groups of people. A gap was identified regarding research on YP with disorganized attachment (mixed bond feelings) and their help seeking tendencies and behaviour, suggesting a potential area for more exploration.

Clinical implications discussed highlighted:

- The importance of addressing attachment styles early on in treatment.
- Tailor treatment to suit the needs of a YP's attachment style.
- Specific programmes/treatment should be designed with the YP's attachment style in mind.
- These programmes can help professionals connect better with YP, making therapy more effective.

In conclusion, this review supports the idea that attachment patterns influence help-seeking attitudes, intentions, and behaviours in YP, just as the attachment theory suggests.

Empirical Research

Chapter three outlines the empirical study (ES) that focused on two main areas. First, the study aims to see if a new tool called the Bullying Experience Questionnaire (BEQ) does its job well. This tool is designed to really understand the different types of bullying that happens. Bullying is not just about getting hit or teased – it's a complex issue that happens in many ways. Thus, this study wanted to see if the BEQ could really pick up on all these different bullying experiences.

Secondly, the study aims to connect the dots between many things that affect our mental health. Think of them like pieces of a puzzle: bullying experiences that we experienced when we are young, bad experiences in our childhood, how we handle romantic relationships, our ability to understand our own and other feelings, and signs of a disorder called borderline personality disorder (BPD). Historically, people studied these factors separately. But imagine trying to understand the full picture by looking at the puzzle, one piece at a time. It's incomplete. That's why this study put them all on the table and see how/if they fit together.

In this study, 1064 people involved with the majority being educated, white, employed and had lesser household income. The group was diverse, consisting of both, healthy, everyday individuals and those diagnosed with specific mental health disorders. Participants completed questionnaires about their experiences with bullying, childhood maltreatment experiences, relationships, their mentalising capacities (their ability to understand their own and others feelings) and signs of mental health issues. The study employed a technique called network analysis to understand the associations between these factors. This method provides insights on how various elements interact with one another, giving a clearer picture of the influence and dynamics within this network of experiences and emotions,

Here was what was found: The BEQ did its job well. It can really understand different bullying experiences and can be used in various situations to help people. When we looked at all those puzzle pieces together the study found that they were all connected. Bad experiences in childhood or being bullied are not isolated events, without any longer-term consequences. In fact, they play a part in a bigger network of things that affect our mental health. Some specific types of bullying and bad childhood experiences had a strong influence such as certain verbal and physical forms of bullying (combined) and emotional abuse. This means that therapist and policymakers should pay special attention to them.

What's really important here is that this study shows that our mental health is not just about what is happening in our brains. Instead, it is a mix of our experiences, relationships and society's influence. Understanding all these connections can change the way we approach and treat mental health issues. The hope is that, in the future, we'll all have a better and more compassionate understanding of mental health.

Chapter II: Systematic Review

Building Bonds to Break Barriers: A Systematic Review of Attachment Patterns and the Help-

Seeking Process in Young People

Abstract

Attachment patterns significantly influence young individuals' pathways towards seeking help. Recognising the pivotal role of attachment theory in determining interpersonal relationships and individual behaviour, this systematic review aimed to evaluate the existing literature to understand how these attachment patterns influence the help-seeking attitudes, intentions and behaviour of young people, from an attachment theory standpoint, with an examination of potential mediators and moderators of the relationship.

Literature searches were conducted utilizing PsycInfo, Web of Science, and PubMed databases by two independent reviewers, followed by a manual search of the articles included. The search algorithm incorporated various forms of attachment, help-seeking, and young people. The review's scope was narrowly focused on young people aged between 10-25 years, excluding adults, qualitative studies, unpublished papers, and studies investigating help-seeking related to physical health and problems pertaining to romantic relationships.

A total of 24 studies, inclusive of 21 studies that satisfied the eligibility criteria and three studies included through the manual search. Utilizing a custom quality assessment tool, the overarching quality of the studies was found to be good. The results were synthesized narratively.

In terms of general trends, secure attachment exhibited a positive association with help-seeking, whereas attachment avoidance was linked with a decrease in help-seeking. Attachment anxiety presented a more intricate narrative: individuals with anxious attachment patterns were linked to higher help-seeking patterns, while also demonstrating ambivalence towards it. Specific factors, such as psychological distress, self-stigma, perceived risks, and benefits of help-seeking, along with perceived social support, were identified as mediators of the relationship. Conversely, gender and the severity of the stressor/psychological distress were found to be moderators of the relationship.

In conclusion, findings from this systematic review validate the links between attachment and help-seeking, thus aligning with the fundamental premises of attachment theory. However, there is still the need for additional research to offer a more holistic model of attachment and help-seeking. The potential implications of this study could foster the development of individualized, attachment-based interventions specifically designed to encourage help-seeking among young individuals, thus underscoring the importance of continued discourse in this field.

Introduction

Adolescence and Emerging Adulthood

As the gateway to adulthood, the pivotal stage of adolescence and emerging adulthood is marked with unique opportunities and challenges that can shape an individual's development into adulthood. There are no clear guidelines on what ages should be classified as adolescence and/or emerging adulthood. Developmental psychologists have argued that an extended age group combining both adolescents (age 10-19) and emerging adults (age 19-24), correlates more closely to adolescent growth and common transitions during this life stage (Arnett, 2000; Sawyer et al., 2018; World Health Organisation, 2023b). Thus, in concordance with the World Health Organisation's (WHO; 2023b) "young adult" age classification of 10 to 24 years, this review refers to adolescents, young people (YP), and emerging adults interchangeably.

The "critical and sensitive" period of young adulthood encompasses transformation in every domain of functioning – biological, cognitive, emotional, and psychosocial development/changes from childhood to adulthood (Arnett, 2000; Eccles et al., 2003). This developmental stage stands out as a time of elevated susceptibility to the onset of various mental health difficulties/diagnoses, such as mood disorders, anxiety disorders, disorders that share impulse control difficulties and substance use disorders (Kessler et al., 2005). Remarkably, the prevalence of these disorders accelerates during the young adulthood period, with 50% of these disorders established by the age of 14 and this increases to 75% by the age of 24 (Kessler et al., 2005).

Since the Covid-19 pandemic, there has been an increase in the number of people in all age groups accessing mental health services (Care Quality Commission (CQC), 2022). Despite this increase, there is a significant proportion of children and young people (CYP) suffering from a wide range of mental health disorders, who are reluctant to seek help – a

concern that has garnered substantial attention (Health and Social Care Committee, 2021; WHO, 2022). Recent mental health statistics reported by NHS England (2021) showed that 58.1% of young adults (aged 17-23) who reported mental health concerns did not seek help or advice; and additionally, over a quarter (26.2%) of parents of CYP (ages 6-16) who had mental health concerns, did not seek help (NHS, 2021).

Help-seeking

Navigating through the trials and tribulations of life is an inevitable aspect of our existence, and it can sometimes be challenging to determine when or how to independently manage these obstacles. Help-seeking emerges as an adaptive response, frequently utilized as a mechanism of communication to garner support from others in mitigating challenges or navigating distressing experiences (Rickwood & Thomas, 2012). Existing research has delineated help-seeking into two primary forms, namely, informal, and formal. Informal help-seeking is characterized by soliciting assistance within a personal context from one's social network, encompassing friends and family (Rickwood & Thomas, 2012). This type of help-seeking is non-institutionalized and relies on interpersonal relationships and social ties. On the other hand, formal help-seeking involves reaching out to professionals such as educators, physical and mental health practitioners, community service providers, or other workers in the professional realm (Rickwood & Thomas, 2012). Understanding the nuances of these two forms of help-seeking can offer valuable insights into the pathways individuals choose when they are in need of support, thereby informing more responsive and tailored approaches to meet their needs.

From a psychological perspective, help-seeking is a process characterised by three interlinked stages: 1) an individual's help-seeking attitudes –, “*determination of a problem, expectations of seeking help, acknowledgement of the need for help, identifying suitable sources, being open to seeking help from them, having a sense of ability to seek help despite*

potential barriers”, 2) an individual’s intention to seek help – “*prioritising devising plans and forming intentions to seek help over alternative coping behaviours, prior help-seeking expectations*” 3) the individual’s help-seeking behaviour – “*approaching external sources to seek help*” (Rickwood & Thomas, 2012; Tomczyk et al., 2020). Research has not only shown help-seeking attitudes to be the strongest predictors of increased help-seeking behaviour (Shaffer et al., 2006; Vogel & Wester, 2003), but also help-seeking intentions have been found to predict increased help-seeking behaviours (Mackenzie et al., 2006; Sutton, 1998).

Seeking external help in times of distress has a "positive ongoing impact" across an individual's lifespan (Lee, 1999), such as improved mental health, general well-being, increased social and academic outcomes (Eisenberg et al., 2011; Lee, 1999; Vidourek et al., 2014). Positive help-seeking attitudes and behaviour in YP reduce mental health risks such as self-harm and suicidality (Lindow et al., 2020; Pumpa & Martin, 2015; Schäfer et al., 2004). Additionally, early help-seeking tendencies and behaviours impact the treatment and diagnosis of depression, in YP and adults. Studies show it leads to improved treatment response and functioning and reductions in depressive symptoms, suicidal risk and rate of relapse, compared to individuals who delayed seeking treatment (Davey & McGorry, 2019; Eisenberg et al., 2011; Sherwood et al., 2007).

Emerging adulthood, following the early childhood phase, represents another significant "window" of developmental change and vulnerability (Moretti & Peled, 2004). Numerous studies have investigated a wide array of elements that influence the help-seeking process among YP, encompassing stigma (Kosyluk et al., 2021), gender (McDermott et al., 2017; YoungMinds, 2021), comfort in self-disclosure (Vogel & Wester, 2003), perceived severity of psychological distress (Biddle et al., 2007) culture, parenting style, perceived usefulness of help, and perceived social support (Eigenhuis et al., 2021; McDermott et al., 2017; Spence et al., 2016).

Nonetheless, failure to seek help when required has been associated with negative outcomes that span academic, social, cognitive, psychological, and personal domains (Eigenhuis et al., 2021; McDermott et al., 2017; Spence et al., 2016). These findings underscore the necessity of creating and promoting strategies that encourage adaptive help-seeking in YP, thereby mitigating potential negative outcomes.

Help-seeking and Attachment

Studies have argued that comprehending YP's attachment style is a pivotal factor that can impact their help-seeking behaviours. Scholars argue that attachment theory offers a functional framework for understanding help-seeking behaviours, as an individual's attachment style significantly influences emotional regulation and coping responses to emotional threats (Mikulincer & Shaver, 2009). Attachment security has been associated with stronger therapeutic alliances, improved treatment compliance, and more favourable outcomes in CYP and adults (Ibrahim et al., 2018; Johnson et al., 2006; Levy et al., 2011).

Given these findings and considering the vulnerability to developing prolonged mental health issues during young adulthood, understanding the role of attachment styles and their influence on the help-seeking process is of paramount importance. This understanding can shape early intervention efforts, alter the strategies of clinical professionals, and inform the methods of providing support and planning interventions for YPs who might otherwise endure their struggles in solitude (Komiya et al., 2000).

Bowlby (1969) stressed that the main objective for a child seeking support is to bolster their sense of security. Attachment theory posits that attachment patterns are established during the early years of life, a period when a child is entirely dependent on their primary caregiver(s) for survival. During infancy, attachment is conceived as a "biologically based repertoire" of organized and non-verbal behaviours, such as smiling, crying, clinging, and proximity-seeking (Bowlby, 1969). The primary caregiver becomes the central

attachment figure (AF), forming a "secure base" from which the child explores the world and a "safe haven" for seeking comfort and support (Bowlby, 1969). The 'primary attachment strategy' refers to a process whereby a child's attachment system is activated during threatening situations, stimulating the child to seek proximity and support from their primary attachment figure (PAF; Main, 1990)

A two-stage process of activations of the primary attachment strategy was proposed by Mikulincer and Shaver (2003). It begins with the preconscious activation of the attachment system through threat appraisal, thereby enhancing the accessibility of the mental representation of the AF (Mikulincer & Shaver, 2003). Once the preconscious arousal reaches a significant threshold, it triggers the conscious intention to seek help manifested through behavioural intentions and actions in approaching the AF for support (Mikulincer & Shaver, 2003).

During young adulthood, YP start to separate from their PAF (i.e., Parents; Blos, 1967). While early attachment exerts significant influence over later development, attachment status can change either through improvements or deterioration of the parent-child relationship (Moretti & Peled, 2004; Waters et al., 2003). At this stage, YP experiences a dilemma of maintaining the parent-child attachment, whilst also exploring new social roles, relying more on oneself and developing attachment relationships with peers and romantic partners (Moretti & Peled, 2004). The expansion of an individual's social network during these stages allows for formal AFs (i.e. teachers, counsellors and support workers) to support them during times of adversity (Moretti & Peled, 2004).

Fearon and colleagues (2014) twin study revealed that genetics significantly influences attachment patterns during adolescence, suggesting that apart from environmental factors, genes ($\approx 40\%$ heritability) also contribute to individual differences in attachment in young adulthood. As children mature, their genetic tendencies can shape caregiver responses,

influencing the child's sense of security, and overall attachment throughout development (Fearon et al., 2014).

Attachment theorists have proposed that various attachment patterns in CYP and adults play a vital role in shaping the quality and stability of attachment relationships (Ainsworth, 1991). While the stimulation of attachment strategy leads to automatic proximity-seeking to the PAF, individual differences reflect the different strategies in affect regulation, in particular, strategies relating to controlling or dampening negative emotions in stressful situations (Ainsworth, 1991; Mikuliner & Shaver, 2003). Individual differences in attachment patterns were first observed in 12 to 18-month-old infants by Ainsworth and colleagues (1978) using The Strange Situation.

Bowlby (1973) suggested that attachment styles derive from an individual's history of interaction with their PAFs. Frequent interactions with caregivers in childhood, particularly during moments of threat and uncertainty, form the bedrock of a child's ability to regulate affect and establish internal working models (IWM; i.e., mental representations) of themselves, others, and the world (Bowlby, 1969; Fonagy & Target, 2007). The development of IWMs determines how individuals perceive their relationships and are essential relational templates guiding the help-seeking process. By moulding expectations and interactions in relationships, IWMs enable individuals to manage stressful situations and evaluate the necessity for seeking proximity to others during distressing periods (Hazan & Shaver, 1987; Larose & Bernier, 2001).

It's worth noting that the state of "needing help" or the act of seeking help inherently triggers the activation of the attachment system, which subsequently influences an individual's attachment strategies (Fonagy & Allison, 2014). Levy and colleagues (1998) posited that IWMs, in the form of parental representations, were significantly associated with attachment styles. Moreover, Fonagy and Allison (2014) introduced the psychological

construct of Epistemic Stance (ES), which refers to an individual's "attitudes or approach toward acquiring and evaluating knowledge, including the methods they use to gather information and the criteria they apply to determine its credibility." This concept is closely intertwined with an individual's attachment style.

Available and responsive caregivers provide children with optimal and positive conditions to experience the world and seek support in times of need or curiosity, thereby fostering a secure attachment (Bowlby, 1969; Fonagy & Target, 2007). This allows the child to develop positive IWM of the self as valuable and worthy and the other as reliable and trusting and the world as a safe and positive place. Correspondingly, develop the ability to mentalize (understanding oneself and others in terms of thoughts, behaviours, and emotions) which in turn opens a metaphorical "epistemic superhighway" (Fonagy & Allison, 2014). This enables the individual to be less defensive, and encourages openness to new information, including relational experiences, from their social environment, creating "epistemic trust" (ET – refers to "the willingness to consider new knowledge from another person as trustworthy, generalizable, and personally relevant"; Fonagy & Allison, 2014). This, in turn, increases the likelihood of these individuals utilising help-seeking behaviours as coping strategies to regulate emotions during stressful situations Research has indicated that secure attachment was associated with increased confidence in the supportiveness of others, perceiving greater availability of support and feeling more satisfied with the support received (Mikuliner & Shaver, 2003). Conversely, insecure attachment is associated with ineffective mentalizing capacities and "epistemic vigilance" (EV), characterized by inflexibility and rigidity in knowledge, which impede individuals' ability to learn from their social environment (Fonagy & Allison, 2014).

When exposed to misattuned, inconsistent and unpredictable AFs, individuals experience fear, and a sense of insecurity as they are unsure whether the AFs would respond

to their needs (Ainsworth, 1991; Bowlby, 1969). This leads to the development of insecure-anxious attachments and negative IWMs (Ainsworth, 1991; Bowlby, 1969). These are more likely to have a pessimistic view of the world and would view themselves as inadequate at regulating their emotions. Research has shown that individuals with a negative maternal representation had a biased judgement of recorded supportive interaction (Shirk et al., 1997). Individuals with attachment anxiety utilise hyperactivating strategies in their attempt to seek support and minimise the emotional distance from their AFs (Mikulincer & Shaver, 2003), which may manifest as tendencies to cling onto and/or control the other's behaviour (Bowlby, 1969). While valuing the importance of the other, these individuals also harbour a fear of disappointment and rejection within their relationships (Deng et al., 2016). Consequently, anxiously attached individuals are more inclined to seek help, but experience uncertainty about the reliability and trustworthiness of the other (Deng et al., 2016). Supporting this view, YP with attachment anxiety were more likely to acknowledge psychological distress and participated more in self-disclosure to others (Dozier, 1990; Jiang et al., 2017; Maunder et al., 2006; Vogel & Wei, 2005). Additionally, research has found that anxiously-attached participants score lower on self-reports of good therapeutic alliance (Mallinckrodt et al., 1995), increase in psychological distress at therapy termination, and less clinical improvement when compared to secure individuals (Mikulincer et al., 2013; Herres et al., 2021).

PAF unavailability and harsh rejection give rise to insecure-avoidant attachment styles (Ainsworth, 1991). These individuals learn that they cannot approach others for proximity/support-seeking to regulate emotions and fear punishment and rejection. They develop negative IWM of the self as worthless, unresponsive and unable to attract support from others, as they view others as punitive and disinterested in them (Griffin & Bartholomew, 1994). These individuals are more likely to utilise deactivating coping

strategies to prevent their attachment system from activating and avoid additional distress resulting from the unavailability of AFs (Griffin & Bartholomew, 1994). Avoidantly attached individuals tend to deny attachment needs, remain entrenched in their inflexible thought patterns and are prone to be dismissive of others as potential sources of support; they instead, prioritise self-reliance and independence (Kobak & Sceery, 1988; Mikulincer et al., 2003). These individuals have been associated with reduced acknowledgements of their psychological distress and were less likely to participate in self-disclosures in therapy (Dozier, 1990; Vogel & Wei, 2005). Additionally, they were also found to exhibit less goal-directed behaviour, satisfaction with provided support, decreased perception of the availability of support, and clinical improvement (Herres et al., 2021; Mikulincer & Shaver, 2007).

PAF who have experienced trauma and/or have unresolved experiences of loss, tend to display inconsistent and erratic caregiving behaviours, giving rise to individuals with disorganised attachment styles (Main & Solomon, 1990). Such individuals develop chaotic, incoherent and disrupted IWM, viewing themselves as unworthy, unlovable and incapable of receiving consistent care, and others as threatening and unreliable (Beeney et al., 2017; George, 1996; Main & Solomon, 1990). They often exhibit a variety of contradictory behaviours and may seem confused, unpredictable and/or erratic (Main & Solomon, 1990). In response to threat, such individuals display an intense combination of hyperactivating and deactivating strategies, where they exhibit a strong desire for closeness and comfort, but simultaneously reject others aggressively, appearing fearful/disorientated during interpersonal interactions (Beeney et al., 2017; George, 1996). Research has found that individuals with disorganised attachments have a higher likelihood of severe psychopathology (Atkinson & Goldberg, 2004; Beeney et al., 2017; Cicchetti & Doyle, 2016; Liotti, 2012; Paetzold & Rholes, 2020). Additionally, they were also found to exhibit

decreased therapeutic alliance and clinical improvement (Carlson et al., 2009; Facompré et al., 2018; Fearon et al., 2010; Liotti, 2014).

It not only is important to understand the impact that individual differences in attachment styles have on the help-seeking process, but it is also imperative to broaden our understanding of potential factors that might affect the pathway between attachment and help-seeking. By taking into account the various factors, that influence the attachment-help-seeking relationship, a more comprehensive model could be developed (Shaffer et al., 2006). Since research has established that an individual's attachment pattern is difficult to change in adulthood, it is pertinent that intervention efforts consider factors that are likely to predict the attachment-help-seeking relationship during young adulthood (Moretti & Peled, 2004).

In summary, the literature suggests that individual differences in attachment styles significantly influence an individual's help-seeking strategy during distressing times and impact their well-being and personal adjustments, particularly amidst the rapidly changing phase of young adulthood. Achieving a more profound understanding of the help-seeking process in YP, through the lens of attachment theory, has crucial clinical implications.

Despite the significance of attachment theory in shaping help-seeking tendencies and behaviours in YP, no systematic review currently elucidates these relationships. Therefore, this review systematically evaluates the existing literature exploring help-seeking in YP, from an attachment theory perspective. Additionally, this review strives to offer insights into potential moderating and mediating factors of the relationship.

Methods

Protocol

The methodology for this review was guided by the recommendations for undertaking systematic reviews and adheres to the updated version of the Preferred Reporting Items of Systematic reviews and Meta-Analyses (PRISMA) guidelines (Page et al., 2021). A search in

May 2022 at the International Prospective Register for Systematic Reviews (PROSPERO) established that no similar review had been previously registered or conducted.

Eligibility Criteria

The inclusion criteria for this review were:

1. Utilised quantitative or mixed-method methodology.
2. Utilised cross-sectional, longitudinal, and experimental designs.
3. Articles that are available only in English.
4. Focused on adolescent and/or emerging adults, age range between 10 to 25 years or mean age below 25 years old.
5. Papers published in peer-reviewed journals.
6. Full-text availability

No criteria were specified for the time period of authorship or publication of papers.

The exclusion criteria were applied in two steps. The first step was excluding papers, through the screening of titles and abstracts studies that were:

1. Not relevant
2. Not published in a peer-review journals.
3. Theoretical papers
4. Qualitative studies
5. Not available as full text.

The second step was excluding full-text articles that were:

6. Study participants were neither adolescents nor emerging adults (aged 10-25 years), the sample was specifically described as “adults” with the age range or mean age of participants not described, or if the sample’s mean age was 26 years or more, or the age range was not described.
7. Studies focused on help-seeking for physical health difficulties.

8. Studies focused on informal help-seeking behaviours within romantic relationships or on behalf of another person.

Information Sources and Study Selection

Three databases: PsycInfo, Web of Science and PubMed were searched to find published studies in November 2022 and February 2023. Additionally, the reference sections of key papers on the topic were also searched.

Search Strategy

The search algorithms included three overall concepts and were as follows:

Concept 1 – search terms related to attachment:

(Attachment OR attachment style* OR attachment pattern* OR attachment relationship* OR attachment characteristic* OR internal working model)

Concept 2 – search terms relating to help-seeking:

(Help-seeking OR help-seeking behavi#r* OR help-seeking attitude* OR help-seeking intention* OR support-seeking OR treatment seeking).

Concept 3 – search terms relating to adolescents/YP age group:

(Adolescent* OR adolescence OR young adulthood OR emerging adult* OR preadulthood OR young people OR teenager* OR youth*)

The Boolean operator OR was used to distinguish between variants of each term; AND was used to combine the three search terms (attachment, help-seeking, YP). For all three concepts, only titles and abstracts were searched.

Study Selection

The initial search yielded 1085 English language abstracts. Duplicates were removed using Zotero, a reference management software. The remaining 599 articles were exported to Rayyan where two reviewers (author and Trainee Clinical Psychologist) independently screened all titles and abstracts. If the article met the inclusion criteria and did not violate the

exclusion criteria, the full text was obtained and independently reviewed by the reviewers. This resulted in a pool of 69 potentially relevant studies.

The second stage of the selection process entailed a detailed examination of full-text articles and the exclusion of those that did not meet the second-step exclusion criteria. An additional three papers were identified through reference lists and the contents of the full-text articles. A discrepancy arose during this process, reflected in the moderate initial inter-rater reliability of Cohen's $k = 0.58$. The divergence centered around inclusion criteria related to participant's age. Initially, the criteria outlined an age range of 10 to 25 years old. There was a deliberation over whether to include studies where the age range slightly exceeded this boundary, extending up to 26, but maintaining an average of age of below 25, and also those papers that did not specify an age range but reported an average age of below 25. As the review progressed, it became evident that excluding papers that lacked a specific age range but had an average age below 25 was inadvertently omitting numerous relevant studies. This realization prompted both reviewers to critically assess these articles, resulting in the development of pros and cons list regarding their inclusion. After in-depth discussions, involving both reviewers and consultations with the research supervisor regarding the modifications in the criteria, a revise and more precise criterion was established: only papers that did not specify an age range but had an average age below 25 would be included. Conversely, studies with an age range exceeding 25, even if their average age was below 25, were excluded. This change aimed to capture the breadth of relevant research while staying true to the study's initial objectives. This process resulted in 24 relevant studies for this review.

Data Collection Process

Full-text articles were accessed through Royal Holloway University of London's online library service or Google.com. Inter-library loans and contacting authors were done when full-text articles were not available through the preceding methods.

Data Extraction

The lead author extracted the data and information from the 24 remaining articles and recorded them into a table on Microsoft® Word. The table format and descriptors of data were modelled in Fleeman and Dundar's (2017) systematic review guide. Table 1 provides the summary of extracted data.

Quality Assessment

Due to the minimal availability of brief quality assessment tools that are applicable to assess multiple research designs, four quality measures, The *Quality Assessment Tool for Quantitative Studies* (QATQS; National Collaborating Centre for Methods and Tools (NCCMT), 2008), Critical Appraisal Skills Programme (CASP; Singh, 2013), the Mixed-Methods Appraisal Tool (MMAT; Hong et al., 2018), and the Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies (QATOCC-SS; National Heart, Lung, Blood Institute, (NHLBI); 2021) were combined and adapted to evaluate the quality of studies in this review. The first three measures are empirically grounded and standardised tools, with reports of good validity and reliability, used to assess the overall quality of studies with various methodologies (Armijo-Olivo et al., 2012; Hong et al., 2018; NCCMT, 2008; Singh, 2013), while the last measure has been used in various systematic reviews (Daraz et al., 2019; Healy et al., 2019).

Following guidelines outlined by Boland and colleagues (2014), a checklist system which consists of ten items within four major sections was developed for this study. Examples of items include: "sample representative of target population", "measures utilised are standardised", "important confounders identified" and "appropriate analyses conducted". The rating for each section comprises "yes", "moderately", "no", or "unclear". Further descriptions of the tool are available in Appendix A.

Synthesis of Results

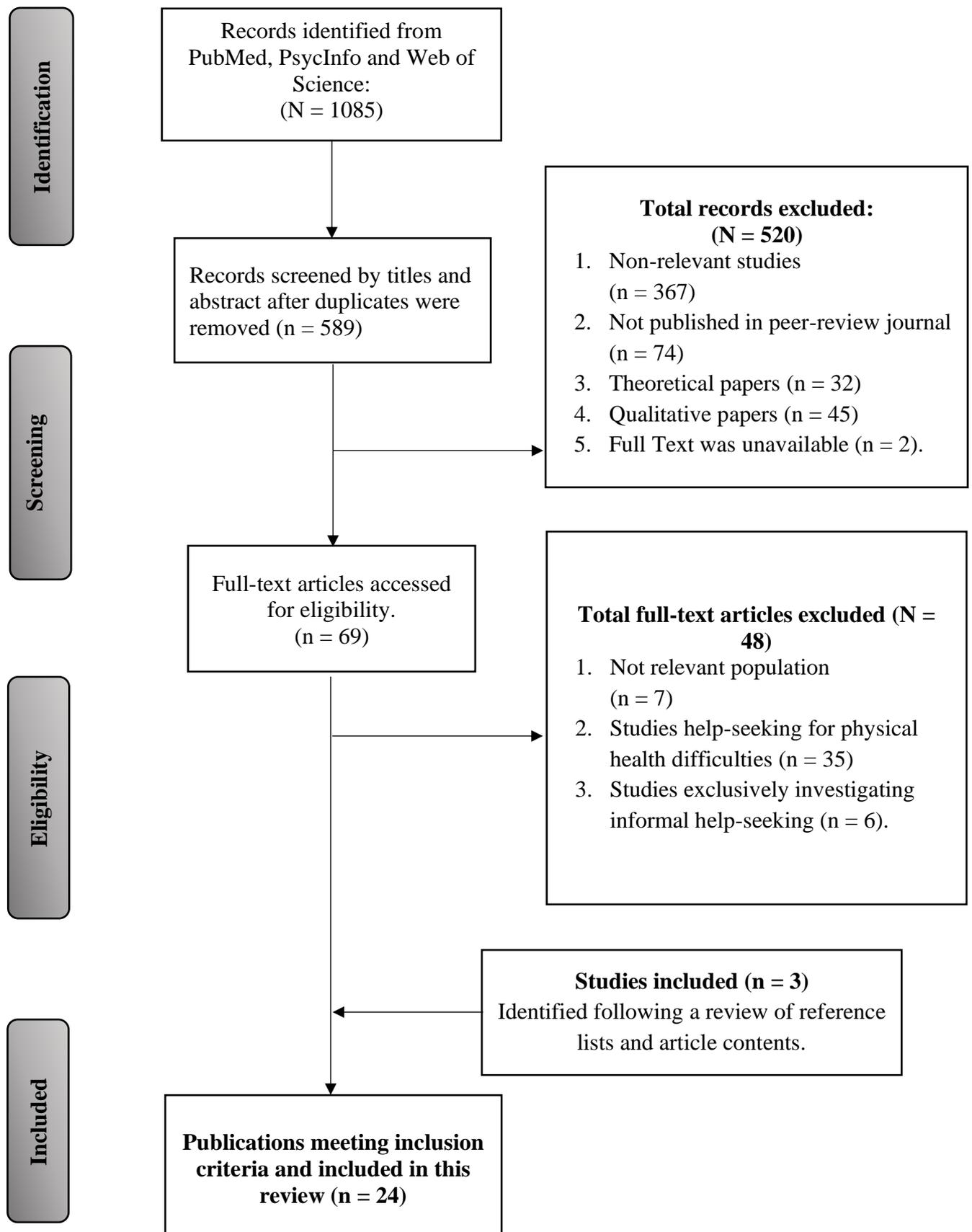
Given the significant variations in design and statistical procedures utilised in the obtained studies (e.g., cross-sectional, correlation, differential and prospective), statistical synthesis of the results was deemed not practical or valuable. Instead, a narrative synthesis approach, providing a textual description of patterns in the extracted data was deemed the most appropriate method (Boland et al., 2017). Similarities and differences between studies, methodological strengths and weaknesses and examination of limitations/potential biases will be discussed.

Results

Figure 1 presents the PRISMA flow chart for the selection of the included studies in this review.

Figure 1

PRISMA flow diagram illustration search and study selection process



Study Characteristics

Study characteristics and findings are displayed alphabetically in Table 1 below. Studies were published between 1995 to 2020. Research was conducted in a variety of countries including, the U.S.A. (n = 12), Canada (n = 2), Taiwan (n = 2), Israel (n = 1), Turkey (n = 1), Czech Republic (n = 1) and U.K (n = 2). Three papers did not state the location of their studies. Most of the studies' participants were identified as White/Caucasian (n = 11) whilst five studies indicated that the majority of their participants were identified as part of the Global Majority. 15 studies were cross-sectional/cohort studies, seven studies were prospective (following the same group of participants over a duration of time) and two studies were longitudinal (repeated cross-sectional studies, where participants are mostly or completely distinct from previous sampling time-points).

The studies had participant samples ranging from 34 to 1682 ($M = 308$); with an overall total of 7701 participants who were identified as “young people”. The age range of participants was identified in 13 studies, which comprised YP within the ages of 10 to 25 years. Seven studies (Charles & Charles, 2006; L. J. Holt, 2014a, 2014b; L. J. Holt et al., 2018; Turan & Erdur-Baker, 2014; Wadman et al., 2019), including one article with two studies (Larose, et al., 1999 – seen as one paper, but statistics from the two sub-studies were used separately when appropriate) indicated mean ages of participants but not the age range. An overall mean age was calculated ($M = 17.72$) from 19 papers which indicated the sample mean age. Four studies (DeFronzo & Panzarella, 2001; Ognibene & Collins, 1998; Shaffer et al., 2006; Vogel & Wei, 2005) did not indicate participant age range or mean, but all identified their participants as “undergraduates”.

The majority of the studies (n = 16) recruited YP from universities and five studies recruited students from schools (Sevcikova, et al., 2015 – primary and secondary; Shirk et al., 2005 – middle, and; Moran, 2007; Stagg & Li, 2019 – high/secondary; Gaylord-Harden et al.,

2009 - public schools). One study examined the specific population of undergraduates who experienced sibling loss through death (Charles & Charles, 2006), one study explored a specific population of university students experiencing mild/moderate/severe psychological distress, two studies examined the population of academically at-risk undergraduates (Larose et al., 1999; Larose & Bernier, 2001), and one study explored the populations of soldiers (Mikulincer & Florian, 1995). Three studies used longitudinal designs, Gaylord-Harden et al (2009) drew participants from a larger study exploring how stressful life events affect urban youth from low-income backgrounds; Larose and Bernier (2001) drew participants from a longitudinal study of adjustment; and Seiffge-Krenke and Beyers (2005) explored help-seeking and attachment trajectories from adolescence to young adulthood. While most of the studies adopted mix-gender samples, with 19 studies having a greater proportion of females, one study included a male-only sample (Mikulincer & Florian, 1995).

Table 1*Data Extraction for study characteristics for final studies included.*

Study	Location	Participant demographics				<i>Mean \pmSD</i>	<i>Population, other demographics, recruitment source (sampling method).</i>	Study characteristics	Instruments	
		<i>Sample Size</i>	<i>% Female</i>	<i>Sample age range (years)</i>	<i>Design and data collection methods</i>			<i>Attachment</i>	<i>Help-Seeking</i>	
Berardi et al. (2020)	Midwest, USA.	215	77.2	18-24	18.19 \pm 0.56	First-year university students. University	Prospective, correlational Online, self-administered surveys.	IPPA	CCSC	
Charles & Charles, (2006)	Michigan, USA	34	70.6	NM	18.35 \pm 3.37	Undergraduates who had experienced sibling loss through death. Majority Caucasians (n = 26) Psychology courses. Undergraduate students.	Cross-sectional design (CS), correlational. Self-report online questionnaire data.	4-AAS	WOSC	
Cheng et al., (2015)	Southwest, USA.	1682	65	18-25	20.97 \pm 1.99	Majority Non-Hispanic White (42.8%) and Latino/Latina (41.3%) University	CS, correlational. Self-report online questionnaires.	ECRS	ISCI	

DeFronzo & Panzarella (2001)	USA.	265	69.8	NM	NM	Undergraduates	CS, Correlational	RSQ	SSFQ
Gaylord-Harden et al. (2009)	USA.	393	55%	10-16	12.3 ± 0.85	Adolescents	Self-report questionnaire completed in person. Longitudinal, correlational.	IPPA	CCSC
Greenberger & McLaughlin (1998)	West, USA.	157	68.2	18-22	20 ± NM	Majority identified as Black/African American (70%) Seven urban public schools. College students	Self-report questionnaire completed in-person. CS, correlational and differential.	HS RQ	COPE-I
Holt (2014a)	Northeast, USA.	93	64	NM	18.09 ± 0.53	Majority identified as Caucasian (49.4%) and Asian American (26.9%) University social science courses. First-year university students	NM Prospective, correlational	IPPA	Eight items from Karabenick's (2003) 13-item help-seeking scale
						Majority White (68%). Small, urban, liberal arts college.	Self-report measures administered online.		

Holt (2014b)	Northeast, USA.	204	58	NM	18.1 ± 0.60	First-year university students Majority Caucasians (70%) Small, urban, liberal arts college.	Prospective, correlational Self-report measures administered online.	IPPA	Eight items from Karabenick's (2003) 13-item help-seeking scale.
Holt et al. (2018)	Northeast, USA.	156	64	NM	21.27 ± 0.54	Fourth-year university students Majority Caucasians (73%) Small, urban, liberal arts college.	Longitudinal, multivariate analyses. Self-report measures administered online.	IPPA	Eight items from Karabenick's (2003) 13-item help-seeking scale.
Larose et al. (1999)	Study 1: Québec, Canada	174	67.8	NM	18.9 ± 3.5	First-year students studying humanities, social work, business, or sciences courses. An urban college.	CS, correlational NM	ASQ	NOS SHT/TRAC

	Study 2: Canada	92	71.7	NM	17.9 ± 1.9	Academically at-risk students Two colleges that were offering volunteer mentoring programmes for new students who were at risk academically.	Prospective, correlational Students completed self-report questionnaires, in-person after three distinctive testing sessions.	ASQ	NOS SHT/TRAC
Larose et al. (2001)	Québec, Canada	91	65.9	16-20	17.4 ± 0.84	First-year academically at-risk students Majority Caucasians (93%) Two colleges that were offering volunteer mentoring programmes for new students who were at risk academically.	Prospective, correlational, and differential Students completed self-report questionnaires in-person after three distinctive testing sessions.	IPPA ASQ	ACBS

Larose & Bernier (2001)	NM	62	50	16-17	NM	Adolescents 100% Caucasians From longitudinal study (Larose & Bovin, 1998) of adjustment to college (random sampling).	Prospective, correlational Students completed self-report questionnaires in-person and through face-to-face interviews with research assistants.	AAI – French Translation.	TRAC
Li & Yang, (2009)	Taiwan	326	85.9	18-22	19.7 ± 0.94	College students 100% Han Chinese (Voluntary sampling.)	CS, correlational Students completed self-report questionnaires. NM of how it was administered.	RAAS – Chinese translation	CSI
Mikulincer &	Israel.	92	0	18	18 ± NM	Soldiers who are starting their 4-month-long	Prospective, correlational	HS – Hebrew version	WOSC – Hebrew version

Florian (1995)						rigorous combat training.	Self-report measures completed in-person on a group basis.			
						100% Israeli, 89% lived in urban areas, and 90% completed high school.				
						Israeli Defence Forces				
Moran, (2007)	England.	112	33.9	14-15	15 ± 0.3	High-school students	CS, correlational	RQ		GHSQ
						Majority Asians (61%)	Students completed self-report questionnaires during lesson time (in-person)			
						A London state secondary school. The area was selected based on its high rank on the 'index of deprivation' and its ethnic diversity.				
Ognibene & Collins (1998)	NM	81	50.6	NM	NM	Undergraduate psychology students.	CS, correlational	4-AAS		WOSC
							Self-reported measures completed in-person, during mass testing sessions.	RSQ		
Seiffge- Krenke & Beyers (2005)	NM	112	57.1	Time 1: 14 years	14.05 ± 1.40	NM of recruitment strategy.	Longitudinal – 5 time points, across 7 years, correlational.	AAI		CASQ

						Majority of sample were Germans (93%). The sample characteristics were representative of German population (i.e., SES, parent's marital status, education level)	Participants were contacted annually to complete self-report questionnaires online. At final time point (21y), participants were interviewed, face-to-face with researchers.		
Sevcikova et al (2015)	South Moravian region in Czech Republic	451	55	12-18	15.1 ± 1.86	Students who were cyberbullied. 34 Primary and Secondary schools (including government and private schools located in various settings such as small towns, villages, main city).	CS, correlational Self-report measures completed online, in school (in-person).	IPPA – Czech translation	1-item questionnaire measuring help-seeking.
Shaffer et al. (2006)	USA	821	52.6	NM	NM	Undergraduate psychology students. Majority European American (91%).	CS, correlational Self-report questionnaire completed in-person.	ECRS	ATSPPH ISCI

Shirk et al. (2005)	Rocky Mountains West state, USA	168	58.3	12-15	13.58 ± 0.52	Large midwestern university. Eighth-grade students.	CS, correlational	MES	SRCS
						Majority of the sample was comprised of middle-class families and 79.6% identified as European American descent.	Adolescents participated in face-to-face interviews to complete questionnaires.		
Stagg & Li (2019)	Taoyuan, Northwest Taiwan.	723	54.6	12-15	14.4 ± NM	Three middle schools located in urban and suburban areas. High-school students.	CS, correlational	RAAS – Chinese translation	ATSPPH
						State-run schools.	Self-report questionnaire completed in-person in the classroom.		
Turan & Erdur-Baker (2014)	Ankara and Istanbul, Turkey	589	47.2	NM	22.43 ± 2.21	University students. Recruited from nine universities (convenient sampling)	CS, correlational and differential.	RQ – Turkish translation	ASPH-S
							Self-report questionnaire completed in-person.		

Vogel & Wei (2005)	Midwest, USA.	335	70.7	NM	NM	Undergraduate psychology students. Majority European American (85%) University	CS, correlational Self-report questionnaire completed in-person.	ECR	ISCI
Wadman et al (2019)	Northeast, England	273	83.6	NM	20.73 ± 3.21	University students who reported experiencing mild/moderate/severe psychological distress. Majority were primary earners (70.7%) and have higher education qualifications (65.2). Public university	CS, correlational and differential Self-report collected through online surveys	RAAS	3-item Help-seeking scale

Note. NM = not mentioned; 4-AAS – Bartholomew and Horowitz Four-Category Measure of Adult Attachment Style; AAI – Adult Attachment Interview; ASPH-S – Attitudes Toward Seeking Psychological Help-Shortened Scale; ASQ – Attachment Style Questionnaire; ATSPPH – Attitudes Toward Seeking Professional Psychological Help Scale; CASQ – Coping Across Situations Questionnaire; CCSC – Children’s Coping Strategies Checklist; CSI – Coping Strategy Indicator; GHSQ – General Help-Seeking Questionnaire; HS – Early Parental Attachment-Hazan and Shaver’s description of how people typically feel in close relationships; IPPA – Inventory of Parent and Peer Attachment; ISCI – Intentions of Seeking Counselling Inventory; MES – Maternal Expectations Scale; NOS – Network Orientation Scale; RAAS (Revised Adult Attachment Scale); RQ – Relationship Questionnaire; RSQ – Relationship Scale Questionnaire; SHT/TRAC – Seeking Help from Teacher subscale of the Test of Reactions and Adaptation in College; ACBS – Academic Counselling Behaviour Scale; SRCS – Self-Report Coping Scale; SSFQ – Stress and Social Feedback Questionnaire; WOSC – Ways of Coping Checklist; ECR – Experience of Close Relationship Scale.

Measures

Attachment styles/patterns and help-seeking processes were measured and collected differently across the included studies. Data were mainly collected through self-reported questionnaires. Most studies had participants complete measures in person (n = 11) or online (n = 6). A few combined two methods of collection (See Appendix B). Six studies offered the questionnaires in translated versions (i.e., Chinese, Czech, French, Hebrew and Turkish).

Attachment

Attachment measures differed in the ways they were collected (self-report collected online, in-person, in mass group testing and face-to-face interviews). Additionally, there were differences in the referred attachment types (i.e., attachments to parent/s vs. attachment to others in close personal relationships, parental representations) as well as the type of attachment construct being evaluated, such as categorical measures (n = 13) or dimensional measures (n = 12; See Appendix C).

The Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991) was the most frequently used categorical measure (n = 3). It is a self-report questionnaire aimed to assess an individual's attachment styles and IWM in close relationships. It comprises four brief paragraphs describing each of the prototypical attachment styles (secure, preoccupied, dismissive or fearful). Participants rated on a 7-point Likert scale, the extent to which attachment style reflected their experiences of close relationships. Scores from the RQ provide the categorisation of attachment styles. The RQ demonstrates strong validity and reliability (Griffin & Bartholomew, 1994; Sümer & Güngör, 1999).

Among the different dimensional tools employed, the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) emerged as the most commonly utilised help-seeking measure (n = 7). The IPPA is originally a 53-item self-report questionnaire, split into two sections (28 items for parental-attachment and 25 items for peer attachment), that

measures attachment security across three dimensions: Trust, Communication of Anger and Alienation. Participants rated each item on a 5-point Likert scale based on their relationship perceptions. Varying versions of the IPPA, including the original, the Revised-IPPA as well as variations with single (i.e., parent section) or both (parent and peer) sections of Revised or Original IPPA, were utilised across the studies. Despite these variations, all IPPA versions were found to be adequately valid and reliable (Armsden & Greenberg, 1987; Guarnieri et al., 2010; Laible et al., 2004).

Help-Seeking

A variety of help-seeking measures were administered across studies, corresponding to the three types of help-seeking (attitudes, intentions, and behaviours; refer to Appendix D).

Seven studies examined help-seeking attitudes. The most commonly used questionnaire was an 8-item scale, derived from Karabenick's (2003) original 13-item help-seeking scale. This questionnaire was employed by the same author/s across three different studies, which included one study (L. J. Holt et al., 2018), administering the measure twice: Time 1 – the items were worded to reflect help-seeking attitudes and Time 2 – questions reflected help-seeking behaviours. The author chose to exclude 5 items due to their lack of relevance. This shortened version has shown good reliability (L. J. Holt, 2014a, 2014b; L. J. Holt et al., 2018; Karabenick, 2003).

Four studies examined help-seeking intentions (Cheng et al., 2015; Moran, 2007; Vogel & Wei, 2005), with one study utilising two different measures (Shaffer et al., 2006). The most frequent measure is the Intentions to Seek Counselling Inventory (ISCI; Cash et al., 1975), a 17-item measure where participants rate their intentions to seek counselling support for each item (reflecting a common problem). Adequate reliability and validity were reported for this measure (Cepeda-Benito & Short, 1998).

15 studies utilised measures to examine help-seeking behaviours, with one study (Larose et al., 1999 – into both sub-studies) using two measures to explore help-seeking attitudes and behaviours. The Ways of Coping Checklist (WOSC; Folkman & Lazarus, 1980) was most frequently utilised (n = 3). This 26-item questionnaire assesses the retrospective use of cognitive and behavioural coping strategies towards different stressors. All three studies administered a modified version of the WOSC, where they considered four subscales, of which the support-seeking sub-scale (i.e., “I talked to someone about my feelings”) was most common. Adequate psychometric properties for the WOSC were found (Mikulincer et al., 1993).

Seven studies examine general coping strategies and indicated help-seeking behaviour as part of those strategies/subscales. Two studies utilised only the support-seeking subscales to assess general help-seeking behaviours (Berardi et al., 2020; Shirk et al., 2005). Two studies examined help-seeking behaviour from specific formal figures (Larose, et al., 1999 – teachers and mentors; Wadman et al., 2019 – medical professionals), and another two studies explored help-seeking behaviours from preferred supportive figures. One study (Larose & Bernier, 2001) explored help-seeking behaviours from both formal (teachers) and informal (peers) figures. One study (Larose et al., 2001) investigated help-seeking behaviours within counselling sessions.

Quality Assessment

The overall quality assessment of the included studies was generally good. Detailed results can be found in Table 2.

A total of 22 out of the 24 studies provided adequate descriptions of research questions, including clear hypotheses. Regarding the representativeness of the samples, 16 out of the 24 studies achieved this criterion. Two studies, Cheng et al. (2015) and Larose & Bernier (2001)

reported sample characteristics that were over-represented when compared to their target population.

Four prospective studies indicated that they lost more than 20% of participants to follow-up after baseline. 18 studies adequately described sample characteristics and demographics. Four studies did not specify the ethnicity of participants, and within these, two studies (DeFronzo & Panzarella, 2001; Ognibene & Collins, 1998) did not report the sample age range and mean.

Seven studies utilized standardized measures, 16 studies used partially standardized measures, and one study did not provide sufficient information about the psychometric properties of their measures. Two of the studies used translated versions of measures which were unvalidated (Larose & Bernier, 2001; Li & Yang, 2009).

17 studies identified important confounders, such as the representativeness or demographics of the sample, and the sampling methods. Fifteen studies sufficiently accounted for these confounding variables, while nine studies moderately accounted for them.

18 studies sufficiently described their study designs and analytical procedures, while four studies partially described, and two did not sufficiently describe this information.

Statistical analyses were generally appropriate across the studies, with 23 studies employing suitable statistical techniques. However, one study was unclear due to a lack of explanations about the analysis procedures.

22 studies provided sufficient interpretation of their results. However, one study (Holt et al., 2018) did not report certain statistics for significant results, and another study, (Turan

& Erdur-Baker, 2014) had potential discrepancies in statistical interpretation, which could impact the conclusions drawn.¹

¹ The results presented in this paper have been revised by the author to address a potential error. However, the revised statistics are subject to verification and confirmation by the authors. Further clarification is being sought, and the accuracy of these results is yet to be confirmed.

Table 2*Quality Assessment of selected studies included in this systematic review.*

Author, date	Study Sample			Data Collection Methods		Confounders		Statistical Analysis and Interpretations		
	Research question explicitly/ad equately described?	Represent target population ?	Sufficiently described?	Measures used are standardised?	Measures reflect concepts that are identified in the research question?	Important Confounders Identified?	Important Confounders (where possible) accounted for?	Appropriate description of study design and procedures	Appropriate study design and analyses conducted?	Sufficient interpretation of results?
Berardi et al. (2020)	Y	M _o	Y	M _e	Y _h	Y	Y	Y	Y	Y
Charles & Charles, (2006)	Y	Y	Y	Y	Y	Y	M	M	Y	Y
Cheng et al., (2015)	Y	M _{an}	Y	Y	Y	Y	M	Y	Y	Y
DeFronzo & Panzarella (2001)	Y	U	N _{cd}	U _e	M	Y	Y	M	Y	Y
Gaylord-Harden et al. (2009)	Y	Y	Y	M	Y	Y	Y	Y	Y	Y
Greenberger & McLaughlin (1998)	Y	Y	Y	M _{ef}	M	Y	M	Y	Y	Y
Holt (2014a)	Y	M _o	Y	M	Y	Y	Y	M	Y	Y

Holt (2014b)	Y		Y		Y		M		Y		Y		Y		Y		Y		Y
Holt et al. (2018)	Y		M _o		Y		M		Y _i		Y		M		Y		Y		M _i
Larose et al. (1999)	Study1	Study 2																	
Larose et al. (2001)	Y	Y	Y	Y	Y	Y	Y _g	Y _g	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Larose & Bernier (2001)	Y		Y		Y		M _f		Y _k		Y		Y		Y		Y		Y
Li & Yang, (2009)	Y		M _e		Y		M _{ei}		Y _h		Y		Y		M		Y		Y
Mikulincer & Florian (1995)	Y		Y		Y		M _i		Y _h		M		M		M		U		Y
Moran, (2007)	M _b		Y		Y		M _e		Y		M		Y		Y		Y		Y
Ognibene & Collins (1998)	Y		M		N _{cd}		M _f		Y _h		M		M		M		Y		Y
Seiffge-Krenke & Beyers, (2005)	Y		Y _o		Y		M		Y		Y		Y		Y		Y		Y
Sevcikova et al., (2015)	Y		Y		Y		M _j		M		Y		Y		Y		Y		Y
Shaffer et al. (2006)	Y		Y		M _c		Y _g		Y _h		M		M		Y		Y		Y
Shirk et al. (2005)	Y		Y		Y		M _e		Y		Y		Y		Y		Y		Y
Stagg & Li (2019)	Y		M _a		Y		Y		Y _h		M		M		Y		Y		Y

Turan & Erdur-Baker (2014)	M	Y	M _d	Y	Y	Y	Y	M	Y	N _m
Vogel & Wei (2005)	Y	Y	M _c	Y	Y	M	M	Y	Y	Y
Wadman et al. (2019)	M _b	Y	M _d	M _e	Y	Y	Y	Y	Y	Y

Note. Item quality ratings: Y = Yes (item sufficiently addressed); N = No (item not sufficiently addressed); M = Moderately (item moderately addressed); U = Unclear (insufficient information is provided).

^a Reported one or more demographic characteristics are overrepresented when compared to the target population; ^b Hypothesis not clearly stated, ^c Age range AND Mean age not reported; ^d Ethnicity not reported; ^e Publication cited for additional details; ^f Two measures used for attachment; ^g Two measures used for help-seeking; ^h Measure was adapted (i.e. using certain subscales/shortening of items); ⁱ translated version of measures used is yet to be validated; ^j Single item measure used; ^k Measure created for this research; ^l statistics not reported; ^m incorrect statistics reported; ⁿ Eligible participation at baseline < 50%; ^o Loss to follow up after baseline >20%;

Study Findings

Results presented in this section are organised, according to the three stages of help-seeking 1) attitudes, 2) intentions and 3) behaviours. Results gathered across studies are presented alphabetically and according to the three types of help-seeking in Table 3 below. The number of studies exploring the relationships may differ from the total number of studies included as some investigated two types of help-seeking within one study.

Attachment and Help-seeking Attitudes

Four studies examined the relationship between attachment and help-seeking attitudes. Two measured attachment on a continuum (Holt, 2014a, 2014b) and two measured attachment styles categorically (Stagg & Li, 2019; Turan & Erdur-Baker, 2014). Holt (2014a; 2014b) measured parental attachment, while Stagg and Li (2019) and Turan and Ed-Baker (2014) measured current/adult attachment statuses.

From a secure parental-attachment lens, Holt (2014a, 2014b) found that positive attitudes about academic help-seeking were associated with individuals with secure attachment. Higher parental and peer attachment predicted more positive expectations of receiving help from social networks; it was also associated with more positive expectations and help-seeking attitudes towards therapy (Holt, 2014a, 2014b). Similarly, Turan and Erdur-Baker's (2014) ascertained that the presence of internal working models (IWM), which are substructures of attachment styles (i.e., self-model (identified in secure and anxious attachments) and other-model (identified in secure and avoidant attachments), was a significant predictor of help-seeking attitudes. However, some results were shown to be incorrect within their research, and thus findings should be interpreted with caution.

Stagg and Li (2019) discovered that individuals with attachment anxiety predicted more negative help-seeking attitudes as compared to attachment dependency or closeness. Larose et al. (1999) examined general expectations of help-seeking through an individual's

‘network orientation’ (defined as “*an individual’s propensity toward utilising his or her support network in times of need*” (Vaux et al., 1986)), they found that anxious and avoidant attachments were negatively associated with network orientations towards teachers, avoidant attachments showed significantly higher negative attitudes towards mentors. In a longitudinal study, Holt et al. (2018) found a negative association between students who reported either a stable-insecure or a decline in parental attachment over time, and willingness to seek academic help.

Attachment and Help-seeking Intentions

Four studies examined the relationship between attachment and help-seeking intentions. Moran (2007) explored current attachment statuses, categorically, and found that securely attached YP were more willing to seek psychological help.

Three studies measured attachment continuously and found positive correlations between attachment anxiety intentions to seek formal (counselling) support among university students (Cheng et al., 2015; Shaffer et al., 2006; Vogel & Wei 2005). However, Vogel and Wei (2005) discovered negative associations between avoidant attachment and counsellor-help-seeking intentions.

Attachment and Help-seeking Behaviours

Most of the studies explored the relationship between attachment styles and help-seeking behaviours (n = 15). Half of these studies examined help-seeking as a part of general coping strategies in response to different stressors. Five studies explored attachment on a continuum, and all found positive associations between secure parental attachment and help-seeking behaviours as compared to insecure attachment. They varied in types of attachment such as overall parental attachment (Berardi et al., 2020; Sevcikova et al., 2015), maternal attachment (Gaylord-Harden et al., 2009), and parental representations (Larose & Bernier, 2001; Shirk et al., 2005). Larose et al. (2001) also explored help-seeking behaviours in the

context of counselling and found a negative association between avoidantly-attached students and support-seeking behaviours (i.e., students' openness to self-disclosure, proactiveness in discussing and solving problems, and comfortability with building close relationships with counsellors) within their counselling relationship. Conversely, Holt et al. (2018) reported that higher parental attachment was associated with maintaining the practice of seeking help over time.

Studies that categorised attachment styles found a general pattern of positive associations between secure attachment and help-seeking behaviours as compared to individuals with avoidant attachments (Charles & Charles, 2006; DeFronzo & Panzarella, 2001; Greenberger & McLaughlin, 1998; Larose & Bernier, 2001; Li & Yang, 2009; Mikulincer & Florian, 1995; Ognibene & Collins, 1998; Seiffge-Krenke & Beyers, 2005; Wadman et al., 2019). Similarly, Berardi et al. (2020) concluded that students with secure parental attachments were more likely to seek help and have early help-seeking behaviours, such as asking others for support to solve problems or understand distressing emotions or situations to manage affect, which allows them to confidently find and engage better in new supportive relationships as compared to insecurely attached individuals.

Three studies found that attachment anxiety predicted help-seeking behaviours as compared to individuals with attachment avoidance (Ognibene & Collins, 1998; Mikulincer & Florian, 1995; Wadman et al., 2019). Two studies explored attachment styles associated with a primary figure and reported that both anxious and avoidant attachments were negatively associated with seeking help from teachers (Larose et al., 1999; Larose and Bernier, 2001).

DeFronzo and Panzarella (2001) examined the individual preferences of support figures (formal or informal) and found no significant difference between attachment styles. Both secure and avoidantly attached individuals preferred to seek support from friends over relatives or teachers. Secure individuals did not exhibit a preference for their primary support

figures. Avoidantly attached individuals were more likely to seek support from primary figures as opposed to teachers or relatives but did not show a preference for friends over primary support figures (DeFronzo & Panzarella, 2001).

Seiffge-Krenke and Beyers (2005) examined how coping styles evolved over the developmental course from adolescence to early adulthood. They found distinct development paths for secure and dismissing-avoidant groups, with the secure group indicating a prominent growth in their development of support-seeking behaviours such as increased active (i.e., direct action) and internal (i.e., cognitive) coping strategies and decreased withdrawal/avoidance from stressor, compared to those with insecure attachments who showed consistently higher avoidance towards help-seeking overtime.

Mediators of the Attachment-Help-seeking Relationship

Six studies examined mediating factors of the relationship between attachment and the help-seeking process in YP (Cheng et al., 2015; Larose et al., 1999; Ognibene & Collins, 1998; Shaffer et al., 2006; Vogel & Wei, 2005).

Ognibene and Collins (1998) recognised perceived (informal) social support, such as friends and family, as a mediator of the attachment-help-seeking relationship. They found that securely attached individuals were more inclined to seek help, possibly related to their perception of support to be more available. However, perceived support did not explain the positive attachment-help-seeking association in preoccupied-anxiously-attached individuals.

Vogel and Wei (2005) considered psychological distress as another potential mediating factor, suggesting that perceived social support and level of psychological distress had indirect associations within both anxious and avoidant attachment-help-seeking-intentions relationships. Both anxious and avoidant attachment individuals perceived less social support, which was associated with more psychological distress, and subsequently, intentions to seek professional support. An additional pathway, solely through psychological

distress (specifically somatic, general and performance distress) was also suggested to have a role in mediating the attachment-help-seeking-intentions relationship. A similar pathway was observed by Cheng et al (2015), where they defined psychological distress as anxiety and depressive symptoms. In both studies, anxious attachments appeared associated with increased psychological distress, and subsequently, intentions to seek counselling support. Conversely, no significant indirect pathway was concluded between avoidant attachment and psychological distress. Cheng et al. (2015) further proposed self-stigma of seeking psychological help as another potential mediator. This concept refers to an individual's internalisation of societal prejudice of those seeking mental health support, often leading to feelings of embarrassment or shame associated to help-seeking (Cheng et al., 2015). In this context, they suggested that attachment anxiety was linked to an increase level of such self-stigmatization, which could potentially contribute to a decrease in willingness to seek formal help.

Shaffer et al (2006) proposed a mediation model that considered anticipated risks and benefits of discussing difficulties with counsellors as potential mediators. While attachment anxiety has a positive relationship to help-seeking intentions, it also had indirect pathways through anticipated risks and benefits of help-seeking and help-seeking attitudes. In the attachment anxiety group, anticipating more risks (or benefits) was associated with a decrease (or increase) in positive attitudes to seeking support and intentions to seek counselling support. Attachment avoidance was associated with a decrease in intentions due to the anticipation of fewer benefits and more risk from seeking counselling, which is subsequently associated to the decrease in positive attitudes towards counselling.

Larose et al (1999) studied how students' social support network orientations (i.e., beliefs and attitudes seeking support) mediated the relationship between attachment and help-seeking behaviour from teachers. Both attachment anxiety and avoidance were associated

with decreased network orientation which predicted a decrease in willingness to seek support from teachers. A second prospective sub-study conducted between academically at-risk students and mentors found that general network orientations only mediated the avoidant attachment-help-seeking-behaviours relationship towards mentors (Larose et al., 1999). They suggested that associations between avoidant attachment and help-seeking behaviours correlated with IWM/attitudes of how individuals view support-seeking and maps onto their social behaviours.

Moderators of the Attachment-Help-seeking Relationship

Three studies explored the role of gender as a moderator (Greenberger & McLaughlin, 1998; Turan & Erdur-Baker, 2014) in the attachment-help-seeking relationship. Greenberger and McLaughlin (1998) examined early parental, maternal, and current attachment styles and differences in help-seeking behaviours in males and females. In males, early paternal attachment and current attachment security were predictors of emotional help-seeking, while early attachment to fathers and mothers was associated with instrumental (i.e., practical help or resources) support-seeking. In females, current attachment statuses were more important in predicting both emotional and instrumental help-seeking as compared to early attachment security. Turan and Erdur-Baker (2014) reported gender differences between the impact of self- and other-models. For males, a positive 'self' (i.e., secure, or avoidant) predicted more positive help-seeking attitudes, while for females, a positive 'self' and 'other' (i.e., secure, or anxious) predicted more positive help-seeking attitudes.²

Two studies examined the associations between attachment and help-seeking concerning various stressors. Charles and Charles (2006) examined sibling loss through death

²The results presented in this paper have been revised by the author to address a potential error. However, the revised statistics are subject to verification and confirmation by the authors. Further clarification is being sought, and the accuracy of these results is yet to be confirmed.

against everyday stressors, while Ognibene and Collins (1998) explored academic and daily interpersonal stressors. Both researchers discovered that secure and anxious attachment styles engaged in more help-seeking behaviours when responding to different stressors.

Some studies investigated how stressor severity influenced the attachment-help-seeking relationship. According to Ognibene and Collins (1998), avoidant attachment reduced help-seeking behaviour when stressors were more severe, while secure attachment increased help-seeking behaviours under stress. Sevcikova et al (2015) found that high perceived harm through cyber-bullying moderated the relationship between poor parental attachment and lower social support-seeking, and this situation might activate an individual's negative IWMs (no one to turn to), hindering their support-seeking behaviours. Wadman et al (2019) suggested that the relationship between avoidant attachment and help-seeking behaviour was moderated by the severity of psychological distress. They found that in the severe distress group, higher levels of avoidant attachment were associated with an increase in formal help-seeking behaviours, whereas an inverse relationship was observed in the mild/moderate distress group. Additionally, they discovered that individuals with higher attachment anxiety and severe levels of distress were associated with increased formal help-seeking behaviours. Shirk and colleagues (2005) proposed a moderated-mediation model demonstrating how negative maternal representations (insecure), could impede the use of help-seeking behaviours during high-stress situations.

Table 3*Results of the included studies*

Author	Is there relationship between attachment styles and help-seeking?			Mediators of the attachment-help-seeking relationship.	Moderators of the attachment-help-seeking relationship.
	<i>Attitudes/Expectations</i>	<i>Intentions</i>	<i>Behaviour</i>		
Holt, (2014a)	Secure (+)				
	Positive correlations between level of parental attachment and academic help-seeking attitudes ($r = .41$, $p < .001$).				
Holt, (2014b)	Secure (+)				
	Positive correlation between parental with academic help-seeking attitudes ($r = .29$, $p < .001$)				
Larose et al., (1999)	Study 1: Avoidant (-) and Anxiety (-)				
	Negative associations in both attachment avoidance ($b = -.86$) and anxiety ($b = -.25$) with student's (network			Student's network orientation mediated relationship between both attachment dimensions (anxious and avoidant) and help-seeking behaviours.	

orientation ($b = -.25$, $\chi^2(1,174) = 10.85$, $p < .001$), accounting for 47% of the variance in help-seeking behaviours from teachers.

Study 2: Avoidance (-)

Attachment avoidance associated with decreased students' network orientations [$b = -.63$, $Z = -2.64$, $p < .01$], predicts quality of help-seeking behaviour from mentors, accounting for 23% of the variance in help-seeking behaviours from mentors.

Stagg & Li
(2019)

Anxiety (-)

Attachment anxiety negatively correlated with attitudes towards seeking professional help ($\beta = .21$, $p < .001$) compared to attachment dependency ($\beta = .21$, $p < .001$) and closeness

Turan & Erdur-
Baker (2014)

($\beta = .08$, $p < .001$; $F(3,719) = 29.99$, $p < .001$).
Separate regression analyses conducted for males and females.

Females – Secure > Anxious, Avoidant
Turkish female students reported more positive other-models (i.e., secure, and anxious attachment styles; $\beta = .26$, $p < .05$) and self-models (i.e., secure, and avoidant attachment styles; $\beta = .12$, $p < .05$) predicted more positive help-seeking. *

Males – Secure, Avoidant > Anxious

Men with positive self-models (i.e., secure, and avoidant attachments) predicted more positive help-seeking attitudes ($\beta = .11$, $p < .05$).

Gender moderates' attachment-help-seeking relationship.

Cheng et al.
(2015)

Anxiety (+)^a

Chi-squared analysis revealed direct, positive prediction between attachment anxiety and help-seeking intentions ($b=0.2$, $p<0.001$).

Relationship between attachment anxiety and help-seeking partially mediated by self-stigma and mental health difficulties.

Moran (2007)

Secure > Insecure

T-test revealed securely attached students ($M = 4.32$, $SD = 1.86$) were more likely to seek help compared to insecure ($M = 3.56$, $SD = 1.76$) attached students, [$t(96) = -2.04$, $p < .05$].

Shaffer et al.
(2006)

Anxiety (+)^a

Attachment anxiety has direct, positive effect ($\beta = .15$, $Z = 4.84$, $p < .001$) on individuals' help-seeking-intentions

Help-seeking attitudes, anticipated risks and benefits mediate the relationships between **both avoidant and anxious attachments**

Vogel & Wei
(2005)

Anxiety (+)
Attachment anxiety
had direct, positive
effect on help-
seeking intentions
($\beta = .17, p < .05$).

Avoidant (-)

Attachment
avoidance had
direct, negative
effect on help-
seeking intentions
($\beta = -.25, p < .001$).

and help-seeking-
intentions
Relationships between
**anxious and avoidant
attachments** and help-
seeking-intentions was
mediated by perceived
social support and
level of psychological
distress.

Berardi et al.
(2020)

Secure (+)

Parental attachment
positively linked with
help-seeking
behaviours ($r = .16,$
 $p < .05$).

Charles &
Charles (2006)

**Secure and Anxious >
Insecure**

Secure and anxious
individuals more likely
to seek support with
general stressors [t

DeFronzo &
Panzarella
(2001)

(32) = 1.92, $p < .05$]
and sibling loss [t (30)
= 1.84, $p < .05$] than
insecure (dismissive,
fearful) individuals.
Secure (+)

Secure individuals
engage more in help-
seeking behaviour than
avoidant-attached
individuals [F (2, 182)
= 7.685, $p = .001$] for
real-life stressors.

Secure (+)

Gaylord-Harden
et al. (2009)

Positive associations
between maternal
attachment and
support-seeking levels
[$\chi^2(1) = 0.21$, $p = .65$].
Secure (+)

Greenberger &
McLaughlin,
(1998)

More secure
attachments positively
associated with
support-seeking and
problem-solving.

Gender moderated
relationship between
**attachment (adult
and early)** and help-
seeking.

Adult and early
attachment security
associated with

seeking instrumental and emotional support.

Differences between females and males.

Females: Adult attachment associated with emotional (b = .31, $p < .01$; b = .39, $p < .05$) and instrumental help-seeking (b = .29, $p < .05$; b = .33, $p < .01$) when each parental attachment was controlled.

Males: Early paternal (b = .31, $p < .05$) and adult attachment (b = .31, $p < .05$) associated with emotional help-seeking.

Holt et al.,
(2018)

**Parents: Secure >
Insecure (-)**

Significant ($p < .05$) decline in willingness to seek academic help over time in participants with

Secure (+)
Higher parental attachment security associated with help-seeking over time; $F(1, 146) = 4.18$, $p = .043$.

decline in parental attachment over time ($M_{T1} = 4.34$, $SD = .66$ vs $M_{T2} = 3.93$, $SD = .75$); and in participants with stable-insecure parental attachment over time ($M_{T1} = 4.04$, $SD = .71$ vs $M_{T2} = 3.76$, $SD = .77$; T-statistics not reported).

Peers: Insecure (-)

Peer attachment negatively correlated with favourable attitudes to academic help-seeking ($r = -.16$, $p = 0.045$).

Larose et al.,
(2001)

Avoidant (-)

Avoidant students (who assessed their own behaviours) negatively associated with support-seeking behaviours at start of counselling ($S_2 = -.29$, $p < .01$).

Students' prediction of counsellor sensitivity partially mediated relationship between **parental representations** and help-seeking from counselling when behaviours were self-assessed.

Larose &
Bernier (2001)

Secure (+)

Positive parental representation (secure IWM) positively predicted student-reported support-seeking behaviour within counselling (S₂: R² = 13.1, p<.01; S₆: R²= 32.6. p<.001)

Avoidant (-)

Attachment avoidance negatively associated with help-seeking from teachers (T₁: r = -.30, p <.05; T₂ = r = -.31, p< .05) and assistance from peers (T₂ = r = -.31, p< .05)

Anxiety (-)

Attachment anxiety (preoccupied) negatively correlated with help-seeking from teachers at Time 2 (r = -.27, p< .05)

Li & Yang,
(2009)

Secure (+)

Secure attachment had direct positive effect on social support-seeking [b = .73, p < .05].

Mikulincer &
Florian (1995)

Secure & Anxious > Avoidance

Soldiers with secure (M = 2.83, SD = .52) and ambivalent (M = 2.78, SD = .52) attachment employed more help-seeking, F (2, 89) = 7.08, p < .01, as compared to avoidant soldiers (M = 2.24, SD = .52).

Ognibene &
Collins (1998)

Secure & Anxious > Avoidant

Secure (M = .45; SD = .67) and preoccupied (M = .18; SD = .84) students reported more support-seeking compared to fearful (M = -.38; SD = .86) and dismissive students (M

Relationship between **secure attachment** and help-seeking mediated by perceived social support from friends [F (2, 28) = 12.33, p < .001] and family [F (2, 28) = 2.81, p < .01]

Seiffge-Krenke
& Beyers,
(2005)

= -.27; SD = .92), [F
(3, 77) = 4.71, p< .01]
**Secure (+) > Insecure
(Anxious and
Avoidant)**

Secure individuals
demonstrated increase
in formal and informal
help-seeking (active
coping strategies) over
time ($M_{T1(\text{age}14)} = 2.35$,
SD = 1.32 vs
 $M_{T5(\text{age}21)} = 4.13$, SD =
1.17) as compared to
insecure-dismissive
($M_{T1(\text{age}14)} = 2.45$, SD =
1.37 vs $M_{T5(\text{age}21)} =$
3.48, SD = 1.32) and
insecure-preoccupied
individuals ($M_{T1(\text{age}14)} =$
3.12, SD = .91 vs
 $M_{T5(\text{age}21)} = 3.68$, SD =
1.48)
[F (8, 424) = 3.02,
p<.01].

Sevcikova et al.
(2015)

Secure (+) > Insecure

Cyber-victims with
higher parental
attachment (OR =

High perceived harm
moderated relationship
between **poor parent
attachment** and low

Shirk et al.,
(2005)

1.67, $p < .001$) more likely to seek support, as compared to cyber-victims with poor parental attachment.
Secure (+)

support-seeking behaviours.

Wadman et al.,
(2019)

Regression analyses found adolescents with more negative maternal representations reported less support-seeking ($\beta = .49$, $F(1,165) = 51.85$, $p < .001$) compared to teens with more positive maternal representations
Anxious (+)

Levels of psychological distress moderate relationship between avoidant attachment and help-seeking behaviours.

Regression analyses showed anxious students predicted more **formal help-seeking** behaviours [$b = .20$, $p = .003$, $\chi^2(8) = 51.07$, $p < .001$].
Additionally,

**Severe distress group
– Anxious (+) and
Avoidant (+)**

Formal help-seeking
behaviour positively
associated with
anxious ($r = .36$,
 $p < .001$) and avoidant
($r = .25$, $p = .010$)
attachments.

**Mild/Moderate
distress group –
Avoidant (-)**

negative relationships
found between
avoidant attachment
and help-seeking ($r =$
 $-.20$, $p = .009$)

No significant
relationship between
anxious attachment
and help-seeking.

Note. * Correct significant statistics reported

^a No significant relationship for attachment avoidance

Discussion

The present literature review draws on a plethora of theoretical constructs and a robust body of empirical findings which suggest that attachment styles bear a close relationship with help-seeking tendencies and behaviours. Findings from the majority of studies included in this review suggest that individuals with secure attachment are more likely to express favourable attitudes towards help-seeking, in contrast to those with insecure attachment styles. This inclination, grounded in the Theory of Planned Behaviour (TPB), is likely rooted in their inherent trust in and valuation of interpersonal relationships (Ajzen, 1985, 1991). Such trust and valuation play a pivotal role in shaping their behavioural intentions (Ajzen, 1985, 1991; Lac et al., 2013). In this context, this review also finds that individuals with secure attachments not only possess greater intentions to seek help but are also more likely to engage in adaptive help-seeking behaviours.

On the other hand, insecure attachment styles, particularly avoidant and anxious attachment styles, were generally associated with less favourable attitudes towards help-seeking, lower intentions to seek help, and less adaptive or effective help-seeking behaviours. This pattern seems to be particularly prevalent among those with avoidant attachment styles, who tend to value self-reliance and tend to suppress or dismiss their needs for help.

However, it's important to mention that the relationship between attachment and help-seeking is not necessarily linear or straightforward. For instance, a few studies found that attachment anxiety, characterized by a fear of rejection or abandonment, can sometimes lead to higher levels of help-seeking, perhaps due to a heightened need for reassurance and support (Cheng et al., 2015; Shaffer et al., 2006; Wadman et al., 2019). Additionally, several factors were found to potentially mediate or moderate the relationship between attachment and help-seeking. The existing literature has identified potential mediating factors such as psychological distress, general network orientations (e.g. attitudes and beliefs about seeking

help), help-seeking attitudes, perceived social support, anticipated risks and benefits, and self-stigma, while moderating factors identified include the nature of the distress or problem (e.g., whether it's perceived as severe or stigmatized), gender (with females generally being more likely to seek help than males), and the presence of social support.

Intriguingly, Larose and colleagues (2001) highlighted through an in-depth examination of mediating variables that the correlation between internal working models (IWMs) of parents and help-seeking behaviours was mediated by students' perception of the counsellor's sensitivity. Complementing this finding, Ognibene & Collins (1998) noted that perceived social support from friends and family uniquely functioned as a mediator between secure attachment and help-seeking behaviours. These observations align with theoretical propositions related to attachment and epistemic trust, asserting that secure attachments, fostered through past experiences with reliable attachment figures (AFs), catalyse the opening of an "epistemic highway." This promotes individuals' formation of positive expectations and attitudes towards others, thereby increasing their willingness to rely on and learn from others during periods of distress (Bowlby, 1969; Fonagy & Allison, 2014). Therefore, securely attached individuals are not only more likely to perceive help-seeking positively but are also more inclined to turn to others for help during distress, using this as a mechanism to regulate their emotions.

Insecure attachment styles, however, complicate the understanding of help-seeking behaviours. Specifically, anxious, and avoidant attachments have been identified to be associated with help-seeking behaviours in distinct ways.

In this review, there was an observable lack of consistency across the studies that examined the relationship between attachment anxiety and help-seeking. Although a positive correlation was observed in the majority of these studies, there were several instances where this association either failed to reach statistical significance or where contradictory results

were observed in relation to anxious attachments and help-seeking attitudes, intentions, and behaviours. Specifically, the studies conducted by Larose et al., (1999), Larose and Bernier (2001) and Stagg and Li, (2019), reported negative correlations between individuals with anxious attachment and help-seeking. In contrast, Cheng et al., (2015), Shaffer et al. (2006) and Wadman et al. (2019), identified positive associations between anxious attachment and help-seeking behaviours.

Adding further complexity, Mikulincer and Florian (1995) and Ognibene and Collins (1998) suggested that individuals with secure or anxious attachments were more likely to seek help than those with avoidant attachments. However, other studies conducted by Holt et al. (2018), Moran (2007) and Seiffge-Krenke and Beyers (2005), proposed that both anxiously and avoidantly attached individuals (i.e., individuals with insecure attachments) were less likely to seek help compared to their securely attached counterparts. Finally, Larose et al. (2001) and Li and Yang (2009), were unable to establish any significant association between anxious attachments and help-seeking behaviours.

The inconsistencies observed across these studies may be further elucidated through the examination of mediating and moderating factors presented in this review, which illuminates the intricate pathways linking attachment anxiety and help-seeking. For example, Vogel and Wei (2005) found that the level of psychological distress and perceived social support, while Larose et al. (1999) found that a student's network orientation mediated the relationship between both dimensions of attachment (anxiety and avoidance) and help-seeking intentions. However, some studies, such as Cheng et al. (2015), reported opposing pathways. They found a direct and positive association between attachment anxiety and help-seeking attitudes, but an inverse relationship was observed through the pathway of self-stigma. Similarly, Shaffer et al. (2006) found that attachment anxiety was directly and indirectly (through anticipated benefits) positively related to help-seeking intentions. Yet,

they also discovered an indirect negative pathway linked to help-seeking intentions through anticipated risks (Shaffer et al., 2006). Psychological distress (Sevcikova et al., 2015; Wadman et al., 2019) and gender (Greenberger & McLaughlin, 1998; Turan & Erdur-Baker, 2014) were identified as moderating variables that can influence the association between attachment anxiety and help-seeking.

This apparent inconsistency in findings might be reconcilable within the broader framework of attachment theory. While the theory posits that individuals with anxious attachment tendencies are likely to recognise the importance of interpersonal relationships and rely on others for support, it has been argued that these individuals may excessively focus on their distress and efforts to seek help (Allen & Hauser, 1996). The activation of the attachment system in stressful situations motivates individuals to seek proximity to caregivers for emotional regulation (Mikulincer & Shaver, 2003). However, in the context of insecure attachments, alternative strategies such as hyper-activating responses are developed, where individuals intensely pursue and cling to caregivers, when proximity-seeking fails to alleviate distress (i.e., caregiver unavailability; Hazan & Shaver, 1987). The TPB offers another perspective, emphasizing the role of societal expectations. An anxiously attached individual, while perceptive of society's directive to seek help (subjective norm), is often ensnared into their internal fears (Ajzen, 1985, 1991; Lac et al., 2013). Their history, marked by inconsistent responses from caregivers, magnifies their fear of rejection and dependence, making the act of seeking support a turbulent journey. This emotional turmoil, coupled with the hyper-activation of their attachment system, further intensifies their perception of stress (Ajzen, 1985, 1991; Huntsinger & Luecken, 2004). This therefore leads to epistemic vigilance (hypervigilance to potential risks and uncertainty), which in turn elevates their need for support to such a degree that it feels inaccessible (Gillath et al., 2016). Subsequently, these difficulties in obtaining adequate comfort from caregivers or support figures might cultivate

feelings of rejection and disappointment. These feelings often lead anxiously attached individuals to either abandon their pursuit to seek help or to engage in it improperly, further complicating the relationship between attachment anxiety and help-seeking behaviours (Mikulincer & Shaver, 2012).

Concerning the relationship between avoidant attachments and help-seeking attitudes, intentions, and behaviours, all but three studies incorporated in this review found that attachment avoidance was associated with decreased help-seeking. Even those studies that did not establish a direct relationship found that attachment avoidance was indirectly linked to reduced help-seeking through mediating or moderating variables (Sevcikova et al., 2015; Wadman et al., 2019). Despite the substantial evidence connecting avoidant attachment to reduced help-seeking, mediation/moderation analyses also suggest indirect and positive pathways between attachment avoidance and help-seeking (Larose et al., 1999; Turan & Erdur-Baker, 2014; Vogel & Wei, 2005; Wadman et al., 2019). Interestingly, attachment avoidance and anxiety exhibit unique direct pathways with help-seeking, yet they share common mediators.

Larose et al. (1999) found that attachment avoidance was positively associated with help-seeking behaviours from teachers and mentors through the mediating role of decreased student network orientations. Additionally, Vogel and Wei (2005) discovered that through the mediating roles of high psychological distress and decreased perceived social support, attachment avoidance predicted increased intentions to seek support. Similarly, Wadman et al. (2019) found that the severity of psychological distress moderated the attachment-help-seeking relationship. In individuals with severe psychological distress, they observed an association between attachment avoidance and increased formal help-seeking, while in individuals with mild or moderate psychological distress, they saw a decrease in formal help-seeking. Sevcikova and colleagues (2015) found that high perceived harm only moderated the

negative relationship between parental attachment and help-seeking behaviours. Turan and Erdur-Baker (2014) discovered gender as a moderator and concluded that avoidant attachment predicted more help-seeking attitudes among Turkish men, suggesting that collective cultural factors (i.e., gender expectations in terms of help-seeking, competency, and self-worth) could explain the findings.

According to attachment theory, individuals with avoidant attachments have a history of negative experiences with caregivers being consistently unavailable and dismissive. This history predisposes them to devalue the importance of others and rely solely on themselves for emotional regulation (Gillath et al., 2016; Kobak & Sceery, 1988). The TPB notes that such adverse experiences can shape their perceived behavioural control. These past negative experiences could alter how they perceive their ability to manage their challenges, possibly making them feel less competent or hesitant to seek external support (Ajzen, 1985, 1991; Huntsinger & Luecken, 2004). Therefore, these individuals are more likely to develop strategies to deactivate their attachment system as a means of self-protection from rejection (Mikulincer & Shaver, 2003). Fonagy and Allison (2014) proposed that individuals with avoidant attachments exhibit a reduced ability to lower their epistemic vigilance, leading to decreased receptivity to learn from, maintain confidence in, and trust others. This history of attachment avoidance can subsequently foster a state of epistemic mistrust if left unaddressed (Fonagy & Allison, 2014).

Strengths, Limitations, and Future Directions

Data

The overall coherence of the findings across different methodologies, contexts, and samples in this review underscores the robustness of the observed attachment-help-seeking relationships. However, most studies included here employed cross-sectional, correlational, and/or differential designs, which limits the ability to draw causal inferences or ascertain the

directionality of the relationship between attachment and help-seeking. Given that attachment status can change over time (Moretti & Peled, 2004; Waters et al., 2003), we cannot definitively conclude that positive experiences of help-seeking do not result in more secure attachments, or that unaccounted confounding variables might offer a better explanation for the relationship between attachment and help-seeking. Therefore, more longitudinal, and prospective designs are needed to establish the causal effect of the relationship and to explore or account for potential mediating and moderating factors (i.e., ethnicity and SES), as well as to examine changes in attachment patterns and their effects on help-seeking. It is important to note, however, that a few studies in this review employed longitudinal and prospective designs and reported comparable findings between attachment and help-seeking.

The overall quality of the papers included in this review was good; however, a relative weakness was identified in the description of study samples. The present review included samples of YP ranging from adolescence to emerging adulthood, with the majority being White and female, and recruited from universities and schools. Furthermore, the majority of the studies included in this review were conducted in Western cultures, and a subset of them did not report participants' ethnicities. These age, gender and ethnicity criteria's limits the generalisability of the review findings to other age and gender group as well as other cultural groups with different parenting practices and social norms, which may impact the attachment-help-seeking relationship. For instance, gender expectations, social support networks and formal help-seeking in Eastern or Asian cultures may differ substantially from Western cultures (Bornstein, 2012; Nam & Lee, 2015; Strand et al., 2019; Turan & Erdur-Baker, 2014; Vogel & Wei, 2005). The interrelation between attachment, help-seeking, and the influences of different cultural, ethnic, and gender groups holds practical and theoretical significance, which should not be overlooked in future investigations.

The measures used to conceptualise and quantify attachment and help-seeking varied considerably across the studies included in this review. To a certain extent, this can be considered a strength of the data, as it suggests that the relationship between attachment and help-seeking holds across multiple diverse measures and constructs, excluding single-item measures of help-seeking. However, the diversity in the conceptualisation of help-seeking and attachment poses a challenge for making precise comparisons across studies, as there is a risk of drawing inappropriate conclusions due to the disparities in the definitions and measures used.

Moreover, in the context of this review, it is essential to critically evaluate the reliability and validity of the measures utilised to quantify attachment and help-seeking. The quality assessment revealed that only seven of the included studies used standardised measures reflecting concepts relevant to the research question, thereby allowing for a reasonable assumption that the findings are based on valid and reliable constructs. In contrast, the remaining studies used partially standardised measures, with the majority utilising unstandardised or revised help-seeking measures that assessed help-seeking in a general sense (i.e., DeFronzo & Panzarella, 2001; Larose et al., 2001). One study even employed a single-item measure for help-seeking (Sevcikova et al., 2015). The use of unstandardised or single-item measures introduces potential psychometric issues, which may lead to unreliable and invalid results (Neugebauer et al., 2021; Sauro, 2018). Therefore, it is recommended that future research should employ standardised measures of both attachment and help-seeking to ensure the validity and reliability of the results.

In addition, the existing literature presents a contrasting perspectives on how childhood attachment styles influence subsequent relationships and outcomes (Cyr et al., 2010; Fraley et al., 2013; Shapiro & Levendosky, 1999; Toth & Cicchetti, 1996; Weinfield et al., 2000; Widom et al., 2018). One significant factor contributing to this ambiguity is the

variability and reliability of attachment measures. While the quality rating system applied in this research offers insights into individual study quality, it is crucial to consider the broader methodological challenges in the field. There's a growing debate about the consistency and reliability of various tools used to measure attachment (Crowell, 2021; Thompson et al., 2022). For instance, while both the Adult Attachment Interview (AAI) and Experience of Close Relationship Questionnaire (ECR), can “predict important aspects of close relationship functioning in adulthood, they do not predict the same outcomes in the same ways” (Crowell, 2021). Such disparities suggest that results derived from one validated attachment measure may not align with those from another due to the differences in measurement methods, objectives and developmental periods guiding measure creation. Consequently, this can lead to confounding results when discussing vital theoretical issues such as stability and change in attachment overtime. Furthermore, reliance on different attachment measures can result in varied correlates, significantly influencing our understanding of the implications of security and insecurity in attachment. When considering findings from this systematic review, generalisations about the nature of attachment, especially when derived from varied measures with different assessment strategies, must be approached with caution. In essence, the literature's mixed findings could be attributed, in part, to the characteristics of the employed measures rather than the core construct of attachment itself. Such variability underscores an urgent need for more standardised and consistent tools in attachment research, emphasizing a clearer discernment of the relationships between childhood attachment patterns and their influence on later life trajectories.

The use of self-report measures across the studies included in this review offers several advantages, including efficiency, the ability to tap into participants' subjective experiences, and the ease of anonymous and longitudinal administration (Paulhaus & Vazire, 2009). However, it's also essential to consider the limitations of self-report measures, such as

social desirability bias, response biases like memory recall issues regarding early-attachment or past help-seeking situations, and the inability to account for potential confounding variables, such as a participant's current stress level (Cheng et al., 2015; Gaylord-Harden et al., 2009; Paulhaus & Vazire, 2009). While a few studies explored the mediation/moderation role of psychological distress, other potential influences such as current stress levels were not thoroughly examined. Hence, although self-report measures provide valuable data regarding the relationship between attachment and help-seeking, these limitations should be taken into account when interpreting the findings.

Moreover, this review surfaced only a limited number of studies that examined the mediating and moderating factors of the attachment-help-seeking relationship. Notably, mentalizing capacities or epistemic trust have not been identified as such factors. Even though these concepts offer a compelling theoretical framework to elucidate the attachment-help-seeking relationship, their recent emergence in the field and predominant focus on mental health difficulties may have resulted in a lack of studies examining these constructs in the context of attachment and help-seeking. Thus, this indicates a need for more research focused on replication and further exploration of these mediating and moderating factors, which could provide a deeper and more nuanced understanding of the complex interrelationships among these factors and their influence on attachment and help-seeking.

Additionally, this review found no research identifying specific links between disorganised attachment patterns and help-seeking. Given that individuals with disorganised attachments often have the most disruptive experiences and internal working models; and higher rates of psychopathology compared to the other categories of attachment (Atkinson & Goldberg, 2004; Cicchetti & Doyle, 2016), it is essential to understand their help-seeking tendencies and behaviours. This area remains relatively under-researched, indicating a notable gap in the literature that could impact service provisions. Hence, future research

should extensively investigate this subgroup to contribute further to the understanding of the attachment-help-seeking relationship and inform better service development for this population.

Review Process.

This review featured strengths such as the use of a replicable and clear search strategy, the involvement of a second reviewer, and the implementation of a quality assessment, which collectively suggest a reliable and robust approach (Boland et al., 2017).

Nevertheless, it's important to reflect on how the search strategy may have affected the results. For instance, the exclusion of unpublished studies could potentially introduce publication bias. This type of bias occurs when studies with statistically significant results or findings that conform to widely accepted norms are more likely to be published (Brown et al., 2017). In this context, research that does not find a significant correlation between attachment and help-seeking, or contradicts common cultural beliefs, might be less likely to be published. Also, published studies may selectively report findings based on their statistical significance or direction of effect, potentially overemphasising significant results, and under-reporting non-significant or conflicting outcomes. For instance, DeFronzo & Panzarella (2001) only explored secure and avoidant attachments, disregarding anxious attachments due to the limited sample size.

Furthermore, this review was limited to studies published in English, which implies that the findings predominantly reflect English-speaking cultural perspectives and might not be completely generalizable across different cultural contexts.

This review also employed a customised and adapted quality assessment tool, which has both strengths and limitations. The tool, developed due to the lack of appropriate tools for assessing various study designs, arguably provided a more meaningful analysis of the review's data. Additionally, this customised tool was adapted from several existing tools and

their evaluations which might help to address the limitations of these assessment instruments by providing individualised ratings for each section of studies rather than a single overall score (Boland et al., 2017). However, given the personalisation and time-intensive nature of this assessment, the second reviewer was not able to conduct an additional quality assessment. Coupled with the lack of standardisation, these aspects contribute to uncertainty regarding the reliability and validity of this quality assessment tool.

Clinical and Research Implications

Within the scope of clinical practice, the constructs of attachment patterns and help-seeking behaviours provide crucial insights across various stages of therapeutic processes.

Given that attachment is typically formed during infancy and further refined during the transformative stages of adolescence and emerging adulthood, often referred to as "critical" and "sensitive" periods (Arnett, 2000; Eccles et al., 2003), it is pivotal for clinicians to understand the impact of diverse attachment patterns on help-seeking behaviours. Additionally, clinicians must grasp the various factors that mediate and moderate this relationship. Such comprehension is vital for effectively addressing these factors during the initial stages of help-seeking, as well as to incorporate them into the client's understanding of their difficulties.

In light of this, the development of early interventions customized to individuals displaying insecure attachment styles emerges as an essential step toward devising more inclusive and accessible therapeutic strategies. One potential approach might involve integrating the concept of a "therapeutic milieu" within outreach services and educational environments (LeCuyer, 1992). This approach would create a setting conducive to fostering security and support while stimulating curiosity, particularly among individuals with avoidant attachment who often exhibit high self-reliance. Such an environment could improve

engagement and accessibility, reaching vulnerable YP who may struggle to access care (Fonagy & Allison, 2014; LeCuyer, 1992).

Furthermore, these attachment theory-informed programs should incorporate targeted interventions that respect the personal boundaries of individuals without relying solely on self-disclosure and interpersonal communication. Emphasizing the creation of safe and positive relationships for insecure individuals may promote the development of secure attachments, encourage the cultivation of epistemic trust, and thereby, increase comfort in seeking help.

According to Armstrong and Kammrath (2015), the greatest hurdle in the help-seeking process is the approach phase. Thus, minimizing barriers in this stage, such as lengthy referral processes which may deter insecure individuals, could make help-seeking more accessible and engaging, particularly for individuals with avoidant attachments. One potential method for simplifying this process is through self-referrals. Future research could further investigate the efficacy of outreach strategies grounded in attachment theory, such as those implemented at Child and Adolescent Mental Health Services (CAMHS) Tier 1 and 2 levels, in effectively enhancing help-seeking behaviours.

Understanding the impacts of varying attachment styles on help-seeking behaviours during the initial stages of individual therapy is crucial to forming a robust therapeutic alliance. The findings from the present review align with extant research indicating the significant influence of attachment patterns on the therapeutic process and outcomes. For instance, meta-analyses conducted by Diener and Monroe (2011) and Levy et al. (2011) found that secure attachment predicts stronger therapeutic alliances and superior treatment outcomes. In contrast, insecure attachments were associated with weaker therapeutic alliances; individuals with anxious attachments demonstrated minimal symptom remission, while avoidantly attached individuals exhibited negligible correlations with treatment

outcomes (Levy et al., 2011). These parallel findings underscore the influence of insecure attachment styles on the entire therapeutic process, from the initial help-seeking phase to the eventual treatment outcomes. It also illuminates the challenges faced by individuals with anxious and avoidant attachments in forming supportive relationships and placing trust in professionals to assist them (Cassidy & Shaver, 2016).

For individuals exhibiting insecure attachment patterns who are prone to disengage from therapy, supplementing attachment-informed interventions with an epistemic-trust-informed approach (i.e., through psychoeducation) during the initial therapy stages could prove highly beneficial. This approach, particularly when accounting for potential adverse childhood experiences, could facilitate a change in an individual's epistemic stance. By fostering the formation of safe and positive relationships, it encourages the development of secure attachment and the cultivation of epistemic trust (Fonagy & Campbell, 2017). Such a transformation could encourage individuals predisposed to disengagement to commit to the necessary treatment, thereby enhancing therapeutic alliances and treatment outcomes (Fonagy & Campbell, 2017; Knapen et al., 2020).

Given the present challenges facing mental health services, including extensive waitlists and the need for time-limited interventions, it is essential for clinicians to prioritize the establishment of secure and nurturing therapeutic alliances. As standalone interventions, clinicians can educate clients about attachment styles and their effects on help-seeking behaviours, particularly during the early stages of the help-seeking process. This education empowers individuals to identify their patterns and make collaborative, informed decisions about seeking support. Moreover, promoting open discussions on specific mediating/moderating factors such as gender (Greenberger & McLaughlin, 1998) mental health stigma (Cheng et al., 2015), and perceived risks and benefits (Shaver et al., 2006) can engender a deeper understanding of these elements during the early help-seeking stage.

Consequently, this can mitigate the stigma associated with help-seeking, particularly among anxiously attached individuals who are generally willing to seek support but may concurrently experience ambivalent feelings about it.

Since mental health issues were identified as a mediator between avoidant attachment and help-seeking (Vogel & Wei, 2005), clinicians could tailor interventions to educate this attachment group about mental health symptoms and increase their awareness of them. By creating a "safe haven" that addresses attachment styles, stigma related to help-seeking, and mental health issues, clinicians can nurture resilience and self-awareness in clients with insecure attachments, thereby improving their attachments and help-seeking tendencies and behaviours. While balancing therapeutic goals with their workload, clinicians could also consider integrating "therapeutic breaks" for individuals with insecure attachments. These breaks allow clients to reflect on their therapy experiences, such as building a secure and trusting relationship with a professional, and to return when they are ready to address their difficulties or symptoms.

The reciprocal nature of the attachment-help-seeking relationship underscores the necessity for clinicians to gain insight into their own attachment patterns and help-seeking tendencies and behaviours. Research conducted by Dozier and colleagues (1994) explored the interaction between therapists' and patients' attachment styles. The findings suggest that therapists with secure attachments are better equipped to adapt and work flexibly with clients who display various attachment styles. Therapists with secure attachments were able to recognise and address defence mechanisms employed by anxious and avoidant patients. Cassidy and Shaver (2016) proposed that therapists with secure attachments are more adept at addressing the dependency needs of avoidant patients and fostering autonomy among anxious patients. They concluded that therapists with secure attachments are less likely to be negatively impacted by patients' defences and can respond in non-complementary ways to

patients displaying different attachment patterns. Further research has discovered that therapists who score lower on attachment anxiety and slightly higher on avoidance are better equipped for grounding and co-regulating with patients exhibiting anxious attachment styles (Marmarosh et al., 2014; Petrowski et al., 2011). However, it seems that therapists who are avoidantly attached may tend to withdraw more from anxiously attached clients, as they may be unable to attune to the client's emotional needs for vulnerability and intimacy (Marmarosh et al., 2014; Petrowski et al., 2011).

As clinicians, the importance of self-reflectivity and reflective practice is underscored. From the insights gleaned from this review, it is apparent that understanding the interplay between attachment and help-seeking is fundamental to the therapeutic relationship. For clinicians, maintaining an awareness of their own attachment patterns and the way this impacts their help-seeking tendencies and behaviours is vital. Clinicians may occasionally experience frustration when clients seem to be seeking help inappropriately or employing ineffective help-seeking strategies. In such circumstances, it is essential to engage in self-reflection or reflective practice, through supervision or personal therapy, to address countertransference and contemplate how their own attachment patterns and perspectives on help-seeking may be influencing the therapeutic relationship (Bennett-Levy, 2003; Woodward et al., 2015; Youngson & Hughes, 2009). Early intervention efforts can enhance accessibility and engagement with services and professionals, promoting a more positive perception of help-seeking. While attachment styles tend to remain relatively stable across the lifespan, they can also change in response to significant life experiences, particularly during childhood and young adulthood (Moretti & Peled, 2004; Waters et al., 2003).

Therefore, in addition to understanding the attachment-help-seeking relationship, it is crucial for clinicians and researchers to comprehend the mediating and moderating factors that influence it. Addressing these mediating and moderating factors, even though they may

constitute a relatively small part of the overall attachment-help-seeking process, contributes to the continual development of more individualized, early interventions and prevention strategies rooted in attachment theory. This progression would, in turn, have a ripple effect, increasing accessibility and engagement with services (Cheng et al., 2015).

Conclusion

In conclusion, this systematic review investigated the relationship between attachment and help-seeking. The results of the review support the concept that secure attachment patterns predict more favourable help-seeking attitudes, intentions, and behaviours. They also align with the viewpoint that avoidant attachment styles predict less favourable support-seeking attitudes, intentions, and behaviours. The findings for individuals with attachment anxiety appear to be less consistent; these individuals often seek support but may exhibit ambivalence due to fears of rejection and abandonment. Various factors were identified as potential mediators and moderators of the attachment-help-seeking relationship, which requires further exploration in future research to better understand this relationship.

The findings from this systematic review hold significant clinical and research implications. They underscore the importance of early intervention and the establishment of attachment-based outreach programmes. They also highlight the importance of cultivating secure therapeutic relationships from the very onset of therapy. For clinicians, the results highlight the necessity of maintaining an awareness of their own attachment styles and help-seeking tendencies and behaviours. It also underscores the potential influence of these tendencies and behaviours on the therapeutic relationship. The comprehensive examination of the interplay between attachment and help-seeking within this review provides an essential foundation for future research and clinical practice, paving the way for improved therapeutic outcomes.

Chapter III: Empirical Study

*Untangling the Complexities of Bullying: Validation of the Bullying Experience
Questionnaire and Exploring the Network Dynamics between Bullying Victimization,
Childhood Trauma, Attachment, Mentalization and Borderline Personality Disorder.*

Abstract

This study aims to fill a critical gap in psychopathological research by validating the Bullying Experience Questionnaire (BEQ) and investigating the complex interrelationships between bullying victimisation (BV), childhood maltreatment (CM), romantic attachment, mentalizing abilities and features of Borderline Personality Disorder (BPD). Recognising that bullying is a persistent and deliberate action causing harm, the BEQ was developed based on a mentalization framework, to capture the multifaceted nature of BV experiences across various developmental stages. This study specifically validates the frequency component of the BEQ, a common metric in BV measurement.

Historically, research has approached BV and CM separately. Nevertheless, individual studies have revealed that both BV and CM can independently influence emotional regulation, identity difficulties, interpersonal relationships, and self-injurious behaviour, which are theoretically congruent with BPD characteristics. Adopting a transdiagnostic perspective, these difficulties are not exclusive to BPD but appear across various psychological disorders. This shared manifestation suggests common underlying processes, providing a rationale for this research to merge participants with different diagnoses into a single clinical group.

This investigation involved 1064 participants, drawn from a broader study. Participants with a clinical diagnosis of BPD, ASPD or affective disorders were categorised into the clinical groups, while healthy controls formed the community group. The research utilised a cross-sectional design and between-group network analyses.

Results demonstrated that the BEQ, formed three subscales/communities: psychosocial, cyber, and verbal-physical bullying, diverging from the original four. The BEQ demonstrated good reliability and convergent and discriminant validity, making it appropriate for application across various contexts. The exploration of network dynamics

suggests a complex system where factors mutually influence individuals' experiences and mental health trajectories. Key findings include the emergence of verbal-physical bullying and emotional abuse as central nodes, and hypermentalizing was found to be the most predictable node across the networks of all three samples (entire, clinical and community). The identification of these pivotal nodes carries important clinical and research implications, underscoring the value of examining these interconnected dynamics from a transdiagnostic perspective, thus offering valuable insights into shared vulnerabilities across psychological phenomena. Further clinical and research implications are discussed.

Introduction

Bullying

Spanning from playgrounds to cyberspace, the detrimental impact of bullying has reverberated throughout society, shaping the lives of countless individuals, and prompting the critical need for research and investigation. Globally recognised as a manifestation of interpersonal aggression, bullying has garnered increasing recognition as a significant public health issue (Gladden et al., 2014). Olweus and Limber (2010) provided a framework which conceptualised bullying as intentional actions, either causing physical or psychological harm that typically persists over time. Bullying victimisation (BV) arises between individuals when there is an imbalance of power, whether actual or perceived (Olweus, 2013). This power differential may manifest through forms of social status or physical strength or ability, often benefitting the aggressor (Olweus, 2013).

Although bullying exists across the lifespan, the majority of research on bullying has focused on children and young people (CYP; Anti-Bullying Alliance, 2022; Ireland, 2013; Olweus, 2013; Salin et al., 2018; Sepe, 2015). The estimated prevalence of BV fluctuates significantly across countries and is influenced by the study design, with reported rates ranging from 8.4% to 45.1% (Biswas et al., 2020). Within the UK, statistics revealed that 24% of CYP between the ages of 4 to 18 experience BV weekly, with the prevalence escalating to 31% among the YP population (age 12-25; Anti-Bullying Alliance, 2022; DitchtheLabel, 2019).

Beyond the traditional direct manifestations of bullying (i.e., physical, or verbal aggression and harassment), the landscape of bullying has evolved to encompass more subtle, indirect forms, such as relational bullying (e.g., spreading rumours about another, excluding individuals from a group). Furthermore, as a result of the digital revolution, which was further compounded by heightened reliance on cyberspace during the Covid-19 pandemic,

‘cyberbullying’ – which is bullying acts carried out, repeatedly, through the internet or over electronic devices – has surfaced as a prominent concern (Forsberg & Thorvaldsen, 2022; Smith & Slonje, 2010).

Increasing evidence indicates that the experience of BV during childhood and adolescence has enduring and significant impacts on mental health. Longitudinal studies have demonstrated a dose-response relationship between the severity and frequency of BV during childhood and adolescence and the subsequent severity of psychological distress in adulthood (Bowes et al., 2015; Fisher et al., 2012). A recent meta-analysis by Moore and colleagues (2017) demonstrated that bullied children had increased risks of developing borderline personality disorder (BPD; OR = 2.2), depression (OR = 2.21), suicide attempts (OR = 2.13), suicidal ideation (OR = 1.77), and non-suicidal self-injury (NSSI; OR = 1.75).

Additionally, evidence suggests that associations between BV and mental health may be gender specific. The frequency of BV in childhood predicted an increased risk of anxiety, depression and antisocial personality disorders (ASPD), in adult males (Copeland et al., 2013; Sourander et al., 2007). On the other hand, Antila and colleagues (2017) discovered that female victims of childhood bullying had a four-fold increased risk of developing Personality Disorder (PD), including BPD in adolescence and early adulthood.

Evidence from various meta-analyses has consistently indicated that individuals who experienced BV often exhibit psychiatric correlates of negative and dysregulated emotions, challenges with self-image and interpersonal relationships as well as impulsive behaviours, including self-harm and suicidal ideations (Copeland et al., 2013; Hawker & Boulton, 2000; Hesapcioglu & Ercan, 2017; Moore et al., 2017). These traits not only form the core of BPD, as classified in the DSM-5 (APA, 2013), but they also align with the newer classification of Personality Disorder/Difficulties (PD) in the ICD-11 – this approach transitions from potential comorbidity to an emphasis on the overall severity of personality dysfunction and

distinctive personality traits, fostering an integrated understanding of mental health (Tyrer et al., 2019; WHO, 2023a). Correspondingly, prospective studies have shown that after controlling for parental hostility and child abuse, children who have experienced BV between the ages of 5-10 were two times more likely to develop depression at age 11 and five times more likely to develop features of BPD at age 12 (Fisher et al., 2012; Winsper et al., 2017; Wolke et al., 2012).

Measuring Bullying

Researchers have endeavoured to capture the multifaceted concept of bullying within various assessment instruments (Lee & Cornell, 2010; Olweus, 1996; Shaw et al., 2013). The primary methodologies include self-reports, observation or peer nomination (Vessey et al., 2013). Self-report measures are favoured by many researchers as they are economical, easy to administrate and enable the collection of individuals' experiences with BV (Paulhaus & Vazire, 2009; Pellegrini, 2001). However, defining and scoring bullying remains challenging. Issues such as recollection timeframes, which can impact recall bias, and the focus of many bullying measures on school-age CYP, limit the generalisability to broader timescales and developmental conclusions that can be drawn (Cornell & Cole, 2012, 2012; Furlong et al., 2010; Monks et al., 2009; Schäfer et al., 2004). Prior systematic reviews have noticed an absence of psychometrically robust instruments that comprehensively capture the diverse, yet intricate nature of bullying experiences (Ofori, 2017; Vessey et al., 2014; Vivolo-Kantor et al., 2014; Xie et al., 2022). These inconsistencies resulted in conflicting research findings regarding prevalence rates, which bear substantial implications for public health, social policy and intervention strategies (Cornell & Cole, 2011).

The Bullying Experience Questionnaire (BEQ) is a novel comprehensive tool designed to capture the multifaceted nature of bullying across various developmental stages (Ofori, 2017). This tool integrates a mentalization-focused approach and assesses the type,

frequency, impact, and understanding of BV and the relationship between victim and bully (Ofori, 2017). Although the BEQ has been preliminary tested and validated in a pilot study involving YP (Ofori, 2017), its scoring system warrants further scrutiny. In the initial validation, all items were assumed to carry equal weight, an approach which may not adequately reflect the nuanced experiences of bullying. Specifically, the frequency metric, a common measure used by researchers to quantify BV (Hamburger & Basile, 2011; Vivolo-Kantor et al., 2014), requires additional reliability testing and validation. Addressing these issues will provide a more robust measurement tool for BV.

Childhood Maltreatment

While previous sections have elaborated on the nature, implication, and measures of bullying, it is important to recognise that bullying does not occur in isolation. Historically, the research field has treated bullying and childhood maltreatment (CM) as separate entities, failing to recognise their interconnections and cumulative impacts (Afifi et al., 2020). However, recent research has argued for the official recognition of bullying as an Adverse Childhood Experience (ACE), aligning it with other recognised ACEs (Afifi et al., 2020; Finkelhor et al., 2013, 2015). In this study, childhood BV will be viewed through the lens of an ACE.

CM is categorized as one of the two primary ACEs, encompassing five distinct forms, physical abuse, sexual abuse, emotional abuse, physical neglect and emotional neglect (Felitti et al., 1998). The impact of CM and mental health difficulties has been extensively studied and established (Edwards et al., 2003; Kisely et al., 2018; Stith et al., 2009). CM has been linked to the onset of mental health difficulties such as depression and BPD (Gratz et al., 2011; Ibrahim et al., 2018; Martín-Blanco et al., 2014). Notably, childhood neglect predicts the development of BPD traits and diagnosis, while childhood abuse predicts the

development of ASPD in early adolescence (Jovev et al., 2013; Liu et al., 2017; Liu et al., 2015; Lobbestael et al., 2005; Stagaki et al., 2022).

Theoretical Framework

This current study was based on a developmental attachment- and mentalization-based model (Bateman & Fonagy, 2012). Attachment theory, described in detail in Chapter 2, (pg. 19-24) suggests that the attachment relationships a child forms with their caregivers during their early years shape their lifelong relationships and behaviour (Ainsworth et al., 1978; Bowlby, 1973; Hazan & Shaver, 1987).

Mentalizing, the ability to understand oneself and others in terms of intentional mental states such as thoughts, behaviours and emotions, is best developed within secure attachments/relationships (Fonagy et al., 2002). It influences psychic development, affect regulation and social integration, fostering epistemic trust (refer to Chapter 2, pg. 22), which enhances learning from others (Bateman & Fonagy, 2012; Fonagy et al., 2015, 2017). Fonagy and Allison (2014) contend that mentalizing plays an evolutionary role for individuals to identify reliable and trustworthy information sources. They suggested that social learning occurs when a person experiences a sense of safety, understanding and recognition. This facilitates attentiveness, reduces natural vigilance, and signals that subsequent information is relevant and trustworthy, warranting its assimilation into existing knowledge structures (Fonagy & Allison, 2014; Sperber et al., 2010).

The impact of ACEs on the ability to mentalize and its subsequent association with psychopathology development has been well-documented (Berthelot et al., 2015; Duval et al., 2018; Pedditzi et al., 2022; Van Heel et al., 2019). Research has revealed that both individuals who experienced ACEs, and/or those experiencing severe psychological disorders, primarily operate through non-reflective internal working models, particularly in emotionally intense, complex interpersonal situations, such as romantic relationships (Fonagy

et al., 2015, 2017; Fonagy et al., 2002). This diminished ability originates from early experiences, possibly as an adaptive response to unreliable caregivers and untrustworthy environments (Fonagy et al., 2002). Research suggests that individuals with BPD diagnosis, struggle to make accurate predictions and draw correct inferences in emotionally intense situations, instead reverting to ineffective mentalizing strategies (Fonagy et al., 2002). These strategies are characterised as the lack of integration between automatic/implicit and controlled/explicit socio-cognitive reasoning, leading to the development of hypermentalizing or hypomentalizing capacities (Fonagy et al., 2002; Sharp & Vanwoerden, 2015), thereby engendering epistemic mistrust which contributes to long-term psychological distress (Fonagy et al., 2017; Hanson et al., 2017; Mccrory & Viding, 2015).

Hypermentalizing refers to the “state where individuals excessively attribute mental states to others without observable data”, often serving as a defence mechanism against emotional implications of potential harm (Fonagy et al., 2016). Individuals who hypermentalize usually exhibit greater certainty about others’ mental states than their own (Anis et al., 2020; Fonagy et al., 2016). This tendency is prevalent among adolescents, particularly girls, exhibiting borderline traits or diagnosed with BPD (Akça et al., 2021; Somma et al., 2019). In adults, hypermentalization was associated with interpersonal problems in individuals with BPD diagnosis (Kvarstein et al., 2020), and also linked to the severity of PD pathology and symptom distress in general rather than BPD features specifically, suggesting that it might be a less specific attribute of BPD diagnosis in adults compared to adolescents (Normann-Eide et al., 2020).

Conversely, hypomentalizing is characterized by a diminished capacity to mentalize, due to disengagement in social cognition (Fonagy et al., 2016). This deficit results in individuals being more uncertain and making incorrect inferences about the mental states of others, reducing/misinterpreting relationships or social situations (Anis et al., 2020; Kvarstein

et al., 2020). Hypomentalization has been positively associated with BPD features and severity, emotional dysregulation in adolescents and the presence of PD diagnosis in adults (Fossati et al., 2018; Goueli et al., 2020; Normann-Eide et al., 2020; Somma et al., 2019). Kvarstein and colleagues (2020) demonstrated that individuals with a BPD diagnosis, with elevated hypomentalizing capacities, were associated with more comorbid PD traits, PTSD, and complex trauma history, as well as fewer positive outcomes after receiving Mentalization Based Therapy.

The Intersection of Bullying, Childhood Maltreatment, Attachment, Mentalizing and BPD.

Although the individual relationships between bullying and BPD features, as well as CM and BPD features are well-established, the understanding of their combined impact remains less explored. Existing literature demonstrated that bullying is often intertwined with other forms of ACEs, a phenomenon referred to as polyvictimisation (Afifi et al., 2020; Goemans et al., 2023; Hébert et al., 2016; Yoon et al., 2021). YP who experience multiple types of victimisation experience more psychological distress and decreased psychosocial functioning (Holt et al., 2007). Additionally, an accumulating body of work has consistently demonstrated associations between CM and BV (Bowes et al., 2009; Goemans et al., 2023; Hébert et al., 2016; O'Hara, 2020; Yoon et al., 2018, 2021).

Studies by Cicchetti and Lynch (1992) and Shields & Cicchetti (2001) suggested that children who experienced CM are at risk of encountering other forms of victimization outside of the family. Lereya and colleagues (2015) posit that the co-occurrence of BV and CM augments the risk of developing more mental health problems in adulthood compared to individuals who did not experience either. Interestingly, children who have experienced BV solely appeared more likely, than those solely subjected to CM, to encounter mental health difficulties in adulthood (Lereya et al., 2015).

Research investigating the potential factors connecting CM to the development of BPD features and similarly, BV to BPD features has been largely separated. Nevertheless, CM research has identified various predictors, such as insecure attachment and ineffective mentalizing capacities (Chiesa et al., 2021; Duval et al., 2018; Espeleta et al., 2017; Grady et al., 2019; Raby et al., 2017; Stagaki et al., 2022; Zietlow et al., 2017) and its associations with BPD traits and diagnoses (Badoud et al., 2018; Fonagy et al., 2011; Fossati et al., 2018; Santoro et al., 2021; Van Heel et al., 2019). Conversely, a few studies have explored the associations between BV and the development of BPD traits, such as identity problems and negative peer relationships (Arseneault, 2018; DeNigris et al., 2018; Runions et al., 2021), self-harm/suicidal ideations/impulsive behaviours (Badoud et al., 2018; Fonagy et al., 2011; Fossati et al., 2018; Santoro et al., 2021; Van Heel et al., 2019) or the diagnosis of BPD itself (Runions et al., 2021; Schwartz et al., 2001; Wilson et al., 2023; Wolke et al., 2012).

Studies investigating school violence have revealed several risk factors for BV such as insecure attachment was associated with higher levels of BV (Beduna & Perrone-McGovern, 2019; Charalampous et al., 2019; Murphy et al., 2017; Nikiforou et al., 2013; Sevcikova et al., 2015; Smith & Myron-Wilson, 1998; Watt, 2014; Worsley et al., 2019). One study demonstrated that deficits in mentalizing anger appear in both victims and bullies (Peditzi et al., 2022). A systematic review by Lereya et al (2015) highlighted limited studies comparing the long-term mental health outcomes in adulthood for individuals who experienced CM and BV in childhood (i.e. Fergusson et al., 2005; Newbury et al., 2018; Valera-Pozo et al., 2021). Consequently, this noticeable literature gap necessitates a need for more research.

ACEs often encompass episodes of unresponsive caregiving, a factor that can lead to insecure attachment patterns (Bowlby, 1969; Ensink et al., 2017). This might foster ineffective mentalizing strategies, leading to marked deficits in interpersonal functioning and

affect regulation (Bateman & Fonagy, 2012; Fonagy et al., 2016), thereby increasing the risk of mental health difficulties, particularly developing features of BPD (Berthelot et al., 2015; Ensink et al., 2017; Simon et al., 2019).

Indeed, families of victims of bullying exhibit high levels of cohesion, overprotection, high levels of communication, and low levels of conflict and control (Bowes et al., 2009; Cook et al., 2010). This could contribute to fear of the outside world, social isolation, and difficulty relating to peers (Hawker & Boulton, 2000), which is consistent with studies examining parenting styles/families' characteristics impact on children's attachment security (Doinita & Maria, 2015; Lionetti et al., 2015; Watt, 2014) and mentalizing capacities (Fonagy et al., 2016). Insecure attachment patterns and ineffective mentalizing abilities are more prevalent, and these can precipitate a higher risk of developing BPD features and/or severe psychopathology (Pedditzi et al., 2022; Smith & Myron-Wilson, 1998; Watt, 2014).

These research findings underlie a complex and intertwining network of factors – including attachment security, mentalizing capacities and personal experiences of CM and BV – influencing significant aspects of life such as emotional regulation, interpersonal relationships, identity, and self-injurious behaviours (Geng et al., 2008; Jovev et al., 2013; Liu et al., 2017; Schwartz et al., 2001; Stagaki et al., 2022; Zietlow et al., 2017).

Furthermore, by adopting a transdiagnostic perspective, these difficulties are not confined to BPD diagnosis alone but also manifest across different psychological disorders (Dimaggio et al., 2017; Kelley et al., 2021; Kring & Sloan, 2009; Schwartz et al., 2001), which highlights the presence of common underlying processes. Thus, combining participants with differing diagnoses into a single clinical group allows for a comprehensive exploration of the shared processes and vulnerabilities.

The interplay of these factors suggests a complex, dynamic system where elements not only influence each other but also reciprocally shape the individuals' lived experiences

and mental health trajectories. It is essential to delve deeper into their interconnectedness from a transdiagnostic perspective, to provide a more comprehensive understanding of the shared vulnerabilities of these phenomena.

The Role of Network Analysis

Traditional analysis methods may overlook the complexity of these interactions, thereby underestimating their combined effect on an individual's mental health (Bringmann & Eronen, 2018). The novel approach of network analysis (NA) can offer a more detailed, nuanced understanding of these relationships. NA enables the exploration of multiple pathways between various constructs (e.g. examining symptoms themselves, rather than as outcomes of underlying conditions), providing a visualization of their interconnectedness and the strength of their associations (Borsboom & Cramer, 2013; Bringmann & Eronen, 2018; McNally, 2016). It can identify key features that serve as bridges between these constructs, providing more insight into how they interrelate and impact each other (Borgatti et al., 2009; Jones et al., 2021), utilising a bottom-up, non-reductionist approach, compared to top-down constructs seen in bio-medical models (Park et al., 2021).

Furthermore, NA has demonstrated its strengths in analysing cross-sectional datasets, especially in examining individual differences in relationships between variables (Borsboom et al., 2021; Marsman et al., 2017). Studies using NA to investigate psychometric properties have demonstrated a significant level of comparability between findings obtained through Item Response Theory (IRT), indicating its robustness as an analytical method (Marsman et al., 2017). NA also encourages the inclusion of non-symptom elements, as demonstrated by Contreras and colleagues (2019), which can enrich the key aspects of psychopathology development.

The Current Study

The proposed study will use a cross-sectional dataset from a larger study, examining both clinical populations (individuals diagnosed with BPD, ASPD, or affective disorders) as well as healthy community controls. This study has a two-fold objective. Firstly, to build upon the previous validation efforts of Ofori (2017) and further validate the Bullying Experience Questionnaire (BEQ) using NA to explore its psychometric properties. This will help ensure the accuracy and relevance of the BEQ in measuring the frequency of BV, before progressing to the study's subsequent phase. For the first study, the proposed hypotheses are:

1. The items of the BEQ are expected to cluster into four distinct communities, reflecting the 4-subscale structure of bullying as outlined in the original conceptual design of the instrument.
2. The factor structure of the BEQ will be confirmed across the two groups (clinical and community), indicating a reliable measure of the same underlying construct across the different populations, demonstrating its applicability and consistency in various settings.
3. Variations between the level of bullying in clinical and community groups will be observed, suggesting variations in the levels of reported bullying.
4. The BEQ will show positive correlations when compared with other measures of childhood maltreatment (CM), romantic attachments (RA), mentalizing capacities (RF) and features of BPD, demonstrating strong concurrent validity.
5. The BEQ will exhibit good discriminant validity, both concerning demographic variables as well as in comparison to the Childhood Trauma Questionnaire (CTQ) – the CTQ was chosen to assess for discriminant validity because it focuses on CM, which in theory, should represent a distinct construct from bullying as captured by the BEQ.

The second aim of this study addresses the existing gap in the literature focusing on examining the intricate links between retrospective BV and CM, and their interconnected dynamics with RA, RF and BPD features, using NA.

The hypotheses for this phase are:

1. Connections between BV, CM, RA, RF and BPD-related features will be found in the entire sample.
2. BV will have significant associations with BPD features in the entire sample.
3. Network patterns will differ between clinical and community groups, with the clinical sample showing stronger associations between BV, CM, RA, RF and BPD-related features than the community sample.
4. The clinical sample is hypothesised to show stronger overall network connectivity than the community group.

Methods

Design

The current study used data collected from a large research investigation titled “*Probing Social Exchanges – A Computational Neuroscience Approach to the Understanding of Borderline and Anti-social Personality Disorder*” and a corresponding sub-study titled “*Major Depressive Disorder – A Computational Psychiatry Approach: Understanding the Brain in Healthy Volunteers and People with Psychological Difficulties*”. Since 2012, this research has investigated social cognition and mentalization in adults with or without psychological diagnoses, such as BPD and other affective disorders, using behavioural and neuroimaging techniques (Huang et al., 2020; Michael et al., 2021; Rifkin-Zybutz et al., 2021; Stagaki et al., 2022).

This current investigation employed a cross-sectional design, initially conducting a network psychometric validation study of the BEQ. Following this, network analysis was

created to further understand the conditional associations between BPD features (i.e., PAI-BOR), types of bullying victimisation (i.e., BEQ), childhood trauma (i.e., CTQ), two types of romantic attachment (i.e., ECR-R) and two types of ineffective nodes of mentalization (i.e., RFQ). NA was applied as the statistical technique to understand the complex interplay between these factors and to investigate network architectures (Borsboom, 2017). In order to promote clarity and brevity, the group of participants without clinical diagnoses were referred to as the "community groups" and the group of participants with a clinical diagnosis were the "clinical groups".

Ethical Considerations

The larger Personality Disorder study from which the current dataset was drawn received approval from the Research Ethics Committee (REC) of Wales (REC number: 12/WA/0283; IRAS project ID:103075). The sub-study looking at Major Depression Disorder received approval from London Queen Square REC (REC number; IRAS project ID: 161423).

The Royal Holloway, University of London (RHUL) Ethics Department granted additional approval for the current secondary analysis (ethics ID: 3707; Appendix E). The current study was deemed low risk regarding participant safety, but ethical approval was still obtained to identify and mitigate potential risks in ethnically sensitive areas, such as patient confidentiality, anonymity, and data protection. Risk management strategies were integrated into the research protocol.

The current study involved analysing previously collected data, with participant anonymity preserved throughout the study. The existing dataset was non-identifiable due to pseudo-anonymisation, and the author did not have access to the secure databases, thus documents revealing any personal information/participant identities were not accessible. The

consent form for the larger projects allowed for the use of anonymised data in research conducted by researchers affiliated with the research team.

Only the non-identifiable datasets were used for the statistical analysis, ensuring that all published data remained anonymous. The author will retain datasets only until potential future manuscripts are approved for publication, at which point the data will be deleted. As outlined in their research protocol, all study data and documents will be achieved at UCL and other international data collection sites. The data received by authors adhere to good clinical practice as outlined by the General Data Protection Regulation (GDPR) and local research management policies at RHUL, UCL and the Wellcome Trust Centre for Neuroimaging.

Recruitment

The original study recruited participants from three different settings in Greater London such as outpatients (i.e., specialist Personality disorder clinical services), outpatient (i.e., NHS IAPT services) and from the community (i.e., universities). A total of six NHS trust sites participated in the recruitment.

The clinical cohort were recruited using a non-probabilistic consecutive sampling. Community controls were recruited, through non-probabilistic purposive sampling methods, using online advertisements and posters to attract interested individuals to contact the researchers. Full details of the original study recruitment can be found (Asztalos, 2023; Stagaki et al., 2022).

Eligibility Criteria

Participants selected for this current cross-sectional research ranged in age from 18 to 69 with the essential criteria being proficient in English and normal vision All genders were included in this study.

For those classified under the BPD subgroup, requirements included the availability and willingness to attend at least two assessment sessions that last several hours. Those with

suspected/confirmed diagnosis of BPD/ASPD or experiencing significant levels of depression symptoms were considered. Those with BPD/ASPD were verified using the SCID-II and PAI-BOR.

In the context of the anxiety and depression subgroup, participants were selected based on their potential eligibility for Step 3 or high-intensity therapy in IAPT. Clinicians' referrals were typically accompanied by the participant's Patient Health Questionnaires (PHQ) and Generalised Anxiety Disorders (GAD) scores. Furthermore, while often a primary problem descriptor or "diagnosis" was provided, the study operated without setting stringent diagnostic cut-offs.

For participants drawn from the general community, the SAPAS questionnaire was utilised by researchers to confirm the absence of PD. Those scoring above four were subjected to more in-depth evaluation.

Exclusions were definitive in cases of participants with current/history of neurological disorders, people with learning disabilities, had a primary schizophrenia/psychosis diagnosis or mood disorder or substance misuse disorder or had a recent psychotic episode. Specifically, within the community-control samples, participants were excluded if they had any current or past psychiatric disorders. For full details refer to Stagaki and colleagues (2022).

Study Procedures

The current research methodology employed was cross-sectional.

Participants with BPD/ ASPD as well as the healthy community controls attended two sessions at University College London (UCL) where they were given information and consent sheets and undertook computerized behavioural social interaction tasks, self-report questionnaires, personality interviews and Magnetic Resonance Imaging (MRI) scans.

However, in light of the Covid-10 pandemic's challenges in 2020, this larger PD study was adapted to an online platform.

In contrast, for the MDD sub-study, participants with anxiety and depressive disorders took part in the remote version of the study a decision driven by feasibility. This group completed identical self-report questionnaires and at least one behavioural social interaction task but were exempted from the more in-depth personality interviews and neuroimaging assessments.

Concluding the procedure, all participants provided their signed informed consent, and they received a remuneration of £10 per hour for their participation with the possibility of additional compensation based on their performance in the behavioural task. All participants were assigned a unique study ID to pseudo-anonymise the data. Data was and remains stored in secure, anonymised electronic databases. In line with specified ethics procedures, data was shared between the author and internal supervisors at Royal Holloway University of London (RHUL) through electronic consent between supervisors.

Participants

Recruitment took place until March 2023. At intake, 1698 participants consented to participate in the study. 15 participants withdrew from the study, 10 participants did not show up, and two participants were excluded due to data entry errors, leaving 1671 participants for this study. For this research, participants who did not complete any one of the five measures were excluded from the study ($N = 607$), resulting in a total of 1064 participants used in both analyses.

Participants were aged between 18-69 ($M = 32.2$, $SD = 10.7$) and were 71.8% female. The demographic profile was primarily White (71%). The majority of the participants were employed (59%), had higher educational qualifications (i.e. bachelor, masters or doctorate

degrees or professional/vocational equivalent; 73%), and had an annual household income of less than £50,000 (85%).

Measures

In the validation analyses (Study 1), the focus will solely be on the Bullying Experiences Questionnaire (BEQ).

For the network analysis examining the interconnections of all five factors (Study 2), the total sum of respective subscales from each of the five measures will be used.

Bullying Experiences Questionnaire (BEQ)

The BEQ is a 16-item questionnaire that aims to assess various forms of bully victimization (BV) during childhood through adolescence. Given the prevalent preference for frequency measure of BV in bullying research (Hamburger & Basile, 2011; Vivolo-Kantor et al., 2014), and considering Ofori's (2017) findings which demonstrated a strong correlation between the total frequency and impact scales of the BEQ ($r_s = 0.92, p < .001$), the present study chose to focus on frequency as the main continuous scale for both validation and NA analysis. Individual item scores were used for the validation of the BEQ frequency subscale, while the total sum of subscale scores was used for the network analysis.

Categories of types of bullying were derived through an extensive literature review documented in a separate validation paper (unpublished; Kirkham, 2017; Ofori, 2017). Four main categories emerged: physical, relational, verbal and cyberbullying, which constituted four sub-scales, each comprising 4 out of 16 items in the BEQ.

Measuring the frequency of BV experiences. Prior to participating, participants were requested to read a brief definition of bullying and cyberbullying, originating from previous studies (Olweus, 1994; Smith & Slonje, 2010). Participants were asked to retrospectively recall bullying experiences between the ages of 5 and 18 and provide responses accordingly. They indicated the frequency of bullying encounters pertaining to the

16 items/types of BV using a Likert scale (1 = never, 2 = occasionally (once a month or less), 3 = sometimes (multiple times a month), 4 = often (multiple times a week), 5 = very often (most days)). If participants chose “never” for any of the items, they move to the next item BV.

Scoring methods for other aspects of the BEQ. However, if any other option was chosen, they were asked to rate additional questions of the BEQ: Two additional 5-point Likert scales: one measuring the extent to which the BV influenced them (1 = not at all and 5 = a great deal) and the other assessing their understanding of the bullies’ motive (1 = not at all and 5 = yes, completely). Once all 16 types of bully victimisation were completed, questions were presented relating to their overall experience of bully victimisation. Participants were asked (1) if they felt less powerful than the bully in these situations (1 = not at all, 5 = yes, completely), (2) relation to perpetrator(s) and (3) what locations had they experienced being bullied. These formed further subscales of the entire BEQ used to measure the impact, understanding and relation of bullying experiences (refer to Appendix F for full BEQ).

The BEQ has been found to have high discriminant and concurrent validity along with strong internal reliability ($\alpha = 0.88$) in a community sample. However, the author ascertained that the internal reliability of the physical, cyber, and verbal subscales did not reach an alpha value of .7 (Ofori, 2017). In terms of internal consistency, a general omega (ω) value (comparable to Cronbach’s alpha) was calculated for the total score of BEQ in the current sample. The results revealed that the BEQ demonstrated good internal consistency ($\omega = .91$) within this sample.

Childhood Trauma Questionnaire (CTQ)

The CTQ (Bernstein & Fink, 1998) was employed to measure childhood maltreatment. This is a 28-self-report retrospective inventory, where participants indicated

the frequency of specific traumatic events during their childhood or adolescence on a 5-point Likert scale (1= never, 5 = very often). It comprises five, 5-item subscales pertaining to physical (PA), emotional (EA), sexual abuse (SA) as well as emotional (EN) and physical neglect (PN; Bernstein & Fink, 1998). The total score for each sub-scale was subsequently calculated and scores range from 5 (absence of maltreatment) to 25 (severe maltreatment history). Previous studies established good validity and high internal consistency, test-retest reliability and established validity across clinical and community samples (Hagborg et al., 2022; Kim et al., 2013; Kongerslev et al., 2019; Thombs et al., 2009). Similarly, the current sample demonstrated good internal consistency for PA ($\alpha = .88$), EA ($\alpha = .90$), SA ($\alpha = .95$), EN ($\alpha = .92$), and PN ($\alpha = .79$) subscales.

Experience of Close-Relationships-Revised (ECR-R)

Romantic attachment was measured using the ECR-R (Fraley et al., 2000). This dimensional self-report measure comprised of 36-items and two sub-scales (18-items measuring attachment anxiety and 18-items measuring attachment avoidance). Participants were asked to score the items based on their general experience of close relationships (i.e., parents, romantic partners) on a 7-point Likert scale (0 = strongly disagree, 6 = strongly agree), where higher subscale scores indicate higher levels of attachment anxiety or avoidance. Studies have reported good validity and high internal reliability of both scales, anxiety ($\alpha = .95$) and avoidance ($\alpha = .93$; Sibley et al., 2005; Sibley & Liu, 2004). Similarly, the current sample demonstrated excellent internal consistency for Anxiety ($\alpha = .95$) and Avoidance ($\alpha = .95$) subscales.

Reflective Functioning Questionnaire (RFQ)

Ineffective mentalizing abilities were measured by the RFQ (Fonagy et al., 2016). This brief self-report measure consists of 54 items with two, 26-item subscales. Participants were asked to rate the extent to which statements describe them using a 7-point Likert scale

(1 = strongly disagree, 7 = strongly agree). One subscale evaluates uncertainty about mental states (RFQ_U), where 1 high scores indicate low reflective function (hypo-mentalizing), and low scores signify accomplished reflective functioning. The second subscale reflects certainty of mental states (RFQ_C) where low scores reflect low reflective functioning (hyper-mentalizing – too certain about mental states) and high scores signify accomplished reflective functioning (Fonagy et al., 2016). In this study, two subscale scores were used to determine two types of ineffective mentalizing.

The validity and reliability ($\alpha = .82$) of the RFQ have been well-established in clinical and non-clinical samples (Anis et al., 2020; Badoud et al., 2015; Fonagy et al., 2016; Luyten et al., 2012; Morandotti et al., 2018). Similarly, the current sample demonstrated excellent internal consistency for Hyper-Mentalizing ($\alpha = .91$) and Hypo-Mentalizing ($\alpha = .91$) subscales.

Personality Assessment Inventory – Borderline Features Scale (PAI-BOR)

The PAI-BOR (Morey, 1991) is a 24-item self-report questionnaire used to assess four theoretically and empirically derived features of BPD which include affective instability (BOA), identity problems (BOI), negative relationships (BON) and self-harm (BOS), which corresponds to the DSM 4 and 5 criteria for BPD (APA, 2013). Each of these aspects corresponds to one of the four subscales, with each sub-scale consisting of 6 items.

Participants were to rate the accuracy of the statements in relation to themselves on a 4-point Likert scale (0 = false, not at all true, 3 = very true). This study will use the aggregate score from four subscales to analyse BPD features.

The PAI-BOR has been successfully employed in various settings demonstrating satisfactory psychometric properties (Jacobo et al., 2007; Stein et al., 2007), well-established validity (Bell-Pringle et al., 1997; Morey, 1991; Trull et al., 1995, 1997), internal reliability ($\alpha = .88$), sensitivity and specificity (Morey, 1991). Good reliability of the four subscales was

demonstrated in the current sample – BOA ($\alpha = .86$), BOI ($\alpha = .78$), BON ($\alpha = .76$) and BOS ($\alpha = .83$),

Data Analysis

All statistical analyses were computed using R, version 4.2.2 (R Core Team, 2023) and IBM SPSS Statistics 28.0.

For study 1, EGA analyses were run in R (version 4.2.2) using the *fa.parallel*, *UVA*, *bootEGA*, and *psych* packages. Confirmatory factor analysis was performed using the *lavaan* package (Rosseel, 2012). Metric invariance between the clinical sample and healthy controls was performed using the invariance function from the *EGAnet* package.

For study 2, Network analyses were run in R (version 4.2.2) using the *qgraph* and *mgm* packages. Differences in global network connectivity and network structure were assessed using the *NetworkComparisonTest*.

Data Preparation

Exclusion of fully missing data. Initially, missing values of the variables in the analyses were analysed using Little's Missing Completely at Random (MCAR), which appeared to be significant. This result meant that existing missing data were missing not at random (MNAR – associated with variables not observed or measured by researchers). Mack and colleagues (2018) suggested that in cases of MNAR data, addressing this issue in subsequent analyses is generally not feasible, potentially leading to a biased estimation of effects. In light of this understanding, the current study excluded participants who did not fully complete any of the five measures (BEQ, CTQ, PAI-BOR, ECR-R or RFQ; N =607), resulting in a total of 1064 participants. Subsequently, sensitivity analyses were done to examine whether the excluded group as well as the whole sample (excluded and retained) significantly differed from the retained participants in terms of demographics (Field, 2018).

Re-scaling and recoding. All Likert-type measures underwent rescaling, beginning at zero. Items for respective measures (CTQ, ECRR, RFQ and PAI-BOR) underwent recoding to calculate subscale scores.

Data imputation. In the subsequent phase of missing data analysis, the remaining data underwent regression imputation using the Expectation Maximization (EM) option on SPSS, where necessary and feasible.

Preliminary Analyses

A series of preliminary statistical analyses were performed to examine potential differences in the total subscale scores of the 5 measures, between the clinical and community groups in the retained dataset. Through the inspection of histograms, Normal Q-Q plots, and the significant results of Kolmogorov-Smirnov tests ($p < .001$), it was apparent that continuous variables for all five measures were not normally distributed (Field, 2018). Consequently, the Mann-Whitney U test was employed to identify differences between clinical and community groups for observed variables, while CSTI were conducted for categorical variables (Field, 2018).

Study 1: Bullying Experience Questionnaire (BEQ) Validation

Parallel Analysis. First, parallel analysis was done to estimate the number of communities within the BEQ.

Exploratory graph analysis (EGA). EGA, a data-driven technique, was employed to estimate the number of factors and item compositions that comprise psychological constructs (Golino & Epskamp, 2017). Unlike traditional factor analysis techniques, EGA does not require researchers to manually identify the number of dimensions. EGA is based on a Gaussian Graphical Model (GGM) with the least absolute shrinkage and selection operator (LASSO) regularization. In a network framework, connection, i.e., edges, between variables, i.e., nodes, can be interpreted as the partial correlation between nodes after conditioning on

all other nodes in the network. Using LASSO increases the specificity of a network, and the probability of detecting true edges, by setting some parameters to zero, which reduces the likelihood of retaining any spurious connections. In a recent simulation study, EGA had similar performance to parallel analysis, EBIC, eBIC and to Kaiser-Guttman rule with a 2-item factor structure but outperformed these other methods when there were more than 5 items per factor (Golino & Epskamp, 2017). Latent variables will then show up as clusters or communities within the network because under certain conditions a network model is equivalent to a latent variable model for both binary (Marsman et al., 2015) and continuous data (Chandrasekaran et al., 2010).

Item redundancy. Unique Variable Analysis (UVA) was used to determine which items were redundant (Christensen et al., 2020). In accordance with the recommendation by Christensen et al (2020), weighted topographical overlaps (wTO), which is the partial correlation between items in a psychological network, were estimated. High wTO values indicate that there is a strong degree of overlap in the shared variance between nodes, meaning that they measure similar conceptual constructs. A threshold for wTO was set at 0.20 which is the point where variables start to become redundant to one another. The network loadings were examined, and redundant items were combined into a latent variable score as recommended by (Christensen & Golino, 2021). Without this step, items could potentially form their own spurious latent factor or produce a high residual error variance thereby degrading the overall fit. The UVA was re-run, and a latent variable was recreated that replaced redundant items, due to high wTO (i.e., for items 7 and 11). With this reduced itemset, bootstrapped EGA (iterations = 500) was performed, revealing a network with 4 communities present. Following this, UVA was re-ran items 8 and 14 were merged, which as expected, formed their own factor. From this step, the number of communities was

determined, i.e., factors, and assessed the stability of each item using a cut-off of 75% as acceptable (Christensen & Hudson, 2021).

Item stability. Item stability was determined by entering the non-redundant items into bootstrapped EGA using the Louvain algorithm for community detection and parametric bootstrapping. From this step, the number of times that an item is found to appear within a community was determined. Subsequently, network loadings of each item (0.15 or less are low, 0.15 - 0.25 are moderate loadings, and 0.25 or more are high; Christensen and Golino, 2021) were determined.

Model fit. Following this, Confirmatory Factor Analysis (CFA) was employed to confirm the number of factors identified through network analysis, to determine whether there is a potential hierarchical structure with one dimension, a bifactor model (Schmid-Leiman rotation) was applied (Reise et al., 2017)

Internal consistency reliability. For this approach, omega (McDonald, 1999) was estimated, which has several advantages compared to Cronbach's alpha (Cronbach, 1951) which assumes unidimensionality and equal variances and covariances among items.

Convergent and Discriminant Validity. To assess convergent and discriminant validity, Spearman Rho will be used to determine associations between the BEQ, and other measures used in this study. Additionally, Mann-Whitney U and Kruskal Wallis tests were performed on the current sample to explore the associations between BEQ scores and demographic analysis.

Group comparisons. Configural invariance was explored between a clinical sample and healthy controls. This step assesses whether the same items are placed into the same communities across the two different groups. Additionally, tests of difference will be performed to examine whether variations in BEQ will be observed in the two groups.

Study 2: Network Analysis and Estimation

Mixed Graph Model Analysis. Networks were estimated using graphical LASSO regularization with EBIC model selection ($\gamma = 0.5$). Since graphical LASSO is a regression-based technique, it is robust to deviations from normality (Schmidt & Finan, 2018). Regularized network model selection increases the specificity to include true edges in the network. Three separate networks were estimated for the entire sample ($N = 1,064$), the clinical-only group ($N = 552$), and the community-only group ($N = 512$). To determine the similarity in network structure between the clinical and community groups, the edge weights were correlated, i.e., 120 unique edges.

Strength centrality was operationalised as the sum of the absolute edge weights into each node, it measures how important a node is in a network (Bringmann et al., 2019). Closeness centrality measures a node's indirect influence in a network via the shortest distance between a given node and every other node in the network. Strength and closeness centrality are both indicative of the degree to which a node can affect other nodes in a network (Bringmann et al., 2019). The most important nodes in a network are thought to be the most clinically relevant such that treatments directly targeting those symptoms will be most effective at improving overall mental health.

Predictability. Predictability analysis was performed to determine the proportion of variance in a node that can be explained by all other nodes in the network. Node predictability informs our interpretation of the practical relevance of edges and provides a measure on an absolute scale (Haslbeck & Waldorp, 2018). For example, a node may have many connections to other nodes in the network, but these connections could collectively only explain a small proportion of the variance. Additionally, predictability enables us to quantify how effective interventions targeting particular nodes would be, and the extent to which nodes are influenced by factors external to the network. Lastly, a comparison of global

network connectivity (sum of all edges in a network) and network structure between the clinical and community groups was done.

Reporting

This study adheres to the guidelines recommended by Borsboom et al. (2021) and Klipstein et al. (2021), whereby reporting and interpretations of results are focused largely on non-causal interpretations of the network structures. Despite examining individual nodes within networks, the research accentuates the intricate dynamics of the different factors as a whole. The discussion and reporting of results have been steered by a comprehensive understanding of interconnected difficulties, reciprocal associations, and feedback loops (Bringmann et al., 2019; Cramer et al., 2016; Schmittmann et al., 2013).

Results

Missing data analyses.

As gender, ethnicity, employment, levels of education, and household income were measured categorically, the Chi-Squared Test of Independence (CSTI) were conducted (Field, 2018). Following the guidelines proposed by Starnes and colleagues (2014), the general assumptions of CSTI related to expected counts were examined. The authors advised that all expected counts should exceed one, and no more than 20% of expected counts should fall below five.

Histogram inspections for observed variables (age and socioeconomic status (SES), represented by social deprivation rank according to postcode), showed that they were not normally distributed in both included and excluded samples. Therefore, Mann-Whitney U tests were performed to assess differences (Field, 2018). Additionally, sensitivity analyses examining gender differences excluded participants who identified as transgender or "other" (they were included in all other analyses). Furthermore, categories delineating ethnicity,

employment and household income were consolidated (refer to Table 4 for merged categories) to meet the assumptions for CSTI.

Compared to the whole sample (retained and excluded; $N = 1698$), gender, age, and ethnicity did not significantly differ between groups (refer to Appendix G for the full table). However, the retained group have a higher propensity of participants who were employed ($\chi^2(3) = 36.08, p < .001$) and had higher levels of education ($\chi^2(7) = 35.043, p < .001$). Participants in the retained group had greater household incomes and lived in areas with less social deprivation ($U = 710238.5, p = .005$). Finally, the retained sample had a lower proportion of people with a clinical referral diagnosis compared to the whole group ($\chi^2(3) = 142, p < .001$).

Compared with the excluded group ($N = 694$), the retained group comprised a higher proportion of females ($\chi^2(1) = 6.54, p = .011$), a greater number of White and Asian individuals ($\chi^2(4) = 12.41, p = .015$), employed individuals ($\chi^2(3) = 148.37, p < .001$), those with higher qualifications ($\chi^2(7) = 143.01, p < .001$), households' earnings above £20,000 ($\chi^2(3) = 71.04, p < .001$). Additionally, the retained sample had older participants ($Mdn=30; U = 296402.5, p = .021$) and participants with higher SES ($Mdn=13041.5; U = 217490, p < .001$) compared to the excluded sample ($Mdn(age) = 29, Mdn (SES) = 10119$). Refer to Appendix H for the full table).

Descriptive Statistics

Table 4 presents a summary of the demographic characteristics of both clinical and community groups. No significant age differences were observed between the groups. In the clinical group, there were a significantly higher proportion of women, a lower proportion of men, and a greater ethnic diversity, with a larger representation of Global Majority (i.e., Black/Asian/Mixed) participants than the community group, which had a larger White population. Additionally, the clinical group experienced higher unemployment and a broader

educational range, with more individuals lacking formal education and more with higher education achievements when compared to the community group which had a higher employment rate. Despite having a significantly lower SES, indicating greater deprivation, participants in the clinical group earned significantly more than £50,000 than the community group. Conversely, the community group had more individuals earning less than £50,000 yet demonstrated a higher overall SES.

Table 4*Demographic Characteristics between clinical and community groups.*

	Clinical Group (N=552)	Community Group (N=512)	Relevant Comparative Statistics ^e χ^2 or <i>U</i>	p-value
<i>Demographic variable</i>	<i>n (%) or Median(mean)</i>	<i>n (%) or Median(mean)</i>		
Gender			$\chi^2(1) = 9.03^a$	$p = .003$
Male	126(23%)	161(31%)		
Female	415(75%)	349(68%)		
Transgender	9(2%)	1(0.2%)		
Other	2(0.4%)	1(0.2%)		
Age	29(mean)	31	$U = 137644.5$	$p = .464$
Ethnicity ^b			$\chi^2(4) = 15.76$	$p = .003$
White	366(66%)	394(77%)		
Black/Black British	45(8%)	25(5%)		
Asian/British Asian	66(12%)	50(10%)		
Mixed/Other	65(12%)	38(7%)		
Not stated	9(2%)	5(1%)		
Employment status ^c			$\chi^2(3) = 30.96$	$p < .001$
Employed	308(56%)	317(62%)		
Unemployed	141(26%)	65(13%)		
Student/Internship/ Apprenticeship	87(16%)	116(23%)		
Retired/Carer	15(3%)	14(3%)		
Level of Education			$\chi^2(7) = 50.70$	$p < .001$
No qualifications	20(4%)	5(1%)		
Other qualifications (e.g., certificate)	23(4%)	6(1%)		
GCSE (<5 A*-C), Vocational level (e.g., NVQ) 1, or equivalent	27(5%)	25(5%)		
GCSE (5 or more A*- C), vocational level (e.g., NVQ) 2, or equivalent	63(11%)	34(7%)		
A level, vocational level (e.g., NVQ) 3, or equivalent	94(17%)	165(32%)		
Higher Education or professional/vocational equivalent	215(39%)	177(35%)		
Postgraduate education or professional/vocational	109(20%)	100(20%)		

equivalent (e.g., MSc, PhD, MD)				
Household Income			$\chi^2(3) = 38.49$	$p < .001$
< £20,000	227(41%)	263(51%)		
£20,000 - £50,000	211(38%)	203(40%)		
£50,000 - £100,000	93(17%)	41(8%)		
£100,000 >	20(4%)	1(0.2%)		
SES ^d	11140.5(mean)	15589.5	U = 96217	$p < .001$

Note. $N = 1064$; $*p < .05$

^a Participants who identified as transgender or other gender identities were excluded from this sensitivity analyses; ^b White = White British, White Irish, Any other White; Black/Black British = African, Caribbean, Any other Black; Asian/Asian British = Chinese, Pakistani, Indian, Bangladeshi, Any other Asian; Mixed/Other = White and Black African, White and Black Caribbean, White and Asian, Any other Mixed, Any other background not stated. ^c Employed = full-time, part-time, casual work, self-employed; ^d SES = Socio-economic status represented by social deprivation rank based on postcode. ^e χ^2 = Chi-Squared Test of independence or U = Mann-Whitney U Test (data was not normally distributed).

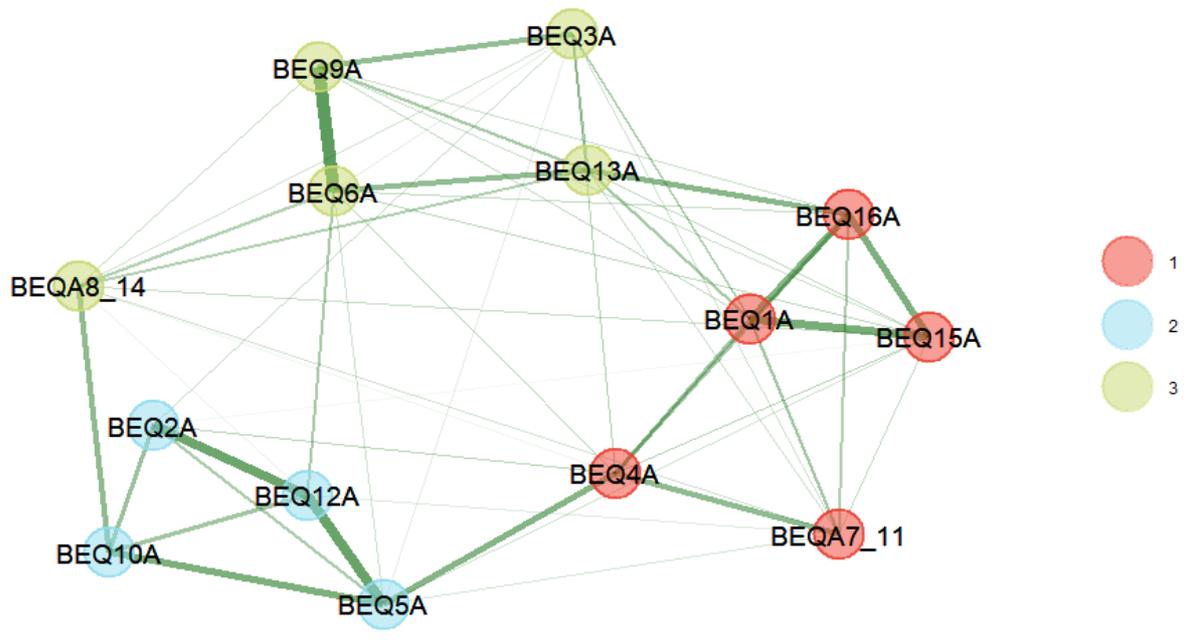
Study 1: BEQ Psychometric Validation

BEQ Community Composition

The parallel analysis identified 3 factors that items loaded onto. This finding was replicated using UVA using EMGA and revealed that items clustered into 3 communities can broadly speaking, be characterized as (1) psychosocial bullying (encompassing emotional and social bullying) (2) cyberbullying, and (3) verbal-physical intimidating, harassing, and coercive bullying (see Figure 2). The new subscales/types of bullying identified from the UVA and EMGA analysis can be found in Table 5 below.

Figure 2

Network Structure of Bullying Experiences Questionnaire (BEQ).



Note. Three communities within the BEQ were identified using exploratory graph analysis.

Table 5*Re-categorised type of bullying and corresponding BEQ items.*

Community/ Factor Number	Type of Bullying	BEQ item
1	Psychosocial	1. I was subjected to hurtful teasing or sarcasm. 4. I was subjected to hurtful gossip and rumours. 7. I was excluded from friendships or social groups. * 11. I was excluded from social events. * 15. I was called offensive names (for example relating to my appearance race gender, sexuality, or beliefs). 16. I felt humiliated or was made to feel small by someone in front of others.
2	Cyberbullying	2. I have had upsetting pictures or videos that were taken of me, spread through social media, instant messaging, or other online communication. 1. I received hurtful comments from others, through social media, instant messaging, or other online communication. 10. I received upsetting explicit images from others through social media, instant messaging, or other online communication. 12. Others posted online or distributed my private communication (images, videos, messages) without my consent (through social media, instant messaging, or other online communications).
3	Verbal-Physical intimidating, harassing, and coercive bullying	3. My belongings were taken without my permission, damaged or destroyed. 2. I was threatened or blackmailed. 8. I was subjected to offensive sexual language or innuendo. ** 9. I was physically hurt by another person or group. 13. I was intimidated by behaviours such as invasion of my personal space, or others blocking my way. 14. I was touched in a way that made me feel uncomfortable. **

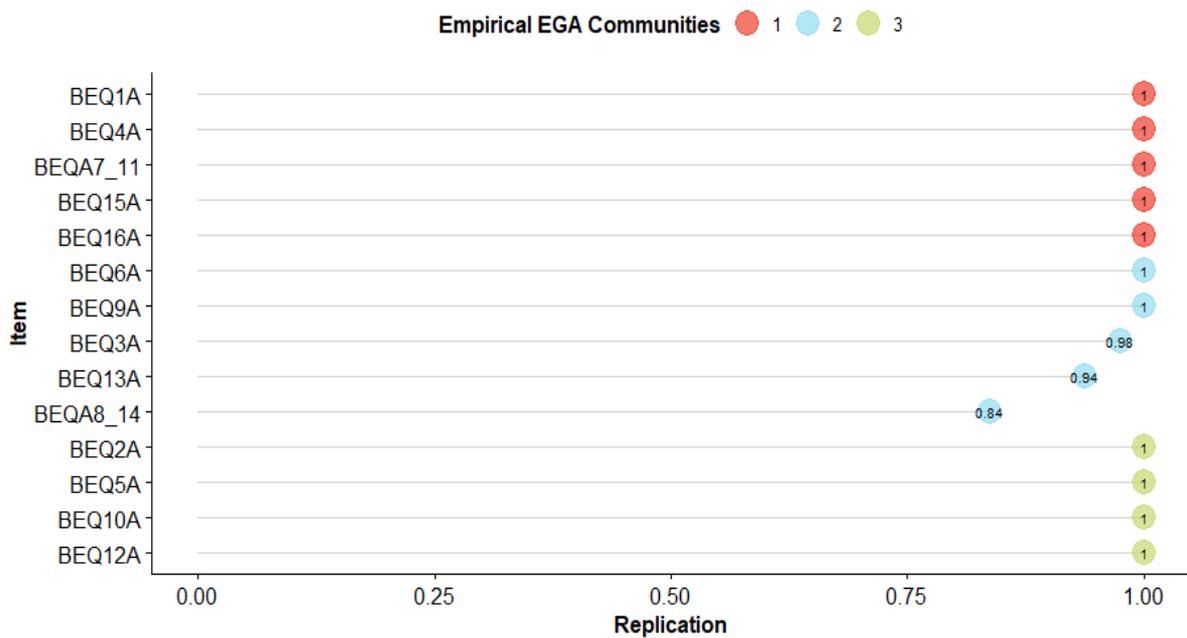
Note. Item number corresponds to original BEQ items.

* Items 7 and 11 have been combined into one node. **Items 8 and 14 have been combined into one node.

The items were very stable with over 80% of replications placing the items into the same community (Figure 3). Merged items 8 and 14 had the lowest item stability at 84%, followed by item 13 at 94%, and item 3 at 98%. All items within communities 1 and 3 were found to be completely stable, i.e., 100% stability.

Figure 3

Item Stability for BEQ network



Note. There was good item stability (>80%) across all items in the network.

The composition of all communities in the full sample is shown in Table 6. As expected, items with lower stability tended to have low to moderate network loadings onto multiple communities. Additionally, four other items (items 1, 4, 5, and 16) were found to have weak network loadings onto other communities (all loadings below 0.16). Interestingly, the combined construct (items 8 & 14) has almost the same weak network loading onto community 2 (0.133) and community 3 (0.113). Network loadings of 0.110 correspond to a factor loading of 0.40, which is a commonly used threshold for inclusion.

Table 6*Mean network loadings for each item into 3 communities.*

Item	Factor		
	1	2	3
BEQ1A	0.355	0.140	0.000
BEQ16A	0.333	0.147	0.003
BEQ15A	0.309	0.103	0.027
BEQ4A	0.249	0.091	0.163
BEQA7_11	0.218	0.054	0.029
BEQ9A	0.068	0.371	0.003
BEQ6A	0.101	0.336	0.089
BEQ13A	0.205	0.251	0.007
BEQ3A	0.111	0.171	0.039
BEQA8_14	0.048	0.133	0.113
BEQ12A	0.009	0.066	0.433
BEQ5A	0.136	0.026	0.377
BEQ2A	0.040	0.027	0.313
BEQ10A	0.001	0.081	0.305

Note. Factor 1 = Psychosocial bullying; Factor 2 = Cyberbullying; Factor 3 = Verbal-Physical Bullying; Network loadings of 0.15 or less are considered to be low, 0.15 - 0.25 are moderate, and 0.25 or more are high. Here, we used a threshold of 0.110, corresponding to a factor loading of 0.40.

Hierarchical Structure and Fit to Data

After establishing the network structure and loading, confirmatory factor analysis (CFA) was conducted to evaluate how well our model fits the data. The network structure fits the data well, $\chi^2(74) = 234.9$, $p < 0.001$, CFI = 0.94, RMSEA = 0.045. Following this, a bifactor model (Schmid-Leiman) was performed to see if the data can be better explained with a unidimensional structure as opposed to the 3 communities identified by EGA. Previous work (Reise et al., 2018) has shown that bifactor models have a similar fit (RMSEA = 0.05) to that of a correlated factors model, which was also found in this study. While the

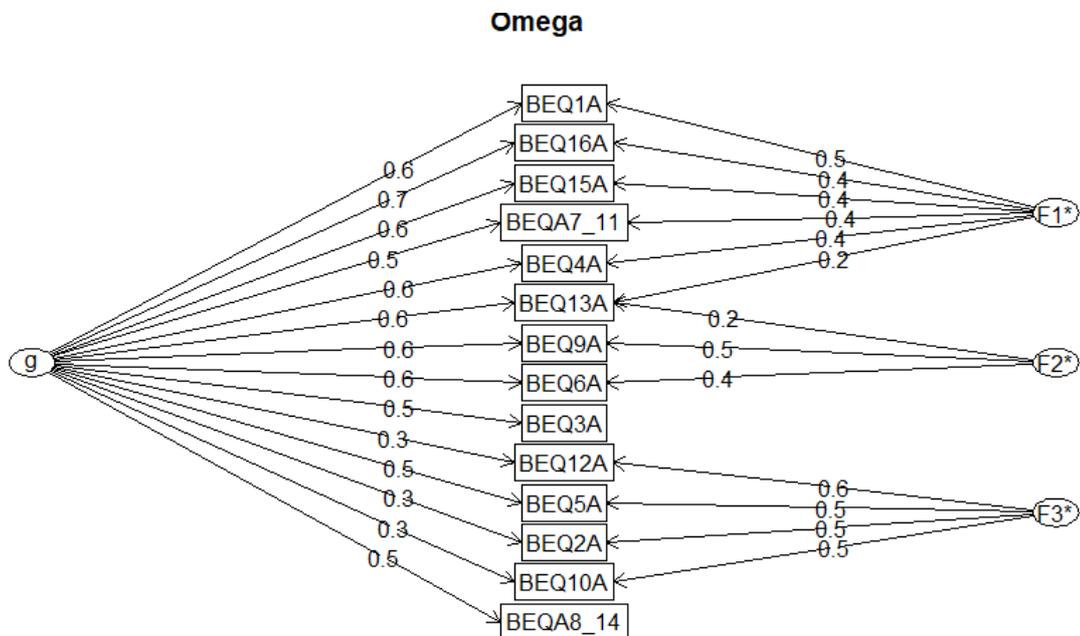
fully unidimensional model had a relatively poor fit (RMSEA = 0.122) compared to the bifactor model.

Reliability

Overall, the general omega (comparable to Cronbach’s alpha) was found to be good (omega = 0.91; Figure 4). While the hierarchical omega was 0.70, indicating that a large proportion of reliable variance comes from the group factors. The relatively high explained common variance (ECV = 0.61) and various other indicators, e.g., omega hierarchical, were consistent with a dominant central factor, suggesting that the total score should be used instead of subscale scores. The model-based total omegas for the factors within the bifactor model were 0.88 (factor 1), 0.74 (factor 2), and 0.72 (factor 3), while these values decline to 0.63, 0.55, 0.29 for the omega hierarchical subscale, meaning that subscale reliability is primarily due to a single general factor.

Figure 4

Bifactor Model Loadings for a general factor (g) and 3 factors (F1, F2, and F3).



Convergent and Discriminant Validity

Significant weak to moderate associations were found between the three BEQ subscales (Psychosocial, Cyber, and Verbal-Physical) and related measures, indicating good convergent validity (Abma et al., 2016; Akoglu, 2018; Appendix I). The strongest positive correlation was the association between the BON subscale of the PAI-BOR and BEQ Psychosocial ($r_s = .469$, $p < .001$). Significant associations were found with all subscales of the CTQ ($r > 0.16$, $p < .001$) and PAI-BOR ($r > 0.26$, $p < 0.001$). While most of the associations were positive, there were significant negative correlations between the RFQ-Hypermentalizing subscale and BEQ Psychosocial ($r_s = -.162$, $p < .001$) and BEQ Verbal-Physical ($r = -.141$, $p < .001$). Generally, the BEQ cyber item tended to have the weakest correlations with other measures, in particular the association with RFQ-Hypermentalizing ($r = -.088$, $p = .004$) and ECRR-Avoid ($r = .08$, $p = .009$). From this result, the BEQ Cyber subscale is the most unique in the BEQ, i.e., has the most discriminant ability.

Demographic Analyses

In the context of discriminant validity, demographic analyses were done to analyse the variations in BEQ scores. Those who identified as transgender or “other” ($N = 13$ (from both samples)) were excluded from this section's gender evaluations.

There was no evidence for an association between BEQ scores and gender, household income and level of education, suggesting good discriminant validity. However, significant differences were found for age ($r_s = -.093$, $p = .002$), ethnicity ($\chi^2(3) = 7.80$, $p = .05$), employment ($\chi^2(3) = 9.77$, $p = .021$) and SES ($r_s = -.164$, $p < .001$), implying potential issues in discriminant validity with these demographic variables.

Group comparisons.

Configural invariance was conducted between the clinical and community group. The items largely fall into the same communities between groups, although the magnitude of the

loadings differs and there are more cross-loadings in the clinical sample. Despite these apparent differences, formal testing of metric invariance found that there was only a significant difference for item 6 ('I was threatened or blackmailed'), which had a significantly larger network loading in healthy controls compared to the clinical sample (Table 7).

Table 7

Metric invariance for the difference in network loadings between the clinical sample and healthy controls.

Item	Community	Difference in Network Loading*	p-value
BEQ1A	1	0.05	0.31
BEQ4A	1	0.04	0.34
BEQA7_11	1	0.01	0.82
BEQ15A	1	0.03	0.51
BEQ16A	1	0.01	0.85
BEQ3A	2	-0.01	0.81
BEQ6A	2	0.15	0.03**
BEQA8_14	2	-0.03	0.35
BEQ9A	2	-0.08	0.15
BEQ13A	2	-0.05	0.43
BEQ2A	3	-0.01	0.97
BEQ5A	3	-0.07	0.41
BEQ10A	3	0.1	0.21
BEQ12A	3	-0.1	0.21

Note. *Differences in network loading are for the comparison: Healthy controls – clinical sample. ** p < .05

Mean difference in BEQ score between groups.

Table 8 displays the mean and standard deviations of the sum of subscale scores from the three subscales of the BEQ. Significant differences were observed between clinical and community groups in all three subscale scores. The clinical group exhibited higher BEQ

frequency scores in psychosocial bullying ($U = 85639, p < .001$), cyberbullying ($U = 119291.5, p < .001$) and verbal-physical ($U = 83648, p < .001$). The effect sizes were calculated using Cohen's d . The effect sizes for both psychosocial ($d = 0.70$) and verbal-physical ($d = 0.77$) indicated a medium effect size, while the effect size for cyberbullying subscale was small ($d = 0.32$).

Table 8

Mean and standard deviations of the sum of BEQ subscale scores between clinical and community groups.

BEQ subscale*	Clinical (N = 552)		Community (N = 512)	
	Mean	SD	Mean	SD
Psychosocial	10.17	6.19	6.10	5.43
Cyber	1.15	2.05	0.58	1.41
Verbal-Physical	5.20	4.93	2.12	2.83

Note. *Sum of total subscale score

Study 2: Network Analysis

Entire Sample

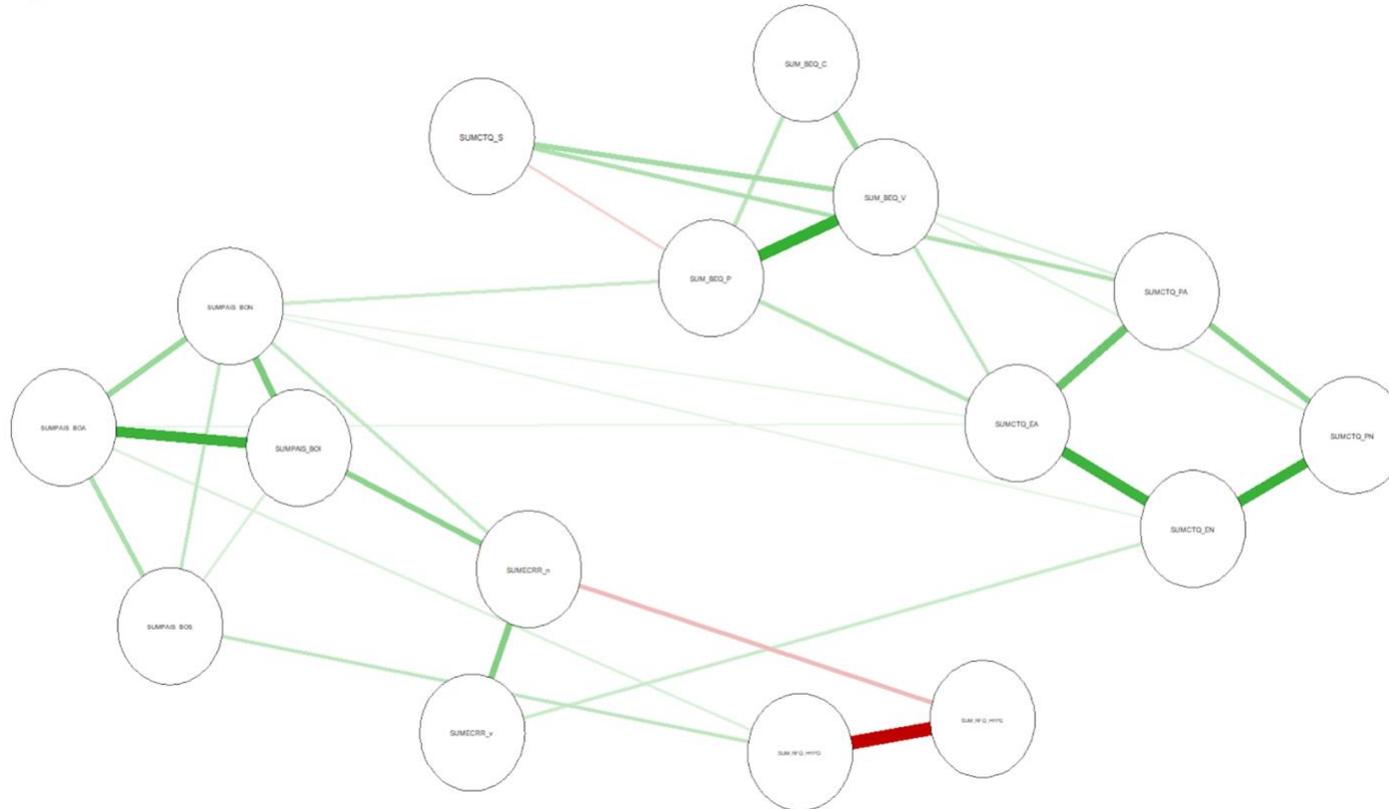
First, the network structure for the entire sample ($N = 1,064$) was examined (Figure 5). The vast majority of edges in the network were positive (97.5%) with the largest edge strength found between RFQ Hypo-mentalising and RFQ Hyper-mentalising (Edge Strength = -0.55). Within this network, the most central nodes, by strength centrality, were BEQ Verbal-Physical (Strength Centrality = 1.15) and CTQ Emotional Abuse (Strength Centrality = 1.14; Figure 6). The least central nodes in the network were BEQ Cyber (Strength Centrality = 0.36) and ECRR Avoid (Strength Centrality = 0.37). While PAI-BON (Closeness Centrality = 0.005) and BEQ Psychosocial (Closeness Centrality = 0.005). were found to have the largest values of closeness centrality. There were few direct edges between BEQ nodes and BPD nodes except for an edge between BEQ psycho-social and PAIS BON

(Edge Strength = 0.11). Additionally, in the overall network, BEQ nodes are indirectly related to BPD symptoms via connections through CTQ emotional abuse and CTQ emotional neglect. These two nodes thus play a 'bridge' role in the network (Hevey, 2018; Jones et al., 2021), facilitating the relationship between various aspects of bullying and the presence of BPD symptoms.

Figure 5

Network structure estimated from the entire sample.

Basic Network Overall

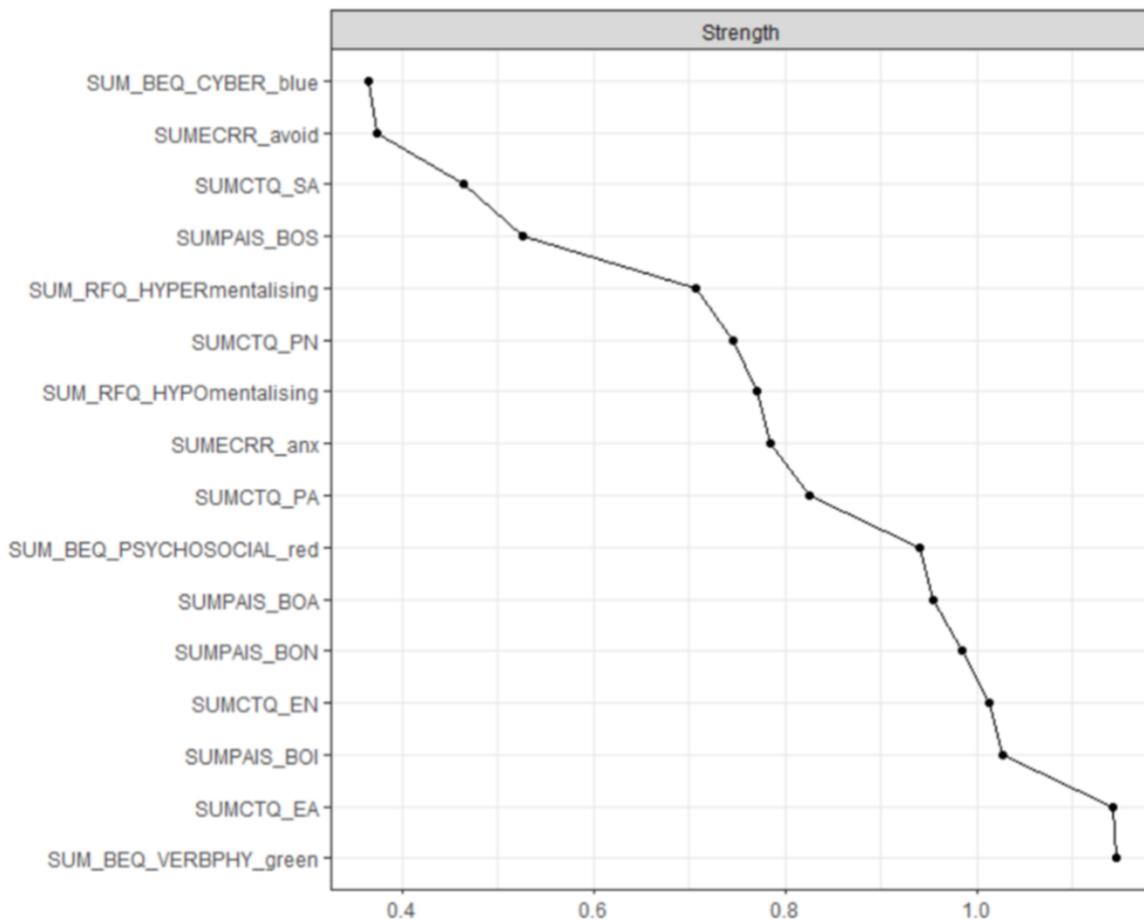


Note. N = 552; SUM = sum of respective subscale scores.

Node Legend. BEQ_P = Psychosocial bullying, BEQ_C = cyberbullying, BEQ_V = verbal-physical bullying, CTQ_PA = physical abuse, CTQ_S = sexual abuse, CTQ_EA = emotional abuse, CTQ_PN = physical neglect, CTQ_EN = emotional neglect, ECRR_n = attachment anxiety, ECRR_v = attachment avoidance, RFQ_HYPE = hypermentalizing, RFQ_HYPO = hypomentalizing, PAIS_BOI = identity problems, PAIS_BOA = affective instability, PAIS_BON = negative relationships, PAIS_BOS = self-harm

Figure 6

Node strength centrality values for entire sample



Note. The most central nodes in the network were found to be BEQ Verbal-Physical and CTQ Emotional Abuse, while the least central nodes were BEQ Cyber and ECRR Avoid

The most predictable nodes in the network, i.e., the proportion of variance in a node that is explained by all other nodes in the network, were RFQ Hyper-mentalising ($R^2 = 0.99$) and PAI-BOI ($R^2 = 0.90$; Figure 7); 9 out of 16 nodes in the network had an R^2 of 0.50 or greater (See Appendix J).

Clinical versus Community Groups

The networks estimated from participants in either the clinical (N = 552) or community (N = 512) group were separately examined. The edges of the clinical and community (Figure 8) group networks were found to be highly similar ($r = 0.87$ ($df = 118$), $p < 0.001$). No significant differences were found in either global network connectivity ($S = 0.19$, $p = 0.54$) or network structure ($M = 0.18$, $p = 0.09$) between the clinical and community groups. In the community network, the BEQ Psychosocial node was connected to both PAI-BOI and PAI-BON. In a community sample bullying seems to be directly related to BPD symptoms, without the mediating role of CTQ Emotional Abuse found in the entire sample. However, within the clinical sample, there are no direct edges between BPD symptoms and BEQ nodes. Consequently, the influence of bullying on BPD symptoms seems to primarily occur within the community and not the clinical sample.

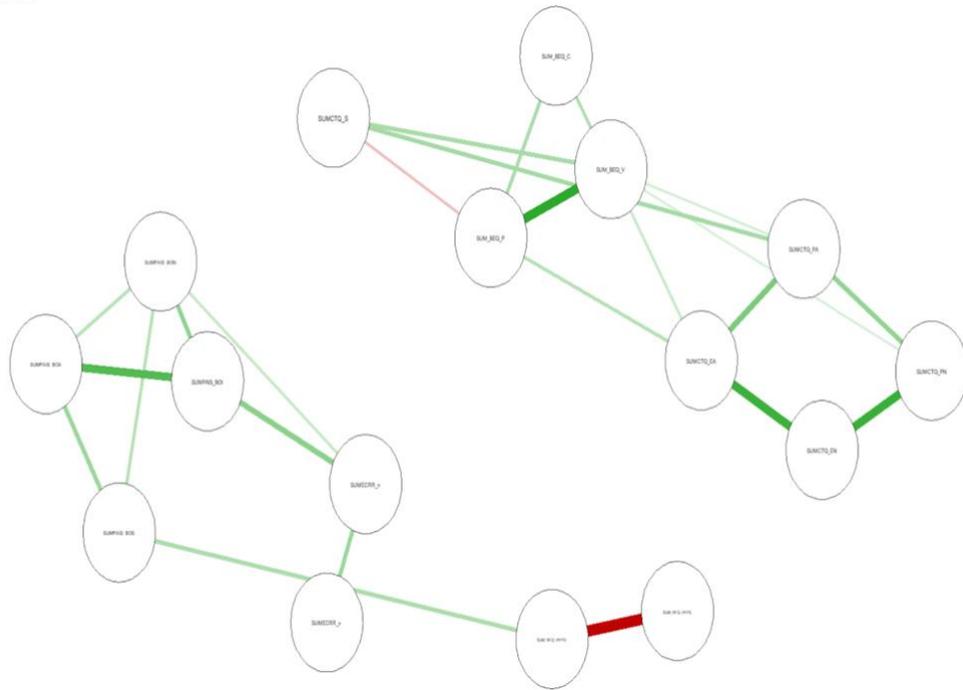
Like in the overall network estimated from the entire sample, CTQ Emotional Abuse was found to be highly central in both the clinical (Strength Centrality = 1.03) and community samples (Strength Centrality = 1.26; see Figures 9). Similarly, Figure 10 shows RFQ Hyper-mentalising to be the most predictable node in both the clinical ($R^2 = 0.99$) and community network ($R^2 = 0.99$; Appendix J).

Figure 8

Network structure estimated for clinical and community samples.

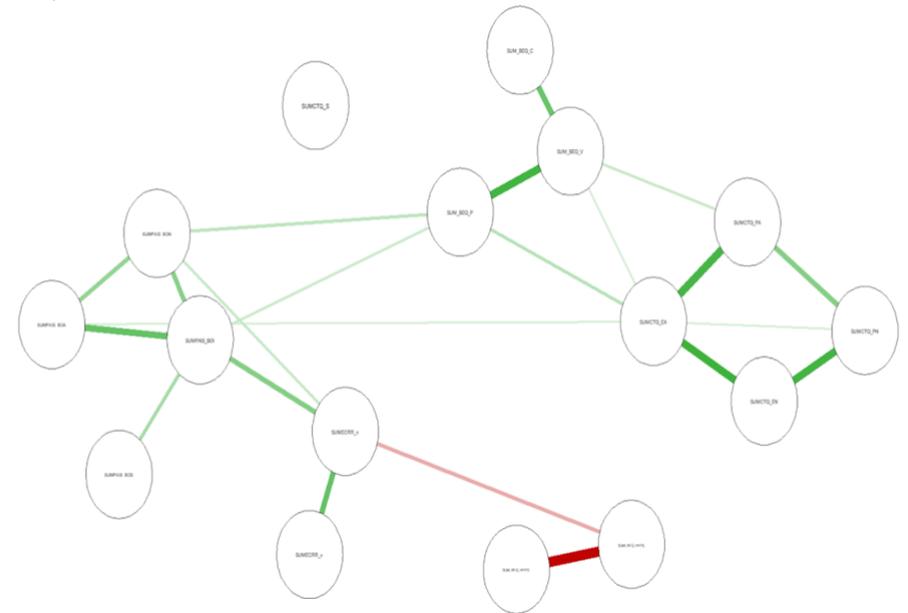
A: Clinical sample.

Basic Network Clinical



B: Community sample

Basic Network Community



Note. N = 552

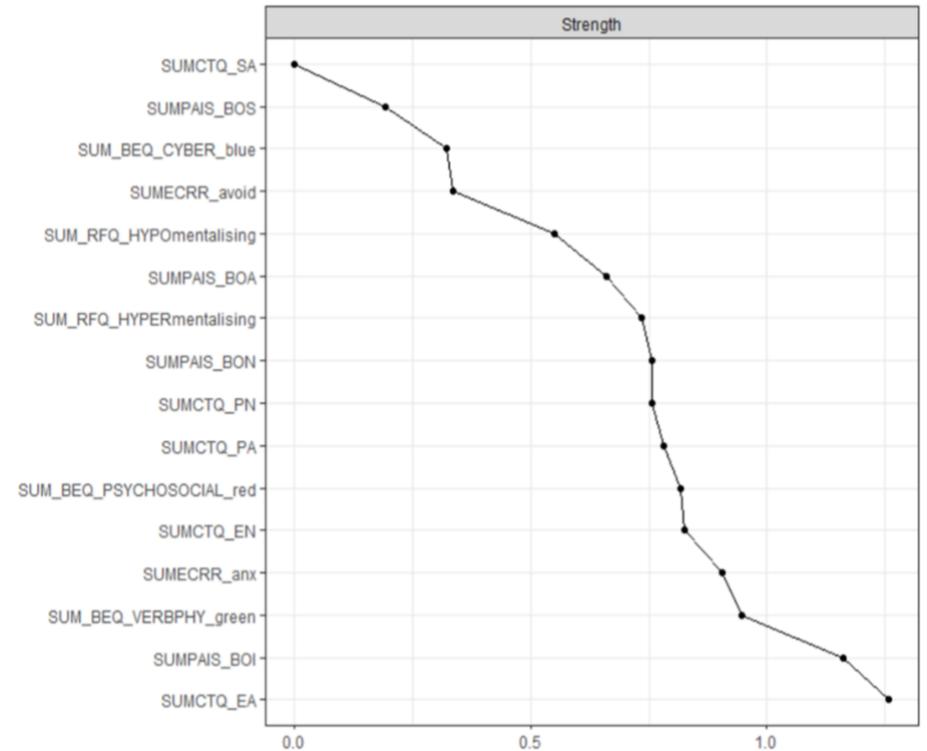
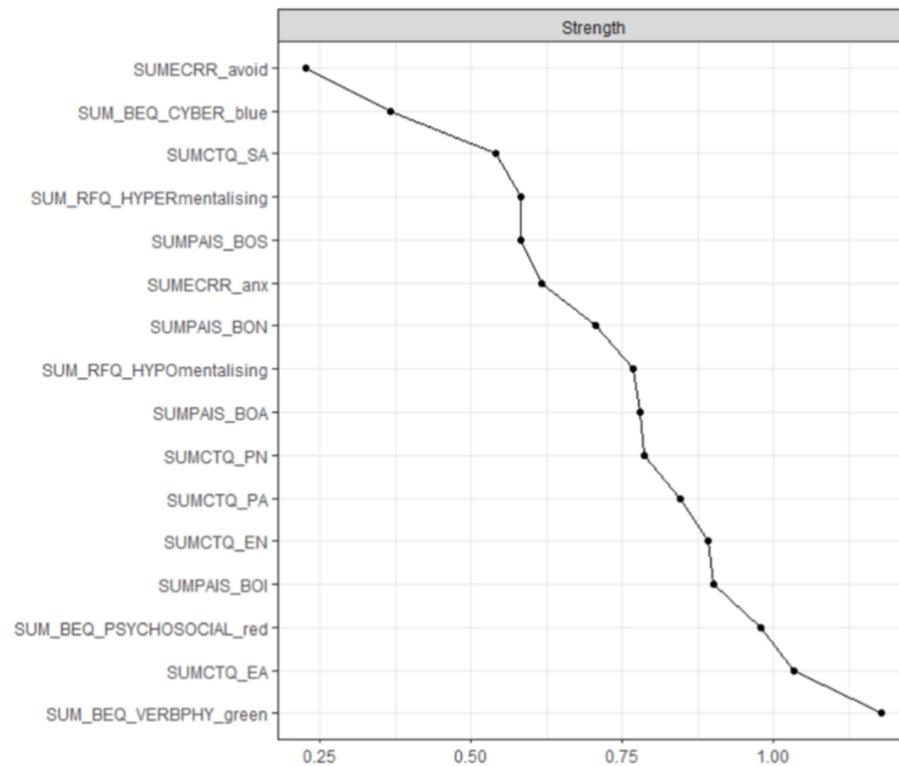
Node Legend. BEQ_P = Psychosocial bullying, BEQ_C = cyberbullying, BEQ_V = verbal-physical bullying, CTQ_PA = physical abuse, CTQ_S = sexual abuse, CTQ_EA = emotional abuse, CTQ_PN = physical neglect, CTQ_EN = emotional neglect, ECRR_n = attachment anxiety, ECRR_v = attachment avoidance, RFQ_HYPE = hypermentalizing, RFQ_HYPO = hypomentaling, PAIS_BOI = identity problems, PAIS_BOA = affective instability, PAIS_BON = negative relationships, PAIS_BOS = self-harm

Figure 9

Node strength centrality values clinical and community samples

A: Clinical sample.

B: Community sample



Note. The most central nodes in the network were found to be BEQ Verbal-Physical and CTQ Emotional Abuse, while the least central nodes were BEQ Cyber and ECRR Avoid.

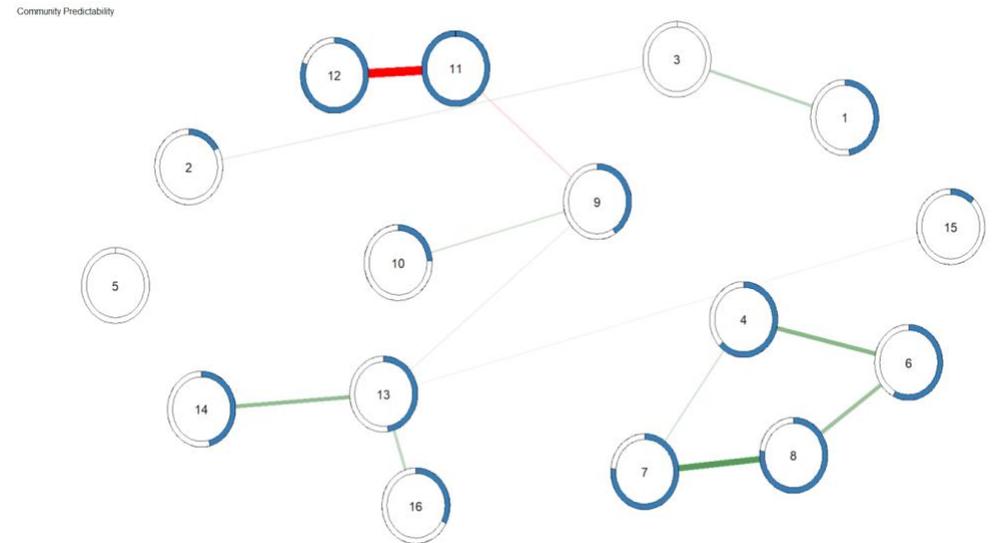
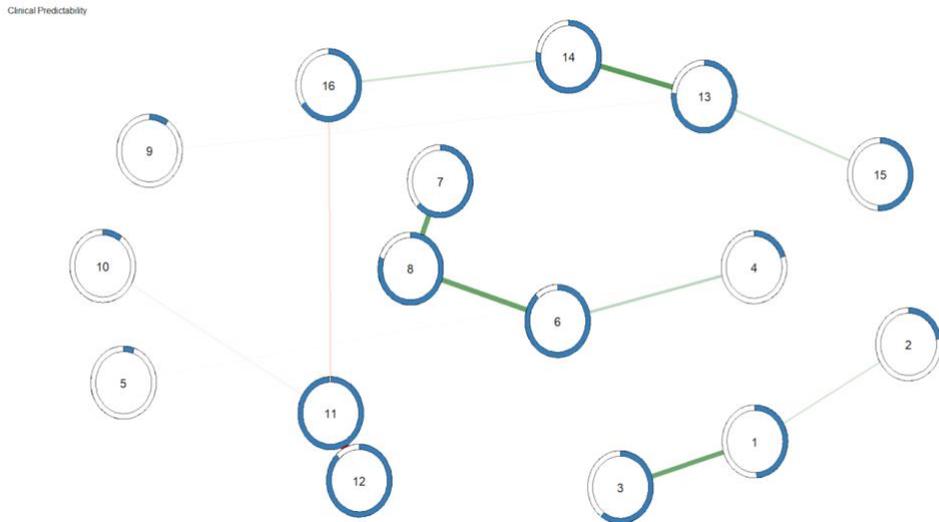
Note. The most central nodes in the network were found to be CTQ Emotional Abuse and PAI-BOI, while the least central nodes were CTQ Sexual Abuse and PAI-BOS

Figure 10

Predictability of Nodes in clinical and community samples

A: Clinical Sample

B: Community Sample



Note. N = 552

RFQ Hyper-mentalising ($R^2 = 0.99$) and RFQ Hypo-mentalising ($R^2 = 0.88$) were found to be the most predictable nodes

Note. N = 512

RFQ Hyper-mentalising ($R^2 = 0.99$) and RFQ Hypo-mentalising ($R^2 = 0.80$) were found to be the most predictable nodes.

Node Legend. 1 = BEQ_Psychosocial Bullying, 2 = BEQ_Cyberbullying, 3 = BEQ_Verbal-Physical Bullying, 4 = CTQ_Physical Abuse, 5 = CTQ_Sexual Abuse, 6 = CTQ_Emotional Abuse, 7 = CTQ_Physical Neglect, 8 = CTQ_Emotional Neglect, 9 = ECRR_Attachment anxiety, 10 = ECRR_Attachment avoidance, 11 = RFQ_Hypermentalizing, 12 = RFQ_Hypomentlizing, 13 = PAIS_BOIdentity Problems, 13 = PAIS_BOAffective Instability, 14 = PAIS_BONegative Relationships, 15 = PAIS_BOself-harm.

Discussion

The current study presented a two-fold objective. The first aim was to build on previous validation efforts, where the psychometric properties of the Bullying Experiences Questionnaire (BEQ), including its factor structure, reliability and validity were examined. The second aim was to explore the interconnectivity between bullying victimisation, childhood maltreatment, romantic attachment, ineffective mentalizing capacities and features of BPD.

Study 1: Validation of the BEQ

For the validation study, Exploratory Graph Analysis (EGA) was applied instead of traditional methods like Exploratory Factor Analysis (EFA). This choice was due to EGA's flexibility in dealing with complex, multi-dimensional data without the need for stringent statistical assumptions required by EFA (Golino & Epskamp, 2017).

Applying EGA to the BEQ revealed an unexpected result: it identified, three, not four, distinct communities – Psychosocial (including elements drawn from the original BEQ relational and verbal subscale), Cyber and Verbal-Physical (combination of items from the verbal and physical subscales of the original BEQ). These findings do not align with the first hypothesis as they contrast with the traditional four-factor structure of bullying identified by the original BEQ and previous literature (Bradshaw et al., 2015; Campbell et al., 2017; Ofori, 2017). The consolidation of traditionally distinct forms of bullying victimization (BV) experiences into three communities could be seen as an indication of the interconnectedness and complexity of bullying behaviours. Bradshaw and colleagues (2015) argued that often, bullying behaviours do not occur in isolation but coexist and overlap in various forms, frequencies, and intensities. The presence of verbal elements (from the original BEQ) within the new psychosocial and verbal-physical subscales found in this current study, further suggests the intricacies of communication and power dynamics in bullying situations.

Research has shown that power differentials are not only key in differentiating bullying from other forms of aggression but also are associated with the development of psychopathology (Malecki et al., 2015). It is important to note that the full 20-item BEQ scale including sections addressing power differentials was not explored in this research, warranting further investigations into the full BEQ scale.

In conventional bullying typologies, verbal and relational bullying are commonly distinguished in separate forms (Bradshaw et al., 2015; Campbell et al., 2017). However, findings from this study indicate a possible convergence of these two types appear to converge into the psychosocial bullying factor. This could reflect the notion that both relational and verbal forms of BV are associated with significant psychosocial impacts, potentially sharing a common goal of inflicting psychological harm, often through manipulation and degradation of social relationships (Halliday et al., 2021).

An alternative explanation to this finding could be associated with gender differences, where the current sample had an over-representation of females. Previous studies have suggested that while the rates of bullying are comparable in both genders, boys tend to display more direct forms of bullying such as verbal coercion and intimidation as well as physical bullying, while girls were often linked to indirect and subtle forms of bullying such as relational and verbal bullying, such as social exclusion, gossiping, teasing, name-calling (Fernández et al., 2013; Giles & Heyman, 2005; Silva et al., 2013; Smith, 1999; Wilson et al., 2023). Moreover, the combination of items 1 and 15 of the original verbal BEQ scale in the psychosocial community, may be consistent with more demeaning/identity-based bullying. These types of bullying are seen more frequently in females given societal and gender expectations of appearance and self-image, as well as the issues of objectification and sexual harassment (Berberick, 2010; Gervais & Eagan, 2017; Smolak & Murnen, 2011). Therefore,

having an overrepresentation of females in this sample might explain why these elements converged into a single factor.

On the other hand, items 6 and 8 from the verbal scale of the original BEQ showed characteristics similar to more coercive/intimidating types of bullying that were found to be merged with the physical items of the original BEQ. This clustering could be aligned with a style of bullying that is often linked to males (Bradshaw et al., 2015; Silva et al., 2013; Steinfeldt et al., 2012). Consequently, these items did not align with the more ‘female-centric’ aspects of bullying, such as relational or indirect forms, possibly due to the predominance of females in this sample. Therefore, their association could indicate a stronger resonance with male-associated bullying patterns.

Following the EGA, the traditional method of Confirmatory Factor Analysis (CFA) was performed to validate the revised factor structure and relationships between observed variables and the underlying bullying construct. The CFA affirmed the high stability of the BEQ items, indicating their consistency and reliability when measuring the concept of BV across different samples. The confirmatory network analysis demonstrated a good model fit, further attesting to the robustness and reliability of the identified factor structure for bullying. Taken together, these findings provide evidence for the stability and validity of the measurement instrument and hint at a consistent representation of bullying in diverse settings.

However, while the BEQ demonstrated excellent reliability as a whole, the three subscales did not mirror this high level of consistency. That is, the items within each subscale are not necessarily strongly related to one another independently of their relation to the overall bullying construct. This finding was in line with Ofori's (2017) validation of the BEQ study, where the majority of subscales (cyber, verbal, and physical) demonstrated low consistency and only high reliability was found for the relational subscale. Nonetheless, the sum of subscale scores was used in the second study as they still demonstrated a good fit to

the data and the communities appeared to be distinct from each other. However, given this finding, it would be beneficial for future research to investigate and analyse the possible implications of scoring methods of the whole BEQ measure. As it stands, it is advisable to utilise the total frequency score of the BEQ instead of the individual subscale scores when assessing the frequency of BV experiences in future research.

Additionally, the BEQ items were found to largely cluster into the same communities for both clinical and community groups, supporting the second hypothesis. However, there was a significant difference found for item 6 – "I was threatened/blackmailed" of the BEQ, which demonstrated higher relevance in the community group compared to the clinical group. Following the gender differences in bullying behaviours mentioned above, it is plausible that the higher proportion of males observed in the community group might be more exposed to or report such bullying experiences, leading to a larger network loading for item 6, as compared to the clinical group which were comprised of more females where this type of bullying behaviour may not have been as prevalent. Despite this difference for a single item, the general consistency across the rest of the measure suggests that the BEQ is broadly suitable for assessing the frequency of BV across different contexts – clinical and community.

Furthermore, significant differences were found in frequency scores of BV across all three types of bullying between clinical and community groups, providing support for the third hypothesis. This suggests a pattern where clinical populations reported higher frequencies of childhood BV, which consistent with previous literature (Aarestad et al., 2020; Lereya et al., 2015; McCabe et al., 2003). This result highlights the importance of considering childhood BV experiences, as it suggests that individuals in clinical populations may have encountered more BV experiences in their childhood and adolescent years. This heightened vulnerability to victimisation during childhood may potentially influence their

susceptibility to victimisation in adulthood, possibly being related to severe psychopathology (Lereya et al., 2015). However, it is crucial to note that these findings do not establish causal relationships and further research is needed to fully understand the complexities of retrospective bullying and its impact on adults with clinical diagnosis.

In line with the fourth hypothesis, all three BEQ subscales demonstrated good convergent validity. Significant correlations were found between all three BEQ subscales (Psychosocial, Cyber, and Verbal-Physical) and related subscale measures which demonstrated good convergent validity. These findings were in line with Ofori's (2017) validation study. The strongest positive correlation was observed between the psychosocial bullying subscale of the BEQ and the negative relationship feature of the PAI-BOR scale. This suggests a relationship between individuals reporting higher levels of psychosocial bullying experiences and more negative relationships. This is broadly in line with previous literature which found that indirect forms of bullying (i.e. relational and verbal) were associated with poor or "destroyed" social/peer relationships (Chester et al., 2017; Linder et al., 2002; Monks et al., 2009; Wolke et al., 2013). Furthermore, psychosocial bullying was negatively associated with hypermentalizing (i.e., too certain about the mental states of others) and positively associated with hypomentalizing (i.e., too uncertain about the mental states of others), suggesting that higher reports of psychosocial bullying predicted lesser hypermentalizing abilities, but more hypomentalizing abilities. This finding is in line with the small, but growing, literature indicating that interpersonal aggression, has a significant and negative impact on social cognition through impairments in reflective functioning (Chiesa & Fonagy, 2014), where one such research has found victims of bullying to have reduced abilities in mentalizing anger (Peditzi et al., 2022). The BEQ cyber subscale appeared to have a more distinct profile, with weaker associations with other measures, highlighting its potential specificity in capturing cyberbullying experiences.

In line with the fifth hypothesis, distinct associations were observed between the CTQ and BEQ, thereby demonstrating good discriminant validity. Furthermore, the BEQ showed good discriminant validity between demographic variables such as gender, household income and level of education. This supports the notion that bullying is a multifaceted issue not directly associated with these demographic characteristics, further enhancing the utility of the BEQ in various demographic contexts.

However, the BEQ exhibited lower discriminant validity in relation to age, ethnicity, employment, and SES, indicating poor discriminant validity amongst these demographic characteristics. This raises substantial considerations about the measure's universal applicability. While the instrument may be useful for gauging BV experiences broadly, its ability to capture the nuances and variations of these experiences across different demographic contexts appears limited. For instance, age-related influences might reflect developmental changes and shifts due to maturation and evolving coping strategies. Such influences could affect perceptions of how bullying experiences are interpreted in the here and now, compared to how they felt at that time (Lereya et al., 2015; Sigurdson et al., 2015). Therefore, having an over-representation of older participants in this study's sample may have led to varied responses in the BEQ, influencing its ability to accurately differentiate BV experiences based on age. Additionally, the over-representation of White, employed, higher SES individuals in this study's samples could have led to the underrepresentation of the range and severity of BV experiences across a broader demographic spectrum. This is particularly notable given that prior research shows heightened BV experiences among unemployed individuals, lower SES backgrounds and Global Majority communities (Brimblecombe et al., 2018; Tippett & Wolke, 2014; Verkuyten & Thijs, 2002; von Grünigen et al., 2010).

The disproportionate representation of certain demographic profiles implies that a one-size-fits-all approach may be insufficient for accurately capturing BV experiences,

consequently, limiting the BEQ's ability to capture the diverse experience and impacts of BV across various demographic groups, thereby reducing its discriminant validity. Therefore, the design of future research as well as interventions aimed at mitigating or preventing the impact of bullying should take these factors into account to ensure the validity of the findings and their effectiveness in diverse demographic contexts.

Study 2: Network Analysis

Based on the existing literature, this study is the first of its kind to examine the interconnections between different types of bullying victimisation (BV), childhood maltreatment (CM), romantic attachment (RA), ineffective mentalizing capacities (RF) and BPD features. The comprehensive network analysis (NA) reveals interesting insights about the complex interplay between these factors. In the entire sample, results from the NA indicate a predominately positive network structure, where 9 out of 16 nodes (i.e., subscales) demonstrated high predictability scores. This observation suggests a high degree of interconnections among these variables in this network, affirming the second study's first hypothesis.

Nodes representative of verbal-physical bullying and emotional abuse were identified as the most central nodes (strongest connectivity with other nodes) in the networks of all three samples (entire, clinical and community). This points to their significance within the respective networks. While not having the most immediate linkages, nodes corresponding to negative relationships and psychosocial bullying showed the highest values for closeness centrality. This implies their relatively short average distance to all other nodes in the network (i.e. fewer "steps" between nodes). This positions them as potentially influential in terms of mediating or transmitting effects throughout the system (Bringmann et al., 2019). Additionally, the node representing hypermentalizing was observed to be the most predictable node, this suggests that it has a high degree of associations with other nodes

(Bringmann et al., 2019). Thus, it could mean that changes in hypermentalizing are strongly associated with changes in the connected nodes.

These findings not only bring together existing literature findings that explore separate connections between BV, CM, RA, RF and BPD features (i.e. Lereya et al., 2015; Pedditzi et al., 2022; Runions et al., 2021; Santoro et al., 2021; Shields & Cicchetti, 2001; Smith & Myron-Wilson, 1998; Stagaki et al., 2022; Yoon et al., 2021) but also provides valuable insights into the structure of the network. By highlighting the most influential or interconnected nodes, these findings bring forth important clinical and research implications.

The concept of strength centrality identifies influential nodes within the network, could guide clinicians in refining therapeutic strategies. For example, targeting treatment towards emotional abuse type of CM – a node that showed consistently high strength centrality across all networks in this study – may be especially relevant when considering BV, attachment, mentalizing, and BPD features. On the other hand, closeness centrality (CC) offers a perspective on how closely a node is related to other nodes within the network. Therefore, understanding this can inform treatment as it helps clinicians anticipate the potential ripple effects of interventions. Given that negative relationships and psychosocial bullying were found to have the highest CC within the network of the entire sample, addressing these issues in therapy could correlate with overall improvements given their close proximity to other nodes within the network. Additionally, the hypermentalizing node was found to be the most predictable across all three networks. This insight equips clinicians with the ability to foresee the probable status of behaviours of certain variables like BV, CM, attachment or features of BPD based on their connection with hypermentalizing. This understanding could aid in predicting the course of difficulties (or "symptoms" in medical terminology) or experiences and adapting treatment approaches accordingly. Future research might consider examining these prominent nodes within a therapeutic context and exploring

the connections and associations they have within the overall network (Bringmann et al., 2019).

Within the NA of the entire sample, only one positive association was found between the nodes of psychosocial bullying and negative relationships, offering partial support for the second hypothesis of the NA. The inherent cross-sectional nature of the study prevents any inference of causality, indicating that there is a relationship between increased psychosocial and more negative relationships or the other way around, as the direction of this relationship is uncertain. This observation reinforces the findings from the earlier validation of the BEQ (refer to pg. 137 – explanation of findings Study 1's fourth hypothesis, the strongest positive correlation found between psychosocial bullying and negative relationships) which were broadly in line with previous literature (Chester et al., 2017; Linder et al., 2002; Monks et al., 2009; Wolke et al., 2013). Additionally, this finding may also be attributed to the over-representation of females in this sample (see above pg. 134 for explanations of gender influences). Future research is warranted to definitively confirm the directionality and causality of the relationship between psychosocial bullying and negative relationships.

Interestingly, there were no observed connections between cyberbullying or verbal-physical bullying and features of BPD. This can be attributed to a crucial finding from the NA, which identified indirect pathways between BV and features of BPD nodes, through the nodes of childhood emotional abuse and emotional neglect. These nodes appear to serve as “bridging” connectors, linking various aspects of BV and features of BPD (Jones et al., 2021). This indicates a potential relationship where the associations between bullying and features of BPD might be linked through various aspects of CM. Furthermore, the presence of associations between BV and features of BPD and the emotional abuse node of CM was notable, considering its associations with both BV and features of BPD nodes. Given the

cross-sectional nature of this study which prevents causal inference, a reciprocal bi-directional relationship might exist, whereby BV nodes could also influence the relationship between CM and features of BPD. However, this would need to be tested in future longitudinal research designs.

Taken together, these findings align with existing literature, that proposes the experience of BV and CM are interconnected within the ‘cycle of victimisation’, thereby impacting on mental health (Goemans et al., 2023; Widom, 2014). Additionally, these findings add valuable insights to the body of literature, emphasising the interdependency that exists between CM, BV and mental health difficulties (Bowes et al., 2009; Goemans et al., 2023; Hébert et al., 2016; O’Hara, 2020; Yoon et al., 2018, 2021).

Furthermore, results revealed that the edges of clinical and community groups were relatively similar, with no significant differences in terms of global network connectivity or structure. These findings do not offer support for this study's third and fourth hypotheses, which suggest that there would be significant differences between the two groups in terms of network connectivity or structure. Although a transdiagnostic perspective, which acknowledges the presence of comorbidities and focuses on shared elements across various disorders, was used in this study, it is plausible that this approach itself might post a potential limitation in detecting anticipated differences in network structure, due to the disproportionate demographic make-up of the clinical subgroup. Compared to the entire sample and the excluded group, the retained sample had fewer participants diagnosed with BPD or ASPD but more with affective disorders (Refer to Appendix G & H). The over-representation of participants with affective disorders and under-representation of those with PD diagnoses within the retained sample could be a contributing factor to the absence of expected differences in network structure.

Interestingly, observational differences in patterns of connections were observed between clinical and community samples. Within the community sample, there were associations observed between psychosocial bullying and nodes representing identity problems and negative relationship of BPD features. Additionally, unlike the findings from the overall sample, associations between bullying nodes and features of BPD were observed without clear links through childhood emotional abuse, in the community sample, which is consistent with the literature (Fisher et al., 2012; Lereya et al., 2015; Winsper et al., 2017; Wolke et al., 2012).

With regards to the clinical sample, interestingly, there were no observed relationships between types of BV or CM and RA, RF, and features of BPD. These findings could be potentially attributed to treatment-seeking bias (Galbaud et al., 1993). The absence of direct edges linking BV and CM nodes with nodes of RA, RF, or features of BPD, may suggest that individuals seeking respective treatments (with the different treatment settings where clinical samples were recruited from) might possess a more complex profile of symptoms and underlying factors, making the direct linkages with BV and CM less evident. Furthermore, there is the possibility that individuals in the clinical group might have already received treatment or interventions that might have modified pre-existing links which connect nodes BV and/or CM with nodes of RA, RF and features of BPD (Galbaud et al., 1993).

These findings highlight the complexity of the relationships within the network structure of the clinical group, where connections were observed between various BV and CM experiences, as well as a distinct set of connections identified between RA, RF and BPD features. The latter observation aligns with existing literature, which highlights relationships between attachment, mentalizing difficulties and BPD characteristics or diagnosis (Fonagy et al., 2015, 2017; Fonagy et al., 2002). Given that the clinical group was developed from a transdiagnostic perspective, these findings may emphasise the importance of targeting

attachment patterns and mentalizing capabilities in the treatment of individuals who exhibit features of BPD as part of their mental health concerns.

Taken together, these findings underlie the complexity of the relationships between BV, CM, RA, RF, and features of BPD. They stress the need for future research to consider and replicate these complex interplays, and perhaps investigate further the potential influence of demographic characteristics (such as gender difference or engagement with therapeutic services) and intervention effects. By comprehensively understanding these demographic characteristics and their potential interactions with BV, CM, RA, RF and BPD, researchers and clinicians can gain valuable insights into the unique ways each individual perceives, experiences and reacts to these factors. Such nuanced knowledge is important because it lays the groundwork for development of more effective, individualised approaches to therapeutic interventions.

Strengths

The present study showcased several methodological and theoretical strengths. Utilising network theory and analysis, a novel theoretical and statistical model was presented that challenges the understanding of mental health difficulties proposed by latent variable models (Borsboom, 2017). The framework provided by the network approach was instrumental for the ambitious and unique research aims. In this study, several steps were taken to validate the BEQ including parallel analysis and EGA to assess the underlying factor structure. EGA has been shown to perform similarly to parallel analysis but performs better when there are multiple correlated latent factors (Golino et al., 2017). Redundant items were ensured to be removed or merged using Unique Variable Analysis. McDonald's omega was chosen, instead of Cronbach's alpha, because it does not assume unidimensionality, equal factor loadings, and uncorrelated errors and is not affected by the number of items in a scale (McDonald, 1999).

Another significant strength is the implementation of NA on a large sample size, relative to the number of nodes included, stands as another strength of this study. Coupled with the rigour of data collection, using validated measures and standardised research protocols, it further boosts the robustness of the data set. As a result, the networks are likely to be highly stable with a high degree of sensitivity and specificity to detect true edges (Fried & Cramer, 2017). The solidity of the network structure enhances the reliability of the findings, reinforcing the credibility of inferences drawn from this investigation.

The application of NA statistical methods offers another strength by enabling the identification of the most influential or interconnected nodes through evaluations of strength centrality, closeness centrality and node predictability. This allows clinicians to target these areas more effectively in therapy.

Lastly, while much of the psychological network analysis research has predominantly focused on symptom-to-symptoms interactions, thus, the incorporation of non-symptom elements (i.e. BV and CM) is another strength as it enhances the understanding of the important aspects of mental health (Contreras et al., 2019).

Limitations

Nevertheless, it is important to acknowledge several limitations. First, networks were only constructed using cross-sectional data. Recent work has shown that between-subjects networks cannot accurately estimate causal relationships between nodes (Epskamp et al., 2018; Bos et al., 2017). Personalised networks, based on multiple repeated assessments (i.e., longitudinal studies) over time, can better estimate causal relationships between nodes through the use of time-series methods to establish Granger causality (Molenaar, 2004). More broadly, there is also emerging evidence to suggest that commonly used centrality measures, e.g., strength and closeness centrality, may not be reliably related to a node's causal influence

on other nodes in a network (Dablander & Hinne, 2019). Thus, the conclusions drawn from this research should be treated with caution.

Furthermore, the research metrics employed in the study present their own set of complexities. The hierarchical omega, valued at 0.70, indicates that a significant portion of the reliable variance is derived from group factors. A notable incongruence is observed when comparing the subscale's reliability values (0.63, 0.55, 0.29) – some of which are comparatively lower and exhibit no correlation – to their corresponding model-based total omegas. This contrast underscores the predominance of a singular, overarching factor influencing the reliability of the subscale. The expected common variance may not definitely suggest a solitary central factor. It appears that Factor 3 predominately gets overshadowed by the general factor, evidenced by its hierarchical omega of 0.29. Conversely, the remaining two factors retain considerable independent reliability. This presents a nuanced landscape, precipitating inquiries regarding the proposed 3-factor structure of the BEQ. Although there's an inclination towards the presence of three separate factors, the overarching general factor's significance poses challenges to the individuals' subscales' independence. Therefore, while the BEQ offers valuable insights, these constraints warrant careful consideration when utilising the questionnaire in practical contexts. Future research is needed with larger and more heterogenous populations.

Additionally, psychological networks do not typically include demographic variables or other external factors that could impact the associations between nodes (Borsboom, 2017). While a few studies, including this one, have begun examining non-symptom nodes (Contreras et al., 2019; Cramer et al., 2012; Hoorelbeke et al., 2016; Vehling et al., 2017), an acknowledged limitation of this study was the lack of incorporation of covariates into the NAs. Significant demographic differences were observed between groups in this study. However, these covariates were not accounted for. Thus, the omission of these covariates can

bias the findings and limit the interpretability of the results. Furthermore, the exclusion of covariates from the NA might have inadvertently obscured nuanced relationships or key interactions between variables, potentially leading to an over- or underestimation of the true associations between nodes. Nonetheless, it is crucial to highlight that introducing an array of covariates can lead to statistical challenges, such as overfitting and multicollinearity. Thus, considering the substantial presence of significantly different demographic characteristics, coupled with the potential statistical challenges arising from the excessive number of covariates, post hoc testing including these factors was not conducted.

Further limitations arise from the choice of measurement tools in this study. While instruments such as the BEQ, CTQ, ECRR, RFQ and PAI-BOR have their merits, they may also inadvertently limit the exploration of certain factors such as the influence of social disparities, power differentials and political forces. Although the full BEQ has components to assess power differentials, this element of the measure was not used in this study. Additionally, the self-report nature of these measures also poses some limitations. Self-report measures are susceptible to social desirability bias, where participants may portray themselves more favourably (Fisher & Katz, 2000). This bias can be particularly prominent when participants are asked sensitive questions, such as those pertaining to past experiences of bullying or childhood maltreatment. Furthermore, the retrospective nature of BEQ and CTQ, where participants are asked to recall bullying and CM experiences that occurred during childhood and adolescence, may introduce potential recall bias (Fergusson et al., 2011; Xie et al., 2022). This bias could compromise the accuracy of past experiences or behaviours reported. Taken together, these factors can potentially skew the data, leading to conclusions that do not align with reality. Notably, self-report measures assume that participants possess a comprehensive understanding of the questions and their own behaviours and are capable of accurate introspection. This may not always hold true,

especially when considering complex mental health constructs that may not be fully encapsulated through self-reporting.

Demographic factors such as gender, SES, ethnicity, employment, educational level, and household income, that were found to differ between groups in this study, can play a significant role in the formation of the structure of psychological networks. Future work should consider integrating relevant covariates into network analyses, potentially using techniques like partial correlation networks, to better understand their influence and to provide more comprehensive and accurate representations of the underlying structure of these networks. While the current analyses suggest that there is a high degree of similarity in the network structure between clinical and community groups, the inclusion of covariates might reveal meaningful differences that were not apparent in this initial investigation. Furthermore, the overrepresentation, of highly educated, high-earning, white females among the included participants may impact the generalisability of the results. This highlights the necessity for greater inclusivity of marginalised populations in future investigations to replicate and validate these results.

Future Implications

Several future implications have been interwoven into the discussion sections.

However additional future implications include:

Rethinking Bullying Typologies

The new three-factor structure of the BEQ proposed in this study suggests a need to re-evaluate conventional bullying typologies. Future research should examine the implications of these findings for the classification, assessment, and treatment of bullying behaviours. Moreover, these findings could be used to inform and adapt educational programs to reflect the realities of interconnected bullying behaviours (Bradshaw et al., 2015)

Understanding Mental Health Disorders via normalisation and anti-stigmatisation

The findings of shared interconnectivities between BV, CM, RA, RF, and features of BPD foster a more inclusive and less stigmatising understanding of mental health. The results support the notion that difficulties (i.e., attachment difficulties, ineffective mentalizing) are present in individuals regardless of formal mental health diagnosis. This perspective helps counter-narratives set by diagnostic manuals which often delineate a pronounced difference in personalities of people of those with and without mental health difficulties (Borsboom, 2008). Such findings support the significance of psychoeducation and importantly, the normalisation of mental health difficulties, specifically particular BPD (Gunn & Potter, 2015). This also underscores the need for a shift in societal discourse and policy-making decisions, moving away from viewing mental health merely as an "illness" and towards understanding it as an outcome of various intersecting relational and social disadvantages (Taggart & Speed, 2019).

Treatment Approaches

Furthermore, this perspective reinforces the broader application of mentalisation-based therapy (MBT). While MBT, traditionally has been used with people with BPD diagnosis in clinical settings, recent literature, coupled with this study's results, emphasises its potential applicability with non-clinical populations (Schwarzer et al., 2021). The focus is on enhancing resilience and equipping individuals with better coping mechanisms to manage general adversities, thereby extending the scope and reach of MBT. Additionally, by understanding the strength centrality, closeness centrality and predictability of nodes in the NA, clinicians can more effectively target these areas in therapy. Moreover, the observed prevalence of BV and CM experiences in both clinical and community samples suggest that addressing the cycle of victimisation, such as those of BV and CM, could potentially have wide-ranging impacts on mental health.

Policy Implications

These findings can inform policies and prevention strategies related to BV, CM, and mental health, specifically those aimed at reducing features of BPD. Policies could focus on addressing verbal-physical bullying and emotional abuse, given their central roles in the network. The identification of indirect pathways between BV and BPD features, via childhood emotional abuse and emotional neglect, highlights the importance of a comprehensive approach when developing policies to combat mental health problems related to BV and CM.

Conclusion

In conclusion, this research offers valuable insights into the interplay of various factors contributing to mental health difficulties, particularly features relating to BPD. The process began with the validation of the BEQ, which revealed a three-factor structure, promoting a need to re-evaluate traditional bullying typologies. It emphasised the use of total frequency scores rather than subscale scores in assessing BV experiences and highlighted potential gender differences in bullying patterns.

The subsequent NA provided an in-depth exploration of the interconnections between BV, CM, RA, RF and BPD features. It reinforced the understanding that these factors do not occur in isolation; instead, they interact with each other, forming a complex web of influencing mental health. The NA revealed the centrality and influence of variables like verbal-physical bullying, emotional abuse and hypermentalizing, lending significant implications for therapeutic interventions and mental health policies. Furthermore, the study promotes a less stigmatizing view of mental health, urging society to recognise it as an outcome of intersecting social and relational disadvantages.

Overall, findings from this research underscore the importance of understanding and addressing these issues in a comprehensive, interconnected way, which could significantly impact treatment approaches, mental health policies and overall societal perspectives on

mental health. Future research should continue to unravel these complex relationships and implications, ultimately moving towards a more nuanced and empathetic understanding of mental health.

Chapter IV: Integration, Impact and Dissemination

Interest in the topic area

My doctoral thesis has been influenced by my longstanding interest in working with children and young people (CYP), particularly in relation to understanding the impacts of adverse childhood experiences (ACEs) on attachment difficulties. Concurrently, my attention was drawn towards early intervention and prevention strategies specifically tailored for this demographic, with the hope of minimizing the development of severe mental health difficulties in adulthood.

My approach to making sense of a client's distress has evolved over the course of my training. I progressively found myself moving away from pre-defined diagnostic categories as an anchor to a more contextualised sense of making of client's referred difficulties that included helpful symptom descriptions but also broader influencing factors. This learnt well towards a transdiagnostic, integrative approach. My adolescent inpatient placement encompassed this in the context of young people (YP) in crisis, with histories of ACEs where I found bullying victimisation (BV) and childhood maltreatment (CM) key, recurrent themes. I observed YP's challenges in trusting the safety of therapeutic relationships and ingrained difficulties, such as self-perception, frequent episodes, and various forms of self-injurious behaviours, along with suicidal ideations and attempts. Whilst these difficulties were aligned with BPD diagnosis, I found they strongly resonated with a multi-theoretical approach, incorporating attachment, mentalization and epistemic trust. Weekly Multi-Disciplinary Team meetings further stirred my interest in adopting a transdiagnostic approach, as opposed to limiting these difficulties to a specified diagnostic criterion. As a result, I was particularly keen to explore the impacts of BV and CM on these difficulties from an attachment-mentalization lens.

Integration

Both the systematic review (SR) and empirical study (ES) shared theoretical grounding in the attachment theory, albeit different approaches and objectives, enabling some integration of the findings. By examining the attachment-help-seeking relationship, the SR provided a comprehensive overview of the existing literature regarding the associations between attachment and help-seeking, including potential mediating and moderating factors that influence the relationship. This in turn provided a theoretical foundation for the ES.

The ES consisted of two primary objectives, the first being a validation of the Bullying Experience Questionnaire (BEQ) and the second, a network analysis examining the interconnectivity between, BV, CM, romantic attachment, ineffective mentalizing capacities and features of BPD. Although the empirical study did not directly address the attachment-help-seeking relationships, it complemented the SR. Drawing from my placement experiences, where I grasped the profound impacts of BV and CM on attachment, mental health, and the help-seeking process, highlighted the value of using a tool like the BEQ to assess these experiences. The findings from the first study of the ES highlighted that the BEQ could serve as a tool that could be employed clinically and within the community, enhancing our understanding of BV experiences, and thereby expanding our comprehension of its impact on mental health and attachment-help-seeking relationships.

Findings from the second study, through the utilisation of NA, revealed potential direct and indirect associations between the examined variables, particularly retrospective BV on the development of features associated with BPD. In particular, the emergence of verbal-physical bullying and emotional abuse as central nodes, and hypermentalizing as the most predictable node, carries important clinical and research implications, this offers a broader perspective on the multifaceted factors that may influence attachment patterns, the development of psychopathology and help-seeking tendencies and behaviours.

Taken together, these two overarching components of my research offer a more comprehensive understanding of the complexities involved in the attachment-help-seeking relationship and the factors that guide them. The synthesis of outcomes from my SR and ES hopes to enhance our understanding of how interconnected key constructs – such as adverse childhood experiences, particularly bullying and childhood maltreatment, attachment (incorporating mentalization), psychopathology (i.e., particular attributes with BPD) and help-seeking – truly are. My thesis hence contributes significantly to elucidating the intricate relationships among these elements which further stimulates my interest in conceptualizing and formulating early intervention and prevention strategies.

Dilemmas and methodological choices

In the context of my SR, a notable dilemma arose when no appropriate quality assessment (QA) tool was available for assessing the included studies. To address this gap, various existing QA tools were combined and adapted to ensure a rigorous evaluation of study quality. Given the diverse methodologies employed in the included papers, it became particularly challenging for me to make fair comparisons regarding the reporting styles of the articles against shorter research publications. To synthesize the results effectively, I opted for a narrative synthesis approach, which also posed challenges as doing so involved careful consideration of word limits while assessing and comparing the richness and depth of each study.

Regarding the ES several items needed sensitive consideration during the planning. An initial dilemma emerged regarding the choice of statistical analysis. Structural Equation Modelling (SEM) was first proposed as it is a widely used, powerful statistical method in psychological research which typically necessitates a well-defined theoretical model with specified directional paths and latent variables (Kaplan, 2001). However, given the exploratory nature of my research and the differing associations found between separate

variables in the existing literature, SEM felt overly specific and constraining. Additionally, there was limited support available for SEM within the course. Without the necessary support and expertise, the learning curve and implementation would have been more difficult and time-consuming.

As a result, I was guided towards employing Network Analysis (NA), a relatively newer statistical model that offers a more flexible approach (Borsboom, 2017). NA aligned better with the objectives of my ES, allowing for a more exploratory approach in the examination of the interconnections between variables. These decisions presented the challenges of quickly learning and familiarising myself with two complex models, within a limited time frame. Fortunately, throughout the research process, I had access to valuable support and resources specifically focused on NA through my course. This system provided me with the necessary knowledge, tools, and guidance to navigate the complexities of NA and effectively analyse the network of variables. As I delved deeper into learning about NA, I realised how it not only aligned with but also expanded my perspectives on mental health. NA allowed for a transdiagnostic approach within research, offering valuable insights into the relationships between factors, including non-symptom factors, while also considering individual difficulties as separate entities rather than solely viewing them within the context of a larger “disorder” (Borsboom, 2017; Contreras et al., 2019). This further enhanced my interest in the transdiagnostic nature of psychological phenomena and offered valuable insights into the relationship between various factors (including non-symptom factors).

Additionally, reflecting on my training journey, I realised that my understanding of mental health constructs has evolved over the years. This shift guided me towards emphasising more on various forms of distress and the individual lived experiences of people, which essentially meant adopting a more transdiagnostic approach, instead of focusing on a "disorder" or "psychiatric disease". As a result, the current problems of the

diagnosis of BPD became an important theme in my study. I strived to employ language that reduces the notion of BPD as an inherent, fixed truth about a person – for instance referring to individuals as people with a BPD diagnosis rather than individuals with BPD (Dyson & Gorvin, 2017). Despite these efforts, it's not always feasible to sidestep language that might inadvertently contribute to stigma, as even the term “borderline personality disorder” is laced with heavy stigma and negative connotations (Gunn & Potter, 2015). Moreover, using BPD features as a sign of more severe issues, while useful in some contexts, may inadvertently stigmatize people struggling with complex mental health problems (Gunn & Potter, 2015). Nevertheless, from the transdiagnostic perspective, these features could be viewed as part of a continuum of human experiences rather than indications of the severity of mental health. Thus, the idea to combine individuals with clinical diagnoses into one group in the ES aligns with a transdiagnostic approach. This approach mitigates the potential stigmatising implication that certain experiences are inherently worse than others, instead acknowledging the complex and diverse nature of the human experience.

Furthermore, the assumption that items of the PAI-BOR scale are perceived by participants as difficulties (or “symptoms” in medical terminology) and not as potential strengths in specific situations may inadvertently pathologize certain behaviours. My comprehension of these complexities deepened-while conducting these studies. I found myself constantly reminded to remain open-minded and curious about the context-dependent interpretations of specific issues. While the NA approach utilised in this study facilitated the examination of non-symptom/context-dependant interactions (i.e., BV, CM, attachment and mentalizing capacities), it is crucial to acknowledge that the presence of various difficulties does not inherently define the manifestation of emotional, behavioural or cognitive struggles labelled as a disorder (Hens et al., 2019).

Additionally, during the planning of the empirical study, another dilemma arose when considering the inclusion of epistemic trust (ET) as a variable. Although the existing literature provides compelling insights into the potential benefits of incorporating the mentalizing and ET frameworks to enhance our understanding within the context of attachment theory, there was only a small number of participants who completed ET measures. Consequently, after careful consideration, I decided to exclude it from the study to maintain an appropriate sample size for reliable analysis. It would be interesting for future research to replicate the current study's associations and include ET as a variable.

Careful consideration was given during the development of the exclusion criteria for the study. It was evident that some participants had fully incomplete measures, including the BEQ as well as the other measures used in the ES. This presented challenges in determining the appropriate approach to address missing data and whether to exclude participants with insufficient data from the analysis. One potential solution for missing data is through imputation methods. This approach would allow the inclusion of all participants in the analysis, which could maximise the sample size and potentially enhance statistical power. However, due to time constraints and the intensive learning required to understand NA, I decided to exclude participants who had at least one whole measure missing. This criterion was set to ensure a minimum level of data completeness and reliability. After excluding, imputation methods were applied to address the remaining missing data for the included participants. By imputing the missing values, the data set was made more complete and representative of the variables under investigation. The decision to first exclude and then impute missing values was driven by the need to balance data quality and integrity with the desire to retain a sufficient sample size for meaningful analysis. Excluding participants with insufficient data allowed for a more stringent evaluation of the relationships between variables, while imputing missing values enhanced the completeness of the dataset. However,

it is still important to acknowledge that the exclusion of participants and the subsequent imputation of missing values may have introduced potential biases and limitations, which were taken into consideration when interpreting the findings.

The issue of covariates also posed a dilemma in the empirical study, while it would have been beneficial to include additional covariates to provide a more comprehensive analysis, I was mindful of the limitations and the potential increase in Type 1 errors associated with conducting numerous post-hoc analyses. Thus, the decision was made to address the covariates within the limitation sections, acknowledging their relevance while prioritising the integrity of the study. These issues had a significant impact on the overall design, analysis, and interpretations of research findings.

In sum, these dilemmas and methodological choices had significant impacts on the overall design, analysis, and interpretation of the research. While they presented challenges, they also allowed for careful consideration and decision-making, ensuring the research-maintained rigour and validity.

Impact

The findings from these current studies carry far-reaching implications, impacting future research directions, clinical practice, education systems, early intervention, prevention strategies, public health policies, and societal understanding of mental health.

Future Research

Regarding the SR, findings highlighted key areas for future research in psychology, particularly the complexities of the attachment-help-seeking relationship. The inconsistency observed with individuals with attachment anxiety creates a compelling case for additional research in this area. Future research might consider focusing on understanding the ambivalence in such individuals when they seek support. Additionally, the limited studies that examined mediating and moderating variables, encourage further examination in future

research. Surprisingly, no discernible findings were reported for individuals with disorganised attachment styles and variables such as mentalization and epistemic trust that could potentially mediate or moderate the attachment-help-seeking relationship remain unexplored. These literature gaps identified undoubtedly warrant further research.

With regards to the ES, the findings from the validation study highlighted that the newly defined three categories of the BEQ demonstrated good validity and reliability. This robustness suggests that the categories were meaningful. Additionally, the consistent dimensionality across clinical and community groups, despite small differences, supports the use of these measures as a tool in research comparisons between clinical groups and community groups and underlines their suitability as screening tools in both research and clinical contexts.

Additionally, there were noteworthy methodological contributions, by employing the novel application of network analysis (NA), a relatively new and developing field, to psychological data. The incorporation of Exploratory Graph Analysis (EGA) and Moderated Network Models (MNM), methodologies that have only been developed within the last six years, offers robust approaches for disentangling complex interrelationships among variables (Borsboom, 2017; Golino & Epskamp, 2017). Furthermore, while a handful of recent studies have begun to incorporate non-symptom nodes into psychological networks (Contreras et al., 2019; Cramer et al., 2012; Hoorelbeke et al., 2016; Vehling et al., 2017), such additions are not commonplace in psychological network analysis (Borsboom, 2017). Thus, incorporating non-symptom nodes (i.e., BV and CM) into this current study, paves a way for future research, encouraging researchers to adopt and replicate similar methodologies, echoing my inspiration drawn from previously limited research.

Conclusions from the SR and ES present several promising future research directions, particularly around the potential impacts of BV and CM on the help-seeking process, from an

attachment theory perspective. Notably, the ES did not include a measure of help-seeking, presenting an opportunity for future research. Such research could provide a more nuanced understanding of potential pathways through which experiences of bullying and CM may influence help-seeking. For example, they might influence individuals perceived social support, level of distress and self-stigmas or perceived risks and benefits of seeking help, factors known to mediate the attachment-help-seeking relationship. It could also clarify whether certain forms of BV or CM have different impacts on help-seeking, or whether their impacts vary depending on other individual factors (i.e., gender) or contextual factors. Furthermore, the current state of research and findings from this research indicate an increasing need to pivot towards integrating attachment-mentalization and epistemic trust perspectives into future research. However, the unexplored potential mentalization concepts (in the SR) and epistemic trust (in both SR and ES) warrants further research. Ultimately, such research could significantly enrich our understanding of the complex interplay between adverse childhood experiences, attachment, and the help-seeking process.

Informing clinical/educational practices

With regards to the SR, findings point to the significant importance of fostering secure therapeutic relationships from the onset of therapy. It reinforces the idea that clinicians should be well-versed in understanding and navigating different attachment styles, recognising they might affect a client's attitudes, intentions and behaviours in seeking and receiving help. Moreover, the impacts of the findings in the SR further encourage clinicians to be self-aware regarding their own attachment styles, and how their own patterns might influence the therapeutic alliance and overall therapeutic process.

Complementing this, the ES shed light on the interconnections between variables, particularly the identification of the BEQ Verbal-Physical and CTQ Emotional Abuse as central elements in the network. This suggests the necessity for therapeutic interventions that

specifically target processing these traumatic experiences and building resilience.

Furthermore, the findings from the ES support the adoption of a transdiagnostic approach in mental health, emphasising the importance of considering a wide range of interconnected factors in the assessment and treatment of psychopathology.

Collectively, the insights from both SR and ES provide valuable guidance that can inform individualised, targeted and/or early interventions. These are aimed at enhancing the understanding of the complex influences on client mental health, fostering more secure attachment relationships, ensuring the accuracy of assessments, and improving the effectiveness of treatment strategies, with an ultimate goal of potentially preventing further development of psychopathology, while enhancing help-seeking tendencies and behaviours. This knowledge enriches clinical practice by guiding therapeutic interventions but also impacts educational institutions by collaborating on the development of curriculum and/or training modules tackling bullying and promoting and preventing mental health.

Policy and Guidelines

Policymakers can use this data to inform mental health policies, focusing on the need for attachment-based outreach programmes. Such programmes could address the identified gaps in support for individuals with avoidant and anxious attachments, providing resources and interventions that specifically target these populations.

Additionally, findings from the ES contribute to the current debate in the research world and inform policymakers and guidelines (i.e., ACEs) to recognise bullying as a form of Adverse Childhood Experience (ACE), it not only broadens our understanding of childhood adversity but also signifies the need for more substantial focus on bullying prevention and intervention strategies in public health policies. Given the significant associations between long-term mental health and various forms of childhood bullying victimisation, the findings underscore the urgency of comprehensive efforts to prevent and mitigate the effects of

bullying, especially in schools. These results could stimulate the development of more effective, holistic public health initiatives, which recognise and address the profound and lasting harm caused by bullying.

Dissemination

Academic

Findings from the current studies are intended to be published in one or more journal articles. The ideal journal within topic-related journals would be *The Journal of Child Psychology and Psychiatry*, by the Association for Child and Adolescent Mental Health (ACAMH), as their publications closely align with my current research topics and holds a very high impact factor of 8.265. Additionally, alternative journals include *Child Abuse and Neglect* and *PloS ONE*. These journals are preferred due to their peer-review nature and open-access availability, with high impact factors of 4.863 and 3.752 respectively.

Furthermore, findings might be disseminated at various conferences. Such as the annual conferences organised by the Psychoanalysis Unit of UCL which is focused on mentalization and attachment, which attract professionals such as academics, researchers, and clinicians. Other possibilities include “The Big Emerging Minds Summit” an event centered around implementing research into practice, and monthly talks organised by Emerging Minds. At these events, presenting a poster or delivering a short oral presentation could serve as an effective means of reaching individuals from various domains within the psychology field. Furthermore, findings from this study could also be succinctly conveyed through ACAMH’s podcast, a platform that has personally inspired me, particularly through their episode on “Bullying and Mental Health: Impacts and Interventions”. This platform of dissemination holds a significant reach, connecting with listeners from all walks of life in the general public.

Community

Short summaries of the research findings, written in plain English will be distributed amongst schools, charities, and support groups. Additionally, the research findings from both studies will be shared with service users (SUs) in my third-year placement. I recognise the importance of avoiding re-traumatisation and therefore, with the help of my placement supervisor and the SUs, there are plans to communicate the findings in a sensitive and generalised manner to minimise any potential distress. Thus, to ensure an inclusive and comfortable presentation, I will be consulting YPs as part of the “research steering group” to gather input on the most suitable method of presentation. There are plans for SUs to support the development of easy-read flyers summarising research objectives and outcomes. These summaries and easy-read flyers will also be tailored to address the specific needs of CYP as well as individuals with learning disabilities, ensuring accessibility and relevance to their experiences.

Services

I plan to disseminate a plain English version of the results via the platforms and groups that the study was advertised as well as third sector services and specialist NHS services. Short presentations summarising the findings of both SR and ES will be delivered to the MDT in my third-year placement at a General Adolescent Inpatient Unit. Additionally, there are plans to have SUs within my placement attend a "research steering group" whereby a generalised overview of my research would be presented. I also plan to approach CAMHS services via email attached with flyers developed by SUs, to share my study and offer presentations at relevant meetings for those interested.

Chapter V: References

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Chapter VI: Appendices

Appendix A:

Adapted Quality Assessment Tool

Table A

Example of finalised ratings:

	Study Sample			Confounders		Data Collection Methods		Statistical Analysis		
Author, publication date	Research Question and Hypothesis clearly defined?	Representative of target population?	Adequately described?	Important Confounders Identified?	Important Confounders (where possible) accounted for?	Measures used are standardised?	Measures reflect concepts that are identified in the research question?	Appropriate description of study design and statistical procedure?	Appropriate analyses conducted?	Sufficient interpretation of results?
XXX et al. (YYY)	Y	Y	Y	U	M	N	U	Y	Y	Y

Rating scale:

1. Study Sample (e.g., recruitment methods, participant demographics)
 - a. Was the research question/objectives and hypotheses in this paper clearly stated?
 - i. Yes - Clear description of research question/s and hypotheses.
 - ii. Moderately – Some descriptions of research question/hypotheses are reported, though not explicitly clear.
 - iii. No – No clear description of research question.
 - iv. Unclear – Not enough information available to accurately rate this item.
 - b. Are the individuals selected to participate in the study likely to be representative of the target population?
 - i. Yes - Clear description of target population. (i.e., eligible participation at baseline more than 50% and loss to follow-up after baseline less than 20%)

- ii. Moderately – the selected participants are somewhat likely to be representative of the target population (i.e., eligible participation at baseline less than 50% and loss to follow-up after baseline more than 20%)
 - iii. No – No or minimal resemblance to the target population. (i.e., eligible participation at baseline less than 50% and loss to follow-up after baseline less than 20%)
 - iv. Unclear – Not enough information available to accurately rate this item.
- c. Was the sample sufficiently described?
 - i. Yes – Clear descriptions of study sample (i.e., age range, mean age, gender, ethnicity, country of study...), including details of inclusion and exclusion criteria's, reasons why eligible individuals chose not to participate,
 - ii. Moderately – some description of study sample of the areas above, with some missing or little details (i.e., if samples only included mean age but NOT age range).
 - iii. No – Significant description is missing in at least two or more of the characteristics identified above (i.e., ethnicity and age characteristics (age range AND mean age)).

2. Data Collection Methods

- a. Are the measurements appropriate for the outcomes and exposures?
 - i. Yes – All measures used were either ‘Gold standard’ measures or validated and reliable measures.
 - ii. Moderately – At least one measure used was validated and reliable.
 - iii. No – None of the measures are validated and reliable.
 - iv. Unclear – Not enough information available to accurately rate this item.
- b. Do the measures used reflect what they are supposed to measure corresponding to the research question?
 - i. Yes – All measures used reflected concepts of interest well.
 - ii. Moderately – One of the measures reflected concepts of interest well.
 - iii. No – None of the measures reflected concepts of interest well.
 - iv. Unclear – Not enough information available to accurately rate this item.

3. Confounders

- a. Are all important confounders identified in the study?
 - i. Yes – All important confounders are identified.
 - ii. Moderate – Some important confounders are identified.
 - iii. No – No confounders are identified.
 - iv. Unclear – Not enough information available to accurately rate this item.
- b. Are important confounders accounted for (i.e., controlling or adjusting design/statistical analyse)?
 - i. Yes – All important confounders are accounted for.

- ii. Moderate – Some important confounders are accounted for.
 - iii. No – No confounders are accounted for.
 - iv. Unclear – Not enough information available to accurately rate this item.
4. Statistical Analysis
- a. Are the statistical methods appropriately described for study design?
 - i. Yes – All statistical analyses are sufficiently described.
 - ii. Moderately – Some statistical methods are sufficiently described.
 - iii. No – None of the statistical methods are described.
 - iv. Unclear – Not enough information available to accurately rate this item.
 - b. Are statistical analysis appropriate for study design?
 - i. Yes – All statistical analyses are appropriate.
 - ii. Moderately – Some statistical analyses are appropriate.
 - iii. No – None of the statistical analyses are appropriate.
 - iv. Unclear – Not enough information available to accurately rate this item.
 - c. Are the description of statistical methods and interpretation of results adequately reported?
 - i. Yes – Sufficient descriptions of analyses and interpretation of results are reported.
 - ii. Moderately – Some descriptions of analyses and interpretation of results are reported.
 - iii. No – Significant missing/incorrect descriptions of analyses and missing/incorrect interpretation of results are reported.

Appendix B

Table B

Characteristics of data collection method

Type of collection of self-report measures	No of studies
In-person (Including mass group testing)	11
Online	6
Face-to-Face Interview	1
Online + Face-to-Face Interview	1
In-person + Face-to-Face Interview	1
Online but in-person completion	1
No mention of the administration process	3

Note. N = 24

Appendix C

Table C

Types of attachment measures used in included studies

Type of Measure and collection format	Measure	Final categories or dimensions generated	Focus of Measure	No. of studies utilising measure.
Categorical – self-report online/in-person/mass group collection	4-AAS	Categories: Secure, Preoccupied, Dismissing or Fearful.	General attachment style.	2
	RQ		General attachment styles.	3
	RSQ	Categories: Secure, Ambivalent, Dismissing, or Fearful.	Adult attachment.	2
	HS		General attachment styles.	2
	RAAS	Categories: Secure, Dismissing or Fearful.	General attachment styles.	2
Categorical – Interview	AAI	Categories: secure, preoccupied, dismissing or fearful.	Adult attachment.	2
Dimensional – self-report online/in-person/mass group collection	IPPA	3 Dimensions: degree of mutual trust, quality of communication, the extent of anger and alienation to assess secure attachment.	Parent and peer attachment	7
	ASQ	3 Dimensions: secure, anxious, and avoidant.	General attachment style.	3
	ECRS	2 Dimensions: Anxiety and Avoidance	Adult attachment style.	3
Dimensional – Interview	MES	2 Dimensions: Positive (secure) or Negative (insecure) internal working models (IWM)	General attachment style.	1

Note. *Three studies used more than one attachment measure

Appendix D

Table D

Types of help-seeking measures used in included studies

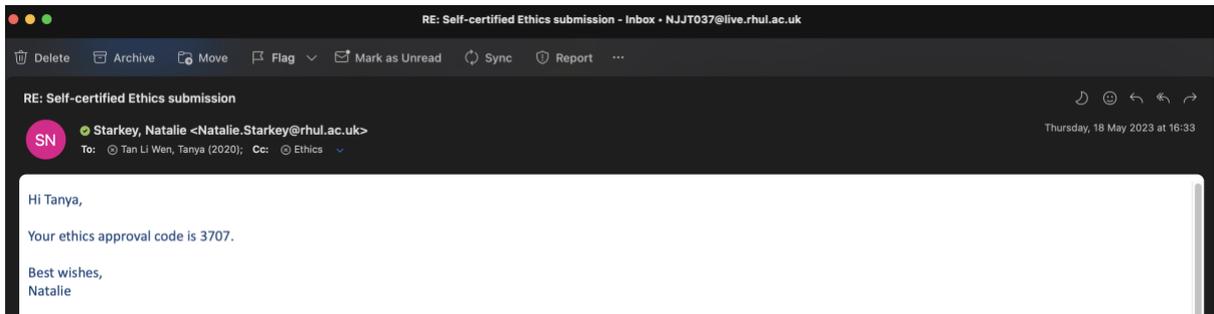
Type and focus of Measure	Measure	Number of sub-scales	Focus of Measure	No. of studies utilising measure.
Help-seeking Attitudes	8-items from Karabenicks 2003 13 item help-seeking scale	0	Willingness to seek academic assistance when encountering difficulty	3
	ASPH-S	0	Positive attitudes towards help-seeking	1
	ATSPPH	4	Recognition of need, stigma tolerance, interpersonal openness, confidence	2
	NOS	0	Assesses general support expectations, number of expectations, attitudes, and beliefs regarding the desirability and effectiveness of seeking help from one's support network	1
	ISCI	0	Intentions to seek help from counsellors	3
	GHSQ	0	Identified participants preferred support figures and their willingness to ask for help from support figures	1
Help-seeking Intentions	ACBS	4	Self-disclosure (comfortability), autonomy in problem solving, and comfort with proximity and counsellors' sensitivity	1
	CASQ	3	Active coping (informal and formal help-seeking), internal coping and avoidance	1

Help-seeking Behaviours	CCSC	4	Support seeking (PFS and EFS), active, distraction and avoidance	2*
	COPE-I	3	Emotional support seeking, instrumental support seeking, planning, and acting (problem-focused coping)	1
	CSI	3	Problem solving, social support seeking and avoidance	1
	SRCS	2	But study only utilised the seeking social support sub scale	1
	SSFQ	3	Adaptive inferential feedback, support-seeking behaviour, and identity of preferred support figure	1
	TRAC	2	Help-seeking from teacher and Assistance from peers	2**
	WOSC	4	Support-seeking, PFS, EFS and distancing/avoiding	3
	1-item support-seeking question	0	Coping strategy of social support seeking	1
	3-item help seeking scale	0	3 questions relating to formal help-seeking	1

Note. Two studies used more than one help-seeking measure; *Berardi et al (2020) utilised only the support-seeking subscale; **Larose et al. (1999) used seeking-help from teacher (SHT/TRAC) subscale only; PFS – Problem focused support; EFS – Emotional focused support

Appendix E

Ethics Approval



Appendix F

Bullying Experience Questionnaire

Please carefully read the following definition of bullying:

We say that a person is being bullied when they are exposed to negative actions by one or more other person(s). To constitute bullying, negative actions are meant to intentionally cause harm or discomfort and are repeated over time. This may include verbal acts of aggression such as name calling, physical acts such as kicking, relational acts such as being excluded or humiliated in social situations. These negative acts can also be carried out through the use of electronic technology (e.g., online or using mobiles phones), which is referred to as cyberbullying. All types of bullying involve an illegitimate use of power by one person over another. (Olweus, 1994, Smith 2010).

Instructions

Please answer the following questions in relation to your previous experiences of being bullied between the ages of 5 - 18.

It would help us if you could answer all the questions as accurately as possible.

1. I was subjected to hurtful teasing or sarcasm.

A. *Never / Occasionally (once a month or less) / Sometimes (multiple times a month) / Often (multiple times a week) / Very often (most days)*

B. *How much did this form of bullying affect you? (For example, cause distress, upset or anger)*

<i>Not at all</i>		<i>Somewhat</i>		<i>A great deal</i>
1	2	3	4	5

C. *How old were you when this happened? (Please select all that apply)*
5-11 12-18

D. *How close was your relationship to the person who bullied you?*

<i>Not at all close</i>				<i>Very close</i>
1	2	3	4	5

E. *Do you have an understanding of why the bully/ bullies behaved in this way?*

<i>Not at all</i>				<i>Yes, completely</i>
1	2	3	4	5

2. I have had upsetting pictures or videos that were taken of me, spread through social media, instant messaging, or other online communication.

A. *Never / Occasionally (once a month or less) / Sometimes (multiple times a month) / Often (multiple times a week) / Very often (most days)*

B. How much did this form of bullying affect you? (For example, cause distress, upset or anger)

Not at all Somewhat A great deal
1 2 3 4 5

C. How old were you when this happened? (Please select all that apply)
5-11 12-18

D. How close was your relationship to the person who bullied you?

Not at all close Very close
1 2 3 4 5

E. Do you have an understanding of why the bully/ bullies behaved in this way?

Not at all Yes, completely
1 2 3 4 5

3. My belongings were taken without permission, damaged or destroyed.

A. Never / Occasionally (once a month or less) / Sometimes (multiple times a month) / Often (multiple times a week) / Very often (most days)

B. How much did this form of bullying affect you? (For example, cause distress, upset or anger)

Not at all Somewhat A great deal
1 2 3 4 5

C. How old were you when this happened? (Please select all that apply)
5-11 12-18

D. How close was your relationship to the person who bullied you?

Not at all close Very close
1 2 3 4 5

E. Do you have an understanding of why the bully/ bullies behaved in this way?

Not at all Yes, completely
1 2 3 4 5

4. I was subjected to hurtful gossip and rumours.

A. Never / Occasionally (once a month or less) / Sometimes (multiple times a month) / Often (multiple times a week) / Very often (most days)

B. How much did this form of bullying affect you? (For example, cause distress, upset or anger)

Not at all Somewhat A great deal
1 2 3 4 5

Why do you think your experiences of being bullied occurred? (Optional free text box)

Why do you think the bully or bullies chose you? (Optional free text box)

- *Split section* -

Have you perpetrated any of the previously described bullying behaviours?

Yes No

If yes, how frequently were you involved?

Never / Occasionally (once a month or less) / Sometimes (multiple times a month) / Often (multiple times a week) / Very often (most days)

If yes, to what extent:

Mildly		Moderately		Severely
1	2	3	4	5

Appendix G

Sensitivity Analyses between Retained and Whole (retained + excluded) sample.

Table G

Demographic Characteristics between Retained and Whole Sample (retained + excluded)

	Retained Group (N= 1064)	Whole Sample (N=1698)	Relevant Comparative Statistics ^{fg}	p-value
<i>Demographic variable</i>	<i>n (%) or Median(mean)</i>	<i>n (%) or Median(mean)</i>		
Gender			$\chi^2(1) = 1.53^a$	$p = .217$
Male	287(27%)	492 (29%)		
Female	764(72%)	1180 (70%)		
Transgender	10(1%)	13 (1%)		
Other	3(0.3%)	3 (0.2%)		
Age	30(32)	29(32)	U = 871112	$p = .231$
Ethnicity ^b			$\chi^2(4) = 2.88$	$p = .578$
White	760 (71%)	1176 (69%)		
Black/Black British	70(7%)	134(8%)		
Asian/British Asian	116 (11%)	174 (10%)		
Mixed/Other	103(10%)	177 (10%)		
Not stated	14(1%)	18 (1%)		
Employment status ^c			$\chi^2(3) = 36.08$	$p < .001^*$
Employed	625(59%)	840 (50%)		
Unemployed	206(19%)	495 (29%)		
Student/Internship/ Apprenticeship	203(19%)	302 (18%)		
Retired/Carer	29(3%)	40 (2%)		
Level of Education			$\chi^2(7) =$ 35.043	$p < .001^*$
No qualifications	76(7%)	25 (2%)		
Other qualification (e.g certificate)	54(5%)	29 (2%)		
GCSE (<5 A*-C), Vocational level (e.g., NVQ) 1, or equivalent	119(11%)	52 (3%)		
GCSE (5 or more A* C), vocational level (e.g., NVQ) 2, or equivalent	216(20%)	97 (6%)		

A level, vocational level (e.g., NVQ) 3, or equivalent	429(40%)	259 (15%)	
Higher Education or professional/vocational equivalent	524(49%)	391 (23%)	
Postgraduate education or professional/vocational equivalent (e.g., MSc, PhD, MD)	260(24%)	209 (12%)	
Household Income			$\chi^2(3) = 15.34 \quad p = .002^*$
< £20,000	490 (46%)	889 (52%)	
£20,000 - £50,000	414 (39%)	549 (32%)	
£50,000 - £100,000	134 (13%)	181 (11%)	
£100,000 >	21 (2%)	28 (2%)	
SES ^d	13041.5 (14164.8)	1511624 (13292.6)	$U = 710238.5 \quad p = .005^*$
Referral Diagnoses			$\chi^2(3) = 142 \quad p < .001^*$
Clinical	552(52%)	1021(60%)	
BPD	108(10%)	429(25%)	
ASPD	3(0.3%)	66(4%)	
Affective Disorder	441(41%)	526(31%)	
Community	512(48%)	675(40%)	

Note. $N = 1064$; $*p < .05$

^a Participants who identified as transgender or other gender identities were excluded from this sensitivity analyses; ^bWhite = White British, White Irish, Any other White; Black/Black British = African, Caribbean, Any other Black; Asian/Asian British = Chinese, Pakistani, Indian, Bangladeshi, Any other Asian; Mixed/Other = White and Black African, White and Black Caribbean, White and Asian, Any other Mixed, Any other background not stated ^cEmployed = full-time, part-time, casual work, self-employed; ^dSES = Socio-economic status represented by social deprivation rank based on postcode. ^e Clinical = BPD, ASPD and MDD, Community = healthy controls ^f χ^2 = Chi-Squared Test of independence. ^g U = Mann-Whitney U Test (data was not normally distributed).

Appendix H

Sensitivity Analyses between retained and excluded group.

Table H

Demographic Characteristics between Retained and Excluded Sample

	Retained Sample (N = 1064)	Excluded Sample (N = 607)	Relevant Comparative Statistics χ^2 or U	p-value
<i>Demographic variable</i>	<i>n (%) or Median</i>	<i>n (%) or Median</i>		
Gender			$\chi^2(1, N = 1672) = 6.54$	p = .011
Male	287(27%)	199(33%)		
Female	764(72%)	399(66%)		
Age	30	29	U=296407.5	p = .021.
Ethnicity			$\chi^2(4, N = 1679) = 12.41$	p = .015
White	760 (71%)	401(66%)		
Black/Black British	70(7%)	60 (10%)		
Asian/British Asian	116(11%)	58 (10%)		
Mixed/Other	103(10%)	72(12%)		
Not stated	14 (1%)	4 (0.7%)		
Employment status			$\chi^2(3, N = 1677) = 148.37$	p < .001
Employed	625(59%)	208(34%)		
Unemployed	206(13%)	278(46%)		
Student/Internship/ Apprenticeship	203(19%)	96(16%)		
Retired/Carer	29 (3%)	11(2%)		
Level of Education			$\chi^2(7, N = 1647) = 143.01$	p < .001
No qualifications	25(4%)	50(5%)		
Other qualification (e.g certificate)	29(5%)	22(2%)		
GCSE (<5 A*-C), Vocational level (e.g., NVQ) 1, or equivalent	52(9%)	67(6%)		
GCSE (5 or more A*-C), vocational level (e.g., NVQ) 2, or equivalent	97(16%)	112(11%)		
A level, vocational level (e.g., NVQ) 3, or equivalent	259(43%)	165(16%)		
Higher Education or professional/vocational equivalent	391(64%)	129(12%)		
Postgraduate education or professional/vocational equivalent (e.g., MSc, PhD, MD)	209(34%)	50(5%)		

Household Income			$\chi^2(3, N = 1647) = 71.04$	$p < .001.$
< £20,000	490(46%)	386(64%)		
£20,000 - £50,000	414(39%)	131(22%)		
£50,000 - £100,000	134(13%)	46(8%)		
>£100,000	21(2%)	7(1%)		
SES	13041.5	10119	$U=217490$	$p < .001.$
Referral Diagnosis			$\chi^2(3, N = 1647) = 496.71$	$p < .001.$
Clinical	552(52%)	445(73%)		
BPD	108(10%)	313(52%)		
ASPD	3(0.3%)	57(9%)		
Affective Disorder	441(41%)	85(14%)		
Community	512(48%)	152(25%)		

Note. $N = 1671$

^a Participants who identified as transgender or other gender identities were excluded from this sensitivity analyses White = White British, White Irish, Any other White; Black/Black British = African, Caribbean, Any other Black; Asian/Asian British = Chinese, Pakistani, Indian, Bangladeshi, Any other Asian; Mixed/Other = White and Black African, White and Black Caribbean, White and Asian, Any other Mixed, Any other background not stated Employed = full-time, part-time, casual work, self-employed SES = Socio-economic Statuses represented by social deprivation rank based on postcode. ^e χ^2 = Chi-square test of independence, U = Mann-Whitney U Test (data was not normally distributed).

Appendix I

Table I:
Spearman Rho's Correlation Matric between subscales of BEQ and related measures

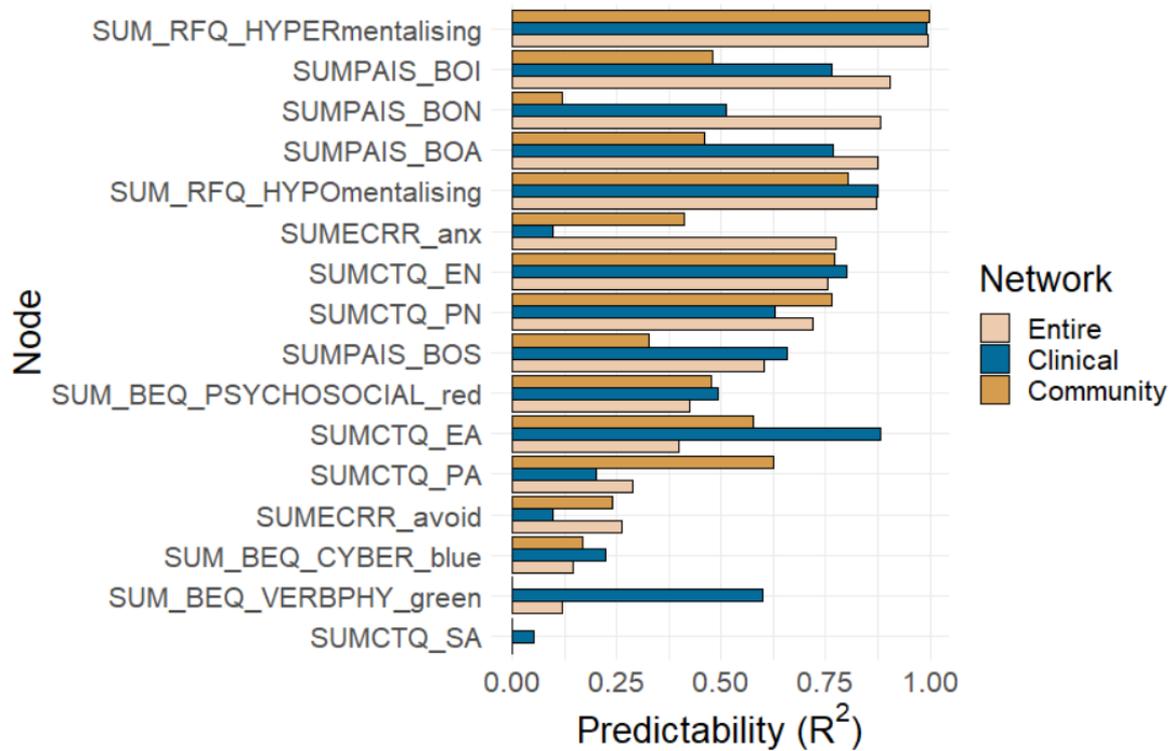
	CTQ					ECRR		RFQ		PAI-BOR			
	PA	SA	EA	PN	EN	Anx	Avoid	Hyper	Hypo	BOI	BOA	BON	BOS
BEQ													
Psychosocial	.292**	.211**	.486**	.301**	.303**	.323**	.179**	-.162**	.225**	.424**	.434**	.469**	.263**
Cyber	.162**	.144**	.279**	.209**	.165**	.263**	.080*	-.088*	.105**	.328**	.264**	.336**	.247**
Ver-Phy	.399**	.342**	.533**	.393**	.372**	.319**	.253**	-.141**	.212**	.384**	.426**	.448**	.303**
CTQ													
PA		.409**	.599**	.492**	.505**	.226**	.234**	-.089*	.148**	.206**	.248**	.282**	.261**
SA			.405**	.321**	.319**	.198**	.183**	-.038	.096*	.215**	.238**	.297**	.211**
EA				.573**	.704**	.374**	.265**	-.109**	.193**	.400**	.422**	.470**	.321**
PN					.687**	.257**	.286**	-.104**	.133**	.213**	.251**	.323**	.203**
EN						.328**	.332**	-.142**	.191**	.273**	.335**	.387**	.234**
ECRR													
Anx							.466**	-.367**	.373**	.585**	.510**	.546**	.390**
Avoid								-.264**	.292**	.272**	.323**	.335**	.238**
RFQ													
Hyper									-.703**	-.306**	-.321**	-.295**	-.305**
Hypo										.403**	.409**	.372**	.361**
PAI-BOR													
BOI											.754**	.706**	.509**
BOA												.687**	.512**
BON													.495**

Note. * p<.05, **p<.001

Appendix J

Figure J

Node Predictability for 3 networks (entire sample, clinical only, and community only).



Note. The most predictable node across the 3 networks was RFQ Hyper-mentalising, while the CTQ SA was the least predictable node overall.