

Tanya Graham

Harris Manchester College

Thesis submitted in partial fulfilment of the degree of Doctor of Clinical Psychology

(DClinPsych)

University of Oxford

May 2024

Word Count by Component

Critical Review of the Literature: 5,628

Service Improvement Project: 5,283

Theoretically Driven Research Project: 5,398

Executive Summary: 588

Connecting Narrative: 752

Total Word Count: 16,616

Table of Contents

Word Count…….....1

Abstracts……...4

Critical Review of the Literature…….4

Service Improvement Project……..5

Theoretically Driven Research Project……..….6

Critical Review of the Literature……..…….……7

Abstract……...…8

Introduction…….9

Method……...13

Results……...18

Discussion…….34

References…….39

Service Improvement Project…..…….……49

Abstract……...…..50

Introduction……...51

Method……...……53

Results……...……56

Discussion…….....66

References…….....76

Theoretically Driven Research Project……..……79

Abstract……...…..80

Introduction……...81

Method……...……85

Results……...……89

Discussion…….....99

References……...105

Executive Summary……..112

Connecting Narrative……...115

Acknowledgments……118

Appendices……119

Appendix 1: Critical Review of the Literature……...119

1.1 Search Strategy and Definition of Terms……..119

1.2 Journal Submission Guidelines……121

Appendix 2: Service Improvement Project……123

2.1 Ethical Approval……...……123

2.2 Semi-Structured Interview Schedules……..125

2.3 Thematic Analysis Process with Positionality Statement……132

2.4 Partial Likelihood ratio χ2 and Loglinear Parameter Estimates….……...134

2.5 Study 2 Participant Demographic Data……...…135

2.6 Thematic Analysis Illustrative Quotes……..……136

2.7 Journal Submission Guidelines……141

Appendix 3: Theoretically Driven Research Project……..142

3.1 Ethical Approval……...142

3.2 Screening Questions……143

3.3 Free-Response Questions……144

3.4 Thematic Analysis Process……...145

3.5 Measure Subscale Descriptive Statistics…… 148

3.6 Thematic Analysis Illustrative Quotes……149

3.7 Journal Submission Guidelines……...151

Abstracts

Critical Review of the Literature

The Impact of Intimate Partner Violence during the Perinatal Period on Mother and Infant Relationships: A Systematic Review

Aim: The current systematic review aimed to examine the literature exploring the impact of intimate partner violence (IPV) during the perinatal period on both mother-to-infant and infant-to-mother relationships. To encompass both sides of this relationship, and reflecting the current language used in this field, this review examined studies investigating both attachment and bonding.

Method: Eighteen studies published between 1999 and 2022, with a total of 87,126 participants, were included in this review. Quality of evidence was systematically appraised, with a narrative approach utilised to summarise findings based on type of relationship examined.

Results: Overall, evidence suggests that IPV negatively impacts both infant-to-mother and mother-to-infant relationships. Of the five studies that examined infant-to-mother attachment, four demonstrated a significant relationship between IPV and anxious or disorganized attachment styles. The majority of investigations into mother-to-infant relationships found a negative relationship between IPV and maternal attachment/bonding; however, other studies only found an association in the context of other internal or external factors.

Discussion: Results are discussed within the context of the current understanding of the impact of IPV and cultural considerations, with limitations of the review outlined.

Service Improvement Project

Increasing Engagement within the Pakistani Community: An Evaluation of Buckinghamshire Talking Therapies' Access Project

Aim: There is increasing recognition of the disparity in access and treatment outcomes for individuals from ethnic minority communities in mental health services. To address this, and in accordance with the IAPT BAME Positive Practice Guidelines, Buckinghamshire's Talking Therapy (BTT) service developed the *Access Project*, an outreach project working towards increasing access and engagement of their local Pakistani community. The current study aimed to evaluate BTT's Access Project in improving Pakistani individuals access and engagement to the service, and to better understanding the local community's experiences of BTT.

Method: Referral information from 57281 White British and Pakistani service-users were extracted. In line with the location of the outreach work, data was analysed by area, either High Wycombe or Non-High Wycombe. Pakistani service-user's referral information was compared by area, before the relationship between area, year and ethnicity of referrals was investigated. Interviews from Pakistani service-users, community leaders and BTT staff were examined using thematic analysis to better understand individual experiences and feedback.

Results: While findings did not conclusively indicate that the Access Project increased Pakistani referrals to the service, evidence suggests that the total referrals from the community significantly increased as compared to White British referrals. Qualitative themes provided positive feedback for the outreach program, and highlighted areas for continual development.

Discussion: Based on these findings, recommendations to BTT are outlined and limitations of the study discussed.

Theoretically Driven Research Project

"A Crisis Point": The relationship between Perceived Stress, Alexithymia and Coping Strategies in Young People with Functional Tic-Like Behaviours

Aim: A sudden increase in functional tic-like behaviours (FTLBs) was reported in females aged between 13-25 during the COVID-19 pandemic. Due to the limited research in this area, and in line with current functional disorder literature, the current study aimed to explore how coping strategies, alexithymia and perceived stress of the pandemic differ between individuals with FTLBs and controls, and how these factors influence tic presentation.

Method: Through an online survey, 96 individuals with FTLBs were compared to 91 controls on measures exploring coping strategies, alexithymia and perceived stress. Individuals with FLTBs also completed a questionnaire exploring tic severity, and optional free-text response questions regarding their views on factors that influenced their tic onset and expression, including social media and the pandemic.

Results: Compared to controls, individuals with FTLBs utilised significantly more maladaptive coping strategies and fewer adaptive coping strategies. They also reported significantly more alexithymia characteristics and greater levels of perceived stress of the pandemic. Within the FTLBs cohort, perceived stress of the pandemic and maladaptive coping strategies were significant predictors of tic severity. Thematic analysis was conducted by question, revealing several themes including *culmination of stress* and *you can't catch tics.*

Discussion: Implications of these findings on the understanding of FTLBs and the impact of stress during a sensitive developmental period, as well as limitations of the study, were discussed.

Critical Review of the Literature

The Impact of Intimate Partner Violence during the Perinatal Period on Mother and Infant Relationships: A Systematic Review

Tanya Graham

Oxford Institute of Clinical Psychology Training and Research, Division of Medical Sciences, University of Oxford, Oxford, United Kingdom

Word Count: 5,628

Submission Date: May 2024

Internal Supervisors: Dr Fiona McFarlane & Dr Victoria Roberts

Proposed Journal: *Trauma, Violence and Abuse.*

This peer-reviewed journal was chosen due to its focus on understanding the impact of violence.

Abstract

Aim: The current systematic review aimed to examine the literature exploring the impact of intimate partner violence (IPV) during the perinatal period on both mother-to-infant and infant-to-mother relationships. To encompass both sides of this relationship, and reflecting the current language used in this field, this review examined studies investigating both attachment and bonding.

Method: Eighteen studies published between 1999 and 2022, with a total of 87,126 participants, were included in this review. Quality of evidence was systematically appraised, with a narrative approach utilised to summarise findings based on type of relationship examined.

Results: Overall, evidence suggests that IPV negatively impacts both infant-to-mother and mother-to-infant relationships. Of the five studies that examined infant-to-mother attachment, four demonstrated a significant relationship between IPV and anxious or disorganized attachment styles. The majority of investigations into mother-to-infant relationships found a negative relationship between IPV and maternal attachment/bonding; however, other studies only found an association in the context of other internal or external factors.

Discussion: Results are discussed within the context of the current understanding of the impact of IPV and cultural considerations, with limitations of the review outlined.

Introduction

The importance of the perinatal period on both maternal and infant outcomes is well established in the literature (Buultjens et al., 2013). Understanding the impact of early negative experiences during this period, defined as the antenatal period through to the first 12 months after childbirth, may lead to early identification and interventions for at-risk mothers and infants, improving overall outcomes (Stein et al., 2014). Investigating the interplay between environmental and internal factors during this time is crucial in identifying those who are at risk, with one such interaction being the impact of intimate partner violence on the bidirectional mother and infant relationship (Levendosky et al., 2018; Pariante & Duman, 2023).

Intimate partner violence (IPV), also known as domestic violence, is defined as behaviour perpetrated by an intimate partner that results in psychological, physical, or sexual harm (World Health Organization (WHO), 2012). The perinatal period is a particular time of vulnerability for women to experience these forms of violence. Approximately 30% of IPV incidents begin during pregnancy, with studies indicating that the severity of violence can increase for up to a year post-partum (Román-Gálvez et al., 2021). This increased risk has been hypothesized to be due to physical, social, and economic changes associated with this period, with the perpetrator experiencing increased levels of jealousy and insecurity during pregnancy (Taillieu & Brownridge, 2010).

IPV during the perinatal period has a variety of direct and indirect adverse consequences to both mother and infant, including increased risk of maternal mental health disorders (NHS England, 2018). Higher IPV severity and chronicity is associated with depressive and anxiety symptoms (Levendoskey et a., 2018). Recent systematic reviews have demonstrated the strong association between IPV and severe mental illnesses, including

postpartum depression and perinatal post-traumatic stress symptoms, which include withdrawal, hypervigilance, and avoidance (Bo Sønderlund Ankerstjerne et al., 2022; Paulson, 2020).

Influences on Mother and Infant Relationships

The impact of maternal mental health disorders on both fetus and infant development has been well documented, and includes physical health implications as well as increased risk of externalizing problems in later childhood (Christensen et al., 2020; Goodman, 2019). It has been suggested that mental health difficulties in mothers may interfere with sensitive parenting; with maternal dissociation, withdrawal and negative feelings towards the infant impacting how a mother responds to the infant's needs (Judd et al., 2018).

The importance of these interactions on child development are outlined in Attachment Theory (Bowlby, 1969). First proposed by Bowlby (1969), 'attachment' is defined as the relationship a child develops with a caregiver to obtain a secure base (Ainsworth, 1969; Ainsworth et al., 1978; Wilson et al., 2000). According to attachment theory, the infant attaches to their caregiver by the time they are 30 months, adapting their pattern of relating based on early relational experiences, resulting in the formation of one of the four main attachment classifications: secure, insecure/ambivalent, insecure/resistant and disorganized (Ainsworth, 1989; Bowlby, 1969).

The importance of infant-to-mother attachment has been demonstrated through evidence suggesting secure attachments result in a positive developmental cascade, both physically and socially (Feldman, 2017). On the other hand, disorganized attachment relationships have been considered a risk factor for later social and emotional difficulties, which may present as behaviour difficulties in preschool through to personality disorder symptoms in early adulthood (Granqvist et al., 2017; Lyons-Ruth, 2008; O'connor et al.,

2011). As impairments in parental mental health can result in less secure child attachment bonds by the end of the first year of life, it is important to understand how IPV during the perinatal period impacts attachment in infants (Erickson et al., 2019).

Another factor that influences how parents interpret and respond to their infant's cues are parents' own experiences of early life, and subsequent cognitive schemas or 'internal working models' (Bowlby, 1969). Beginning in pregnancy, women undergo a transformation from care-seeker to care-giver, utilizing their understanding of themselves and other relationships to develop internal templates of the maternal role (or maternal representations). These representations guide maternal behaviours, playing a critical role in later infant attachment (Levendosky et al., 2018). As a result, parenting is considered to begin during pregnancy, with research indicating that the emotional affective state of the parent towards the infant, or 'mother-to-infant' relationship, develops at this time and may influence attachment relationships (Levendosky et al., 2018). However, mental health difficulties may impair this relationship, as researched in pregnant victims of IPV, who demonstrated difficulties bonding with their infants (Dubber et al., 2015; Nishigori et al., 2019).

Attachment vs Bonding

Early research into understanding the impact of mother-to-infant relationships used the term 'attachment', in reference to Bowlby's (1969) theory. As a result, prenatal attachment and parent-to-infant attachment were used to describe the maternal emotional connection beginning in pregnancy and extending to the postnatal period (Walsh, 2010). However, as 'attachment' behaviours are defined as eliciting care from others, it has been argued that the parent-to-infant relationship is instead complementary to Bowlby's theory,

and rather than overlapping with attachment, is in fact exploring the caregiving system (Walsh, 2010).

At the same time as research into the emotional relationship with the fetus was beginning, Klaus and Kennel (1976) introduced the concept of mother-infant bonding (MIB). While originally conceptualizing the strength of the parent-child relationship based on skin-to-skin contact during the initial stages of the post-partum period, the authors later amended their definition to include affect (Klaus & Kennell, 1983). Recent literature has utilized the term 'bonding' to investigate parent-to-infant relationships as well, finding that MIB is positively associated with secure parent-infant attachment and positive infant development (Kinsey & Hupcey, 2013; Trombetta et al., 2021).

There appears to be confusion in the literature with the terms "bonding" and "attachment". At times the terms seem to be used interchangeably, with some authors utilizing both words to mean the same concept, such as using bonding to refer to how an infant attaches to their mother. Other authors distinguish between them (Kinsey & Hupcey, 2013). The lack of clarity of these terms also appears in their operationalization, with mother-to-infant relationship measures utilizing either attachment or bonding in their titles, but often measuring similar constructs (Trombetta et al., 2021). Due to this, other systematic reviews investigating parent-to-infant attachment have included 'bonding' in their search terms (Trombetta et al., 2021).

The authors of this paper subscribe to the view that an important distinguishing factor between these concepts is the direction of the relationship being measured (Walsh, 2010). As such infant-attachment measures are conducted through the observation of the infant, while questionnaires exploring maternal-to-infant relationships can be administered to the mother during pregnancy, immediately after birth, or in the post-partum period (Wittkowski et al., 2020).

To help clarify between these constructs, this paper will utilize 'mother-to-infant relationships' to discuss both 'bonding' and 'attachment' research that is focused on measuring the parental perspective, and infant-to-mother attachment to explore infant attachment studies.

Current Study

The current study aimed to explore what the impact of experiencing IPV during the perinatal period is on both infant-to-mother attachment and mother-to-infant relationships.

To this paper's knowledge, no systematic review has investigated the impact of IPV during the perinatal period from both perspectives of this relationship. A meta-analysis in 2019 reviewed IPV and infant attachment up to the age of five, but only consisted of six papers and did not include MIB in its search terms or focus exclusively on violence during the perinatal period (McIntosh et al., 2019). Furthermore, a meta-analysis investigating IPV and attachment in children under 18 years of age found that IPV was associated with less secure child-parent attachments, but did not include any studies investigating MIB or focus on IPV experienced during the perinatal period (Noonan & Pilkington, 2020).

As bonding is a critical aspect of the reciprocal mother-infant relationship, and IPV during the perinatal period potentially influencing mother-to-infant relationships, these concepts must be reviewed to provide a more comprehensive view of the current literature. Furthermore, as Bowlby (1969) identified the critical period for attachment development occurring in the first 30 months of life, this review will focus only on infants up to this age (Prior & Glaser, 2006).

Methods

This systematic literature search was conducted utilizing the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines (PRISMA) (Moher et al., 2016).

It was registered on PROSPERO Centre for Reviews and Dissemination (ID: CRD42023352929) on the 14/02/2023.

Information Sources and Search Strategy

A comprehensive literature search was conducted in April 2023 and updated in March 2024. PsychInfo, Embase, Medline, Scopus and CINAHL databases were searched independently to allow for the application of Medical Subject Headings (MeSH) to enable a comprehensive search. Search terms captured concepts of "intimate partner violence", "perinatal period", and "attachment" or "bonding", see *Appendix 1.1* for search strategy and definitions of terms included in the study.

Reference lists of included papers were also examined to ensure a comprehensive search.

Eligibility Criteria

Inclusion criteria was defined as studies that (a) are published in peer-review journals; (b) are published in English; (c) included women who experienced IPV during the perinatal period; (d) included a measurement or assessment of IPV; (e) included a measurement of infant attachment or mother-to-infant bonding; (f) were published since 1970. The restriction by publication date was to reflect the introduction of attachment and MIB theories within the literature (Bowlby, 1969).

Due to the limited amount of research in this area, there was no age restriction on mothers included in this study. Papers were excluded if they included infants over the age of 30 months, to reflect Bowlby's attachment theory principle that infants attach to their caregiver by this age, and to try to limit the influence of other factors besides IPV that may be impacting attachment (Bowlby, 1969).

Study Selection

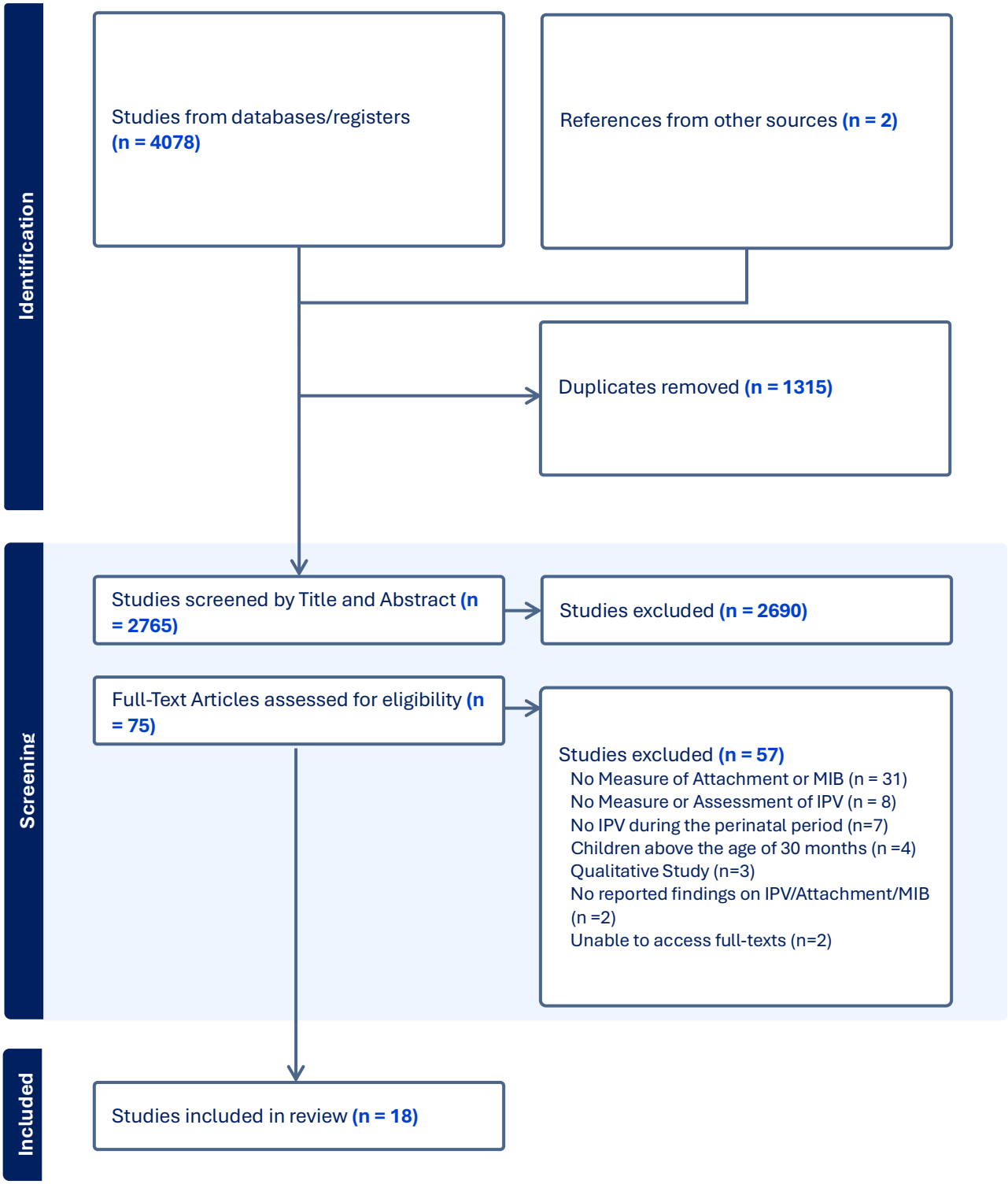
A flow chart of the selection process is presented below, *Figure 1.* The initial search of databases returned 4078 papers. Examination of reference lists identified an additional 2 studies. All identified studies were exported to EndNote 20.5, and once duplicates were removed, a total of 2765 studies' titles and abstracts were screened for eligibility. A total of 75 papers underwent full text reviews, and after the application of inclusion and exclusion criteria, 18 papers were included in this review.

A second independent author (JM) screened 20% and 25% of randomly allocated papers for the title and abstract and full-text selection process, respectively. Inter-rater reliability was evaluated using Cohen's kappa, with values ≥.80 indicative of strong levels of agreement (Altman, 1999; McHugh, 2012). The kappa was significantly different from zero with a strong level of agreement for both the title and abstract ($k = 0.87$, $p<0.001$) and full-text screening ($k =1.00$, $p<.001$). Any disagreements were resolved by discussion.

One paper which reviewed infants at 12 months and at 48 months (Levendosky et al., 2012), was included in this study as the second time point was used to measure the stability of the attachment relationship, which this paper deemed appropriate to include following discussions with all authors.

Figure 1

PRISMA Diagram



Data Extraction & Quality Assessment

A data extraction sheet was designed to systematically extract data from the included papers. Key information extracted included authors, year of publication, country the research was conducted in, study design and analysis, sample characteristics, measurements of IPV, and measurements of attachment and bonding. The second reviewer extracted data from 50% (n= 9) of the papers to minimize the risk of errors.

After full-text screening, the risk of bias and the quality of selected studies was assessed using the Standard Quality Assessment Criteria for Evaluating Primary Research Papers (Kmet et al., 2004). This scoring tool provides an established framework for critically appraising the quality of a range of studies, including design and data collection methodology, and has been implemented in other systematic reviews, including those investigating IPV (Forsdike et al., 2022).

Kmet's (2004) quality assessment tool uses a scoring range from 0 to 2 for each of the 14 items (Yes = 2, Partial = 1, No = 0). The scores are calculated and presented as a proportion of the total possible score, with a higher value indicating better methodological quality. Where items are not applicable (n/a) to a particular study, especially regarding blinding, the total overall score is amended to reflect the inapplicable items (total score = 28 – (number of n/a x2)). While Kmet et al., (2004) did not include a rating guide, Henry and colleagues (2016) developed a key using an amended version, distinguishing strong (>0.8), moderate (0.6-0.8) and weak (<0.6) studies, which this study has implemented. JM independently assessed 50% of papers, with the examination of reliability demonstrating strong agreement between the two reviewers ($K = 0.836$, $p<.001$).

Due to the broad inclusion criteria and resulting heterogeneity across studies, a meta-analysis was deemed to be inappropriate, and a narrative synthesis was utilized to review the data.

Results

Overview

Eighteen studies met the inclusion criteria, published between 1999-2022, with a total of 87,126 participants. Studies were conducted in Japan, USA, Iran, Afghanistan, Portugal, Australia, the United Kingdom, and Turkey. A total of five studies examined infant-to-mother attachment and thirteen investigated mother-to-infant relationships. The studies utilized cross-sectional (n= 9), longitudinal (n= 8) or experimental (n=1) designs.

Measurement of Constructs

Infant-to-Mother Attachment

Five studies utilized the Strange Situation Procedure (SSP) to determine infant-parent attachment classification, considered the gold standard for observational measures of infant attachment (Ainsworth, 1989; Solomon & George, 2008). Utilizing a standardised protocol, this observational measure of mother-child interaction is coded for four organized patterns of attachment: secure, insecure-avoidant, insecure-resistant and disorganized (Ainsworth, 1989; Main & Solomon, 1990). The Main and Solomon coding system was used to code the disorganized/disoriented attachment style in all five studies, which utilizes a rating scale from 1 to 9, with higher scores indicative of a more severe “disorganized” classification (Main & Solomon, 1990).

Mother-to-Infant Relationships

Four of the included papers used the Maternal Foetal Attachment scale (MFAS), a 24-item self-report measure of a mother’s engagement and expression of a sense of belonging

and interaction with the unborn baby (Cranley, 1981). The measure provides a global scale and can be divided into five subscales: differentiation of self from the foetus, interaction with the foetus, attributing characteristics, and intentions of the foetus, giving of the self, and role-taking.

Ulutas and colleagues (2022) utilized the Maternal-Foetal Antenatal Attachment Scale, which explores pregnant women's feelings, attitudes, and behaviours towards their foetus (Condon, 1993). The Maternal Attachment Inventory, a self-report questionnaire implemented in the first four weeks of the postpartum period, and Avant's attachment behaviour checklist, which examines emotional and caring behaviours, were also used to measure attachment (Avant, 1982). One study implemented the 19-item self-report Maternal Attachment Scale, which explores proximity, acceptance, tolerance, and competence as a parent (Condon & Corkindale, 1998).

Four of the included studies utilized the Japanese version of the Mother-Infant Bonding Scale (MIBS-J) (Yoshida et al., 2012). Consisting of two subscales, lack of affection and anger & rejection, the MIBS-J has demonstrated good validity and reliability (Yoshida et al., 2012). Zeitlin and colleagues (1999) implemented both Arbeit's "Differentiation" Scale (ADS) and 40 questions from the Birmingham Post-natal Bonding Questionnaire (BPNB), with both measures validated in previous research (Brockington et al., 2001). Both measures are self-report tools, implementing a Likert scale, with higher scores in the BPNB indicative of poorer maternal-infant bonding (Zeitlin et al., 1999).

IPV

A total of ten different validated measures were used in the included studies to evaluate IPV. Four studies developed their own assessment tool to determine exposure to IPV

(Dehghan et al., 2020; Ozcan & Kirca, 2018; Quinlivan & Evans, 2005; Yamada et al., 2021). Of the ten validated measures, the Conflict Tactic Scale-2 (CTS-2) was used the most frequently (three times). The measures included translated versions of validated measures and either self-report or clinician-administered tools. See *Table 1* and *Table 2* for included IPV measures by study.

Summary of Findings

For the synthesis of findings, papers are divided by the focus of the study, either infant-to-mother attachment or mother-to-infant relationships, and presented by measure utilised, to compare findings. *Table 1* and *Table 2* present a summary of studies investigating IPV and infant-to-mother attachment and IPV and mother-to-infant relationships, respectively.

Summary of Findings from Studies Investigating Infant-to-Mother Attachment

Strange Situation Procedure

A total of five studies utilized the SSP, with four studies finding a significant relationship between IPV and insecure or disorganized attachment styles (Galbally et al., 2022; Levendosky et al., 2011; Martinez-Torteya et al., 2021; Zeanah et al., 1999). Of the studies that found a significant relationship, three were prospective-cohort studies, with the remaining cross-sectional design study finding a significant relationship between IPV and infant disorganized attachment behaviours only at high levels of neighbourhood disadvantage in a sample of 73 women, reporting a small effect size ($r=.25$, $p<.05$) (Martinez-Torteya et al., 2021). Utilising a sample of 224 women, Galbally and colleagues (2022) found that IPV experienced during pregnancy was associated with a significant 3.53-fold increase in odds of insecure-avoidant infant attachment as compared to secure attachment. Levendosky et al

(2011) also found a significant, small effect size when investigating 150 mother-infant dyads, 87 who reported IPV during the perinatal period, $\eta 2 = .05$, $p < .05$. While they did not report sufficient data to determine effect size, Zeanah and colleagues (1999) found that mothers who experienced violence from their current partner were significantly more likely to have insecure or disorganized attached infants than securely attached infants, $p = .007$.

Huth-Bocks and colleagues (2011) in America examined IPV and maternal prenatal representations and infant attachment in 73 mother-infant dyads. Utilising the Working Model of the Child Interview at an earlier time point, authors classified infants both by their attachment style but also mother's representation of her own competency and self-efficacy in the maternal role (Zeanah et al., 1993). Women who had non-balanced representations during pregnancy and an insecure infant experienced more prenatal violence, while mother-infant dyads who were balanced/secure, experienced less prenatal and postnatal violence. However, they did not report a significant relationship between IPV and prenatal representations/attachment ($p<.10$).

Summary of Findings from Studies Investigating Mother-to-Infant Relationships

Six studies explored mother's relationships with their child during the antenatal period, with seven others exploring post-partum relationships. Ten of the thirteen studies found a significant relationship with IPV and mother-to-infant relationship, including negative, indirect, and positive associations, and one study implementing an experimental design.

Maternal-Foetal Attachment Scale

Four studies measured mother-to-infant relationships through the MFAS, with three implementing translated versions, Iranian and Portuguese, and utilizing a cross-sectional

design. In Iran, both Zare and colleagues (2022) and Dehghan et al. (2020) demonstrated significant correlations between maternal-foetal attachment and domestic violence, with both studies reporting small effect sizes and significance at p<.001. Dehghan and colleagues (2020) compared 146 Iranian and 142 Afghan women, and found this same negative correlation in Afghan women in all dimensions of violence except for sexual violence, which demonstrated a positive significant correlation with maternal-foetal attachment within the cohort, p<.001. However, a study investigating a sample of 184 pregnant Portuguese women found no statistically significant relationship between IPV and attachment comparing victims and controls, p =.511 (Pires de Almeida et al., 2013).

The final study to use the MFAS implemented an experimental design. Exploring the efficacy of a supportive-educational intervention on maternal-foetal attachment in 100 pregnant women who experienced IPV, Khalili and colleagues (2020) found that the intervention was effective in the promotion of maternal-foetal attachment, as suggested by the significantly higher mean attachment scores in the intervention group and large effect size, $d = 2.1$, p<.001.

Other Measures of Pre-Natal Attachment

Ghodrati and colleagues (2017) found no statistically significant correlation between total violence experienced and maternal-neonatal attachment in Iran in 150 pregnant women, p = 0.74. However, a significant negative relationship between social violence and mother-to-infant attachment behaviours (including maternal emotional and caring behaviours) was demonstrated after further analysis was conducted, p=.006 (Ghodrati et al., 2017). As the paper did not provide sufficient detail, the effect size of this finding is unclear.

In Turkey, Ulutas and Ucar (2021) found a significant positive correlation between IPV and attachment in 385 pregnant women, suggesting as violence experienced increases as

does their maternal-foetal attachment ($p<.005$), with the study reporting small effect sizes for each the questionnaire responses.

Mother-Infant Bonding Scale Japanese Version

Four of the studies investigating mother-infant relationships were conducted in Japan, all utilising the MIBS-J, with three implementing a prospective cohort design. Examining a sample of 562 women, Kita and colleagues (2016) found that IPV experienced during pregnancy was associated with MIB failure (mother's negative feelings toward her baby) at one-month postpartum, $\beta = 0.13$ $p<.001$. This relationship was mediated by antenatal depressive symptoms (Kita et al., 2016). In another study, Kita found that IPV during pregnancy was not associated with lower MIB scores one-month post-partum ($p = .46$); however, the authors reported low internal consistency for one of the MIBS-J subscales (Kita et al., 2020). The authors also questioned the generalisability of their sample, as their 442 participants may have had relatively higher socioeconomic status and a lower rate of mental illness compared to the general population (Kita et al., 2020). A more recent study conducted in 2021 by Yamada and colleagues exploring the role of antenatal pain in 77326 women found that IPV had an independent, significant negative effect on mother-infant bonding one-year post-partum, with a small effect size reported, $\beta = 0.02$ $p<.001$ (Yamada et al., 2021).

Utilising a cross-sectional design, Park (2021) found no significant direct effects between IPV (emotional and physical) and bonding; however, a significant small indirect effect was indicated with emotional IPV, $\beta = .03$, $p < .001$. Their findings suggest that IPV is associated with lower MIBS-J scores through increased postnatal depressive symptoms (Park et al., 2021).

Other Measures of Post-Natal Relationships

Among 200 one-month post-partum women, Ozcan and Kirca (2018) found that 83 women who had experienced IPV had significantly lower mean scores on the MAI than those who did not experience IPV, with the effect size reported as small ($p<.001$). Quinlivan and Evans (2005) found that 40 Australian adolescents who had experienced IPV showed 'reduced' overall attachment scores to their infants, specifically in the Maternal Attachment Scale subscales of 'parental pleasure in proximity' and 'tolerance with infant', than 136 adolescents who had not disclosed IPV. This significant relationship was independent of other measured factors, and demonstrated a large effect size, $d = 2.76$, $p<.001$ (Quinlivan & Evans, 2005).

Zeitlin and colleagues (1999) in the UK found a significant difference in MIB scores between 11 women who had experienced IPV and the 27 women who had not, with those who had experienced IPV scoring lower, with a large effect size ($d = 0.65$, $p<.05$). Furthermore, the severity of the abuse was negatively correlated to bonding scores as measured by the ADS and BPBQ (Zeitlin et al., 1999).

Quality Assessment

Of the 18 studies included, only three were rated as moderate, with the remaining classified as strong, see *Table 3*. It is important to note that except for Khalili and colleagues (2020), questions rating the quality of intervention and blinding processes were irrelevant to the papers included in this review. Strengths of the included papers include clear aims and methodology. Not all studies included power calculations, see 'partial' ratings for question nine in *Table 3*, which questions if the study was adequately powered to detect the explored effect.

Table 1

Summary of Data from Studies Investigating Infant-to-Mother Attachment

Author (Date)	Location	Study Design	Statistical Analysis	Sample	Measurement of Relationships	Measurement of IPV	Period of IPV Exposure
Galbally et al., (2022)	Australia	Prospective cohort	Chi-Squared tests, one-way ANOVA with Welch's F Tests, Bonferroni and Dunnett's C pairwise comparisons, multinominal logistic regression model.	224 women & infants 17 reported IPV during pregnancy	SSP at infant age of 12 months**	Two items from SLEQ were used at each time point to categorise IPV and no-IPV cohorts *	IPV experienced both during pregnancy and in the post-partum period. Measures were administered twice during pregnancy and twice in the post-partum period.
Key Findings	A higher proportion of mothers of insecure-avoidant infants reported at least one incident of IPV during pregnancy compared to securely attached infants (p = .048). Domestic violence experienced at any time during the year prior to conception and during pregnancy was associated with a 3.53-fold increase in the odds of insecure-avoidant infant-mother attachment, compared to secure attachment (p = 0.050).						
Huth-Bocks et al., (2011)	USA	Prospective cohort	Chi -Square, ANCOVA	73	WMCI** at T1. SSP** when infants were 13 months old.	SVWAS* at T1 and T3	IPV experienced by mothers during pregnancy and during the infants' first year of life. 44% of participants experienced domestic violence at Time 1, and 26% of participants experienced domestic violence at Time 3.
Key Findings	The study collected data at three time points: last trimester of pregnancy, 2 and 13 months postpartum. As comparing balanced/secure and balanced/insecure groups, there was no statistically significant relationship between IPV and attachment. This effect was also found when comparing unbalanced/secure and unbalanced insecure cohorts (p<.10).						
Levendosky et al., (2011)	USA	Prospective cohort	ANOVAs	150 pregnant women and children (at age 1 and 4).	SSP**	SVAWS*	Women reported experiencing IPV during pregnancy and in the post-partum period.

Author (Date)	Location	Study Design	Statistical Analysis	Sample	Measurement of Relationships	Measurement of IPV	Period of IPV Exposure
				87 IPV 63 no IPV			
Key Findings	The multivariate tests indicated a significant Time × Pattern interaction, ($F(12, 150) = 2.01$, $p < .05$, $\eta 2 = .05$.) There was a significant quadratic effect of Time × Pattern ($F(3, 150) = 5.49$, $p < .05$, $\eta 2 = .09$) indicating differential curvature in the trajectories of the attachment groups. The data suggests that all groups had low rates of DV except the insecure-insecure group, which had high rates of prenatal DV with a concave trajectory.						
Martinez-Torteya et al., (2021)	USA	Cross-Sectional	Spearman correlation test, Regression analysis	78 Mother-Infant Dyads	SSP** at infant age 10-14 months	CTS2* (Straus, Hamby, Boney-McCoy, & Sugarman, 1996)	Experiences of IPV across the perinatal period reported. The CTS2 was administered twice, once during pregnancy and the second asking about experiences of IPV following birth until current day.
Key Findings	While no significant relationship between perinatal physical IPV and infant disorganised attachment behaviours was found, neighbourhood disadvantage moderated the effect of perineal physical IPV on attachment ($b = .46$, $p = .002$). A significant association between IPV and disorganised attachment in the infant was only found at high levels of neighbourhood disadvantage ($r = .25$, $p < .05$).						
Zeanah et al., (1999)	USA	Prospective cohort	Regression Analysis	72 mothers and their 15-month-old infants	SSP**	PVI**	PVI measured and differentiated violence experienced by previous and current partners. Mothers reported violence experienced by current partner in the post-partum period.
Key Findings	*Women experiencing violence from their current partner were significantly more likely to have insecure/disorganized attached infants than securely attached infants ($p = .007$).*						

Note: SSP = Strange Situation Procedure (Ainsworth et al., 1978); SLEQ = Stressful Life Events Questionnaire (Brown et al., 2011); WMCI = Working Model of the Child Interview (C. H. Zeanah et al., 1993); SVWAS = Severity of Violence Against Women Scale (Marshall, 1992); CTS2 = Conflict Tactics Scale (Straus et al., 1996); PVI = Partner Violence Interview (Zeanah et al., 1995)
*= self-report measure; ** = clinician/researcher administered

Table 2

Summary of Data from Studies Investigating Mother-to-Infant Relationships

Author (Date)	Location	Study Design	Statistical Analysis	N	Measurement of Relationship	Measurement of IPV	Period of IPV Exposure
de Almedia et al., (2013)	Portugal	Cross-Sectional	Chi-square	184, in last trimester of pregnancy 107 experienced IPV during pregnancy	MFAS-P*	CTS2-P*	Women reported IPV experiences occurring during pregnancy, with questionnaire administered in 3rd trimester.
Key Findings	*Women who had experienced domestic violence had a 'poorer' relationship with their foetus as compared to women who were not exposed to domestic violence, but the results were not statically significant (p = 0.511).*						
Dehghan, et al., (2020)	Iran & Afghanistan	Cross-sectional	Mann-Whitney U, T-tests, ANOVA, Kruskal-Wallis and Spearman correlation coefficient tests analysis.	288 Pregnant Women. 146 Iranian 142 Afghan	MFAS-I*	Researcher-made questionnaire. Piloted on a sample of 30 people. 27 items in 5 dimensions of violence with 6-point Likert scale ranging from not at all to a lot*	Recruited pregnant women. IPV experienced during pregnancy was measured.
Key Findings	*Within the Iranian cohort, there was a significant negative correlation between maternal-foetal attachment and domestic violence (p<0.05). In Afghan pregnant women, a positive significant correlation between maternal-foetal attachment and sexual violence, with a significant negative relationship between other dimensions of attachment and violence (p<001). However, there was no significant correlation with total mean score of MFAS-I and IPV in the Afghan cohort.*						

Author (Date)	Location	Study Design	Statistical Analysis	N	Measurement of Relationship	Measurement of IPV	Period of IPV Exposure
Ghodrati et al., (2017)	Iran	Cross sectional	Spearman correlation test, with ANOVA regression	150 pregnant women between 28-34 weeks	AABC*	The Violence Questionnaire (Bagherzadeh, 2013) *	Violence occurring during pregnancy measured.
Key Findings	There was no statistically significant correlation between total violence experienced and total maternal-neonatal attachment scores (p=0.742). However, further analysis indicated a significant relationship between social violence and maternal-neonatal attachment (t = -2.814, p=0.006). A significant correlation was found between total violence experienced and the *Caring Behaviour* subscale.						
Khalili et al., 2020	Iran	Randomized controlled experimental manipulation, between groups	T-Tests	100 pregnant women	MFAS*	HITS *	IPV experienced during pregnancy was identified through the HITS, with eligible subjects obtaining a minimum score of 10
Key Findings	*The mean maternal-foetal attachment score was significantly higher in the intervention group than the control group, suggesting the intervention was effective in promotion maternal-foetal attachment (80.36 ± 6.75 vs. 65.50 ± 6.78; p<0.001).*						
Kita et al., (2016)	Japan	Prospective Cohort Study	Structural equation modelling	562 women followed from third trimester of pregnancy to 1 month post partum 26 women reported IPV	MIBS-J*	ISA-J*	IPV experienced during pregnancy, with the ISA-J administered during the third trimester of pregnancy
Key Findings	*IPV experienced during pregnancy was associated with mother-to-infant bonding failure at 1-month postpartum (β = 0.13, p <.001). The relationships between IPV during pregnancy, mother-to-infant bonding failure, and postnatal depressive symptoms at 1 month postnatal were mediated by antenatal depressive symptom.*						

Author (Date)	Location	Study Design	Statistical Analysis	N	Measurement of Relationship	Measurement of IPV	Period of IPV Exposure
Kita et al., (2020)	Japan	Prospective Cohort Study	Structural equation modelling	442 women followed from third trimester of pregnancy to 1-month postpartum. 73 reported IPV	MIBS-J*	VAWS*	IPV experienced during pregnancy, with VAWS administered in the third trimester.
Key Findings	Data was collected during third trimester, 1 month & 3-month post-partum. IPV during pregnancy was not associated with lower mother-infant bonding scores postpartum. VAWS scores for IPV during pregnancy were significantly correlated with postnatal depression 1 month post-partum ($r = .16$, $p = .001$).						
Ozcan & Kirca (2018)	Turkey	Cross sectional	Chi-Square and Mann-Whitney U Test	200 Women 4-6 weeks postpartum	MAI-T*	Original Yes/No questionnaire embedded in demographic survey. 11 questions looking at physical, emotional, economic and sexual violence experienced in the postpartum period.*	Violence experienced in the postpartum period, with mother asked to consider only their postpartum period while responding to survey questions.
Key Findings	Women who were "ignored, scolded, verbally abused, scared, forced to sexual intercourse, and sexually humiliated" by their partners had lower mean scores in MAI than those who did not experience domestic violence ($p<0.05$).						
Park et al., (2021)	Japan	Cross-sectional design.	Chi-squared, regression and path analysis used for analysis	6459 women 3-4-months postpartum	MIBS-J*	2 questions from J-CTS2SF* that focused on emotional and physical IPV	IPV experienced during pregnancy was assessed.

Author (Date)	Location	Study Design	Statistical Analysis	N	Measurement of Relationship	Measurement of IPV	Period of IPV Exposure
Key Findings	Findings revealed a modest indirect association between IPV, emotional IPV in particular, and poor maternal-infant bonding ($\beta = .03$, $p < .001$). The direct effects between both forms of IPV (emotional and physical) and bonding were not statistically significant, suggesting that the primary pathway by which IPV is associated with poor bonding is through increased PPD symptoms ($\beta = .01$, $p < .001$). Sub analyses of bonding subscales showed that emotional IPV was statistically significantly associated with MIBS-LA and MIBS-AR and they were mediated by PPD symptoms ($p<.001$).						
Quinlivan & Evans (2005)	Australia	Prospective Cohort	Chi squared, Fishers exact test, *t*-tests, Kruskal Wallis Chi Square, Logistic Regression, ANOVA used for analysis	136 adolescent women 6 months post-partum. 40 IPV	MAS*	Using demographic questionnaire and interviews. Information was compared from the three interviews and classification by consensus opinion of the three interviewers.**	IPV experienced during pregnancy, with mothers classified as either exposed to domestic violence during pregnancy or not
Key Findings	Adolescent women who had experienced domestic violence showed a 'reduced' overall attachment scores with their infants as compared to women who had not, specifically on the Tolerance and Pleasure in Proximity subscales($t(114)= 3.4$, $p = .0009$; $t(114) = 2.37$, $p = .0197$). This significant negative effect domestic violence had on maternal attachment was independent of other factors.						
Ulutaş & Uçar (2021)	Turkey	Cross Sectional	T-tests, Mann-Whitney U, ANOVA, Kruskal Wallis tests, Tukey Tests and correlation coefficients	385 Pregnant women	MFAAS*	DVAWS*	Women were asked about their exposure to violence during pregnancy
Key Findings	A statistically significant positive correlation between DVAWS and MAAS total and subscales (quality of attachment and time spent in attachment) mean scores (respectively, $r = 0.237$, $r = 0.187$, $r = 0.234$; $p < 0.05$). This suggests that as the level of violence experienced by pregnant women increases, their maternal-foetal attachment also increases.						
Yamada et al., (2021)	Japan	Prospective Cohort Study	Moderated Mediation Model		MIBS-J*	2 items in general survey asking	IPV experienced during pregnancy, with measure

Author (Date)	Location	Study Design	Statistical Analysis	N	Measurement of Relationship	Measurement of IPV	Period of IPV Exposure
				77326 pregnant women. 10161 reported IPV		frequency of verbal and physical abuse from husband or romantic partner.*	implemented in the second or third trimester of pregnancy
Key Findings	While IPV during pregnancy did not moderate the association between antenatal pain and postnatal MBD, it did have an independent negative effect on mother infant bonding disorder (β = 0.02, p<0.001). Data was collected at 4 time points ranging from the first trimester to 1-year post-partum						
Zare et al., (2022)	Iran	Cross Sectional	Spearman Correlation Test	200 Pregnant women at 28 to 40 weeks	MFAS-I*	Translated Version of the CTS2*	IPV experienced during pregnancy assessed and measured.
Key Findings	A negative significant correlation between different forms IPV and mother-foetus attachment (p<.001), with all dimensions indicating a small effect size. Reported results demonstrate a negative correlation between all dimensions of domestic violence (psychological, physical, verbal, sexual, injury) and attachment.						
Zeitlin et al., (1999)	UK	Cross sectional design	T tests and correlation coefficients were used in analysis	11 IPV during pregnancy 27 Controls	ADS* and BPBQ*	AAS*	IPV experienced during pregnancy assessed.
Key Findings	A significant difference in mean MIB scores between women who had been abused (M = 66.5, SD = 30.5) and those who had not (M = 51, SD = 14.9); (t = -2.123, df = 36, p < 0.05, *d=0.64*). Women who have been abused during pregnancy did not bond as well with their infant as compared with women who have not been abused, with severity of the abuse negatively correlated to bonding.						

Note. MFAS-P = Portuguese Version of Maternal Foetal Attachment Scale (Mendes, 2002); CTS2-P = Portuguese Version of the Conflict Tactics Scale 2 (Alexandra & Figueiredo, 2006); MFAS-I = Iranian translated Maternal-Fetal Attachment Scale (Cranley, 1981); MFAAS = Maternal-Foetal Antenatal Attachment Scale (Condon, 1993); AABC = Avant's Attachment Behavioural Checklist (Khoramrody, 2000); MFAS = Maternal-Fetal Attachment Scale (Cranley, 1981); HITS = Hurts, Insults, Threaten and Screams Scale (Sherin et al., 1998); MAI-T = Turkish Version of Maternal Attachment Inventory (Kavlak & Şirin, 2009); MAS = Maternal Attachment Scale (Condon & Corkindale, 1998); DVAWS = Domestic Violence against Women Scale (Kılıç, 1999);CTS2 = Conflict Tactics Scale (Straus et al., 1996);PVI = Partner Violence Interview (Zeanah et al., 1995); AAS = Abuse Assessment Screen; MIBS-J = Japanese version of the Mother-Infant Bonding Scale (Yoshida et al., 2012); ISA-J = Japanese versions of the Index of Spouse Abuse (Kataoka, 2005); VWAS = Violence Against Women Screen (Kataoka, 2005); J -CTSSF = Japanese version of revised Conflict Tactics Scales Short Form (Umeda & Kawakami, 2014); ADS = Arbeit's "differentiation" scale; BPBQ= Birmingham Post-Natal Bonding Questionnaire (Brockington et al., 2001)
*= self-report measure; ** = clinician administered

Table 3
Quality Assessment

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Overall Rating
de Almeida et al. (2013)	P	P	Y	Y	N/A	N/A	N/A	Y	Y	Y	Y	N/A	Y	Y	**S**
Dehghan et al. (2020)	Y	Y	Y	Y	N/A	N/A	N/A	Y	Y	Y	P	N/A	P	Y	**S**
Gallaby et al. (2015)	Y	Y	Y	Y	N/A	N/A	N/A	Y	P	Y	Y	Y	Y	Y	**S**
Ghodrati et al. (2017)	P	P	P	P	N/A	N/A	N/A	P	Y	Y	Y	N/A	P	Y	**M**
Huth-Bocks et al. (2011)	Y	Y	P	P	N/A	N/A	N/A	Y	P	Y	Y	Y	P	P	**M**
Khalili et al. (2020)	Y	Y	Y	Y	Y	N/A	N/A	Y	P	Y	Y	Y	Y	Y	**S**
Kita et al. (2016)	Y	Y	Y	Y	N/A	N/A	N/A	Y	Y	Y	Y	Y	Y	Y	**S**
Kita et al., (2020)	Y	Y	Y	Y	N/A	N/A	N/A	Y	Y	Y	Y	Y	Y	Y	**S**
Levendosky et al. (2011)	Y	Y	Y	Y	N/A	N/A	N/A	Y	P	Y	Y	Y	Y	Y	**S**
Martinez-Torteya et al. (2021)	Y	Y	Y	Y	N/A	N/A	N/A	Y	Y	Y	P	Y	Y	Y	**S**
Ozcan & Kirca (2018)	Y	Y	Y	Y	N/A	N/A	N/A	P	P	Y	Y	N/A	Y	Y	**S**
Park et al. (2021)	Y	Y	Y	Y	N/A	N/A	N/A	Y	Y	Y	Y	Y	Y	Y	**S**
Quinlivan et al. (2004)	Y	Y	Y	Y	N/A	N/A	N/A	Y	Y	Y	Y	N/A	Y	Y	**S**
Ulutaş & Uçar (2021)	Y	P	Y	Y	N/A	N/A	N/A	Y	Y	Y	Y	N/A	Y	Y	**S**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Overall Rating
Yamada et al. (2021)	Y	Y	Y	Y	N/A	N/A	N/A	Y	Y	Y	Y	Y	Y	Y	**S**
Zare et al., (2022)	P	Y	Y	Y	N/A	N/A	N/A	Y	P	P	N	N/A	P	Y	**M**
Zeanah et al. (1999)	Y	Y	Y	Y	N/A	N/A	N/A	Y	P	P	P	N/A	P	Y	**S**
Zeitlin et al. (1999)	P	Y	Y	Y	N/A	N/A	N/A	Y	P	Y	Y	N/A	Y	Y	**S**

Note. Y = Yes; N = No; P = Partial; NA = Not Applicable; S = Strong; M = Moderate; 1. Question/Objective Sufficiently Described; 2. Study Design Evident and Appropriate; 3.Method of subject/comparison group selection or source of information/input variables described and appropriate? 4. Subject (and comparison group, if applicable) characteristics sufficiently described?; 5. If interventional and random allocation was possible, was it described?; 6. If interventional and blinding of investigators was possible, was it reported?; 7. If interventional and blinding of subjects was possible, was it reported?; 8. Outcome and (if applicable) exposure measure(s) well defined and robust to measurement / misclassification bias? Means of assessment reported?; 9. Sample size appropriate?; 10. Analytic methods described/justified and appropriate?; 11. Some estimate of variance is reported for the main results? 12. Some estimate of variance is reported for the main results?; 13. Results reported in sufficient detail?; 14. Results reported in sufficient detail?

Discussion

This review aimed to systematically identify studies exploring the relationship between IPV and mother and infant relationships. Four of the included papers suggested that IPV negatively impacts infant-to-mother attachment, while nine demonstrated IPV has a negative impact on mother-to-infant relationships. The majority of studies rated *strong* in quality. However, it is important to highlight that there were conflicting findings, with two studies finding a positive relationship between some types of IPV and mother-to-infant relationships, and two investigations only finding indirect effects. Three of the thirteen studies included in this study found no relationship between IPV and mother and infant relationships. While all the papers included in this review clearly outlined measuring IPV exposure during pregnancy or in the year following birth, the majority of studies reported small effect sizes, and findings should be interpreted with caution, as practical significance may be limited. However, a experimental design demonstrated that a supportive-educational intervention during pregnancy in women who experienced IPV significantly improved maternal-foetal attachment with a large effect size (Khalili et al., 2020) .

The finding that mothers who experienced IPV during the perinatal period are less likely to have securely attached infants reflects the arguments in the literature that due to the traumatic experiences associated with IPV, mothers might be more withdrawn, less playful, less sensitive and more unresponsive to their infant's needs (Levendosky et al., 2018). A 2019 meta-analytic review found that this reduction in behaviours increased the likelihood of insecure-avoidant infant-mother attachment (Barnes & Theule, 2019; Bernard et al., 2018; Groh & Narayan, 2019; Zaslow et al., 1988).

These specific maternal behaviours have also been associated with mental health difficulties comorbid with IPV exposure, mainly depression and post-traumatic stress disorder, which researchers have hypothesized may negatively affect both infant-to-mother

and mother-to-infant relationships (Barnes & Theule, 2019; Bo Sønderlund Ankerstjerne et al., 2022; Gustafsson & Cox, 2012; Paulson, 2020). A meta-analysis found that antenatal depression was negatively correlated to prenatal attachment, with another study finding the same association in post-partum depression and post-partum bonding (Moehler et al., 2006; Rollè et al., 2020). However, it is important to further investigate the direction of this relationship, as a paper included in this review demonstrated that perinatal depression is not associated with mother-to-infant attachment, and with Levendosky and colleagues (2003) finding women who were more severely abused reported more effective parenting and more secure attachment in older children.

One hypothesis for the differing findings is the motivation behind maternal behaviour, with limited evidence suggesting that mothers compensate for their experiences of IPV by employing effective parenting techniques (Letourneau et al., 2007). However, Buchanan et al., (2014) found that insensitive or controlling caregiving behaviours may be implemented to increase the safety of the child in a harmful environment, for example to appease an abusive partner or to ensure that the partner was not provoked by the child's behaviour. While these behaviours may negatively impact the mother-infant dyad, it also may be serving as a way for a mother to ensure her child's safety (Buchanan et al., 2014). Maternal motivation and views should be explored further in future research, as it may help to better understand mechanisms and influence interventions.

Another aspect of interventions that should be highlighted, is the single experimental design study included in this paper. While it provides emerging evidence that early interventions can be beneficial in improving mother-to-infant relationships, this is an area that requires further development and exploration.

It is also important to note that the differences found amongst the studies may reflect the variety of measures implemented. Interestingly, all the studies investigating infant-to-mother attachment utilised the SSP in 'Western Countries', USA and Australia. While this could be due to the lack of resources and training required to administer the SSP elsewhere, it raises an important question regarding the cultural generalizability of this attachment categorization (Keller, 2013).

Cultural variations in attachment classifications and implementation of the SSP have been questioned since the 1980s, with the debate most prevalent in Japan. Early research conducted by Takahashi (1986) found that their results were inconsistent with Western norms. This was further evidenced by a meta-analysis which compared 32 studies from 8 different countries, which found both intercultural and intracultural differences in attachment style (van iJzendoorn & Kroonenberg, 1988). The authors attributed these differences to macro-cultural differences, such as collectivist ideals, but also to differences in child-rearing practices, such as the frequency of mother-infant separation (Takahashi, 1986). Furthermore, infants of varying social-economic status were found to have different attachment styles within the same culture (van iJzendoorn & Kroonenberg, 1988).

This variability needs to be accounted for when evaluating the studies that utilized the SSP, but also when comparing attachment categorization findings cross-culturally. This cultural divergence is further reflected in this systematic review, with ten out of the thirteen studies exploring mother-to-infant relationships, conducted in Japan or other parts of Asia. With evidence suggesting that infant-to mother attachment may be influenced by culture, it is important to question how generalizable the findings from these studies are to a global population.

If attachment styles can differ based on culture, it is important to question if maternal responses to IPV and mental health more generally can as well. It is important to

contextualize IPV within the culture of the studies that are being investigated, as cultural beliefs around IPV may impact severity, frequency, rates of disclosure and maternal views and attitudes, which may impact the social support available (Ngoc Do et al., 2013; Rajkumar, 2023).

Another aspect that requires further exploration is the type of violence women in the perinatal period are experiencing. Most studies included in this review did not report the impact of specific aspects of IPV, including type (physical, sexual etc.), frequency, or severity, had on attachment. Dehghan (2020) found while most types of violence negatively impacted mother-to-infant attachment, sexual violence seemed to increase reported attachment in Afghan women. Ghodrati and colleagues (2017) found that specifically social violence, as compared to other forms, negatively impacted neonatal attachment. While one study found no mental health symptomology differences between physically and psychologically abused women, the exploration of the type of violence against women, and its mental health implications, has widely been focused on physical and sexual violence (Pico-Alfonso et al., 2006).

IPV is also associated with unintended pregnancies, and while this may be a result of sexual violence, it may also be due to reproductive control, which can take the form of overt pregnancy coercion or interference with contraception (Pallitto et al., 2012; Rowlands & Walker, 2019). This highlights the intersecting nature of IPV, with different categories of violence overlapping in definition and occurrence (WHO, 2012).

The lack of consistency in terminology, definitions and measurements of violence further limits the research exploring the impact of different types of violence. Further research is needed to explore not only the impact of IPV on mental health and infant-attachment and mother-to-infant relationships, but also to investigate if the classifications of violence influence this relationship.

Strengths & Limitations

This review included a total of 87,126 participants, with 83% of the studies demonstrating 'strong' quality. It is important to note the heterogeneity in methodology, specifically IPV measurement, study design, population demographics, and geographical location of the studies included in this review. While this provides a more expansive overview of the relationship between IPV and infant-attachment and mother-to-infant relationships, the findings from studies cannot easily be compared or generalized. The overall findings of this paper are aligned with Noonan and colleagues' (2020) meta-analysis, further strengthening the original overall findings, as only one paper overlaps between their paper and this systematic review, and demonstrates how mother-infant relationships are also impacted by IPV (Zeanah et al., 1999).

The majority of studies utilized self-report measures to evaluate at least one of the constructs in their research, which could have skewed or biased the data.

Furthermore, while there is limited research within this field, the limited number of papers included in this review may have been influenced by the inclusion of English publications only. While this was to reduce misinterpretation of findings by following the lead author's first language, this may have reduced the inclusion of papers from non-English speaking countries. Papers were included if they measured and analysed the relationship between IPV and maternal-infant attachment or MIB; however, this resulted in the inclusion of papers where the focus was not on these constructs, and findings should be interpreted with this in mind.

Conclusion

The literature appears to demonstrate that IPV has a detrimental impact on infant attachment and mother-to-infant relationships. Further research is required to investigate both the overall relationship, and direction, of this association. Specifically, studies need to

consider and measure the type of violence, antenatal and postnatal mental health disorders, and cultural factors when exploring IPV and its impact on mother-infant relationships.

References

Ainsworth, M. D. S. (1969). Object Relations, Dependency, and Attachment: A Theoretical Review of the Infant-Mother Relationship. *Child Development*, *40*(4), 969. https://doi.org/10.2307/1127008

Ainsworth, M. D. S. (1989). Attachments Beyond Infancy. *American Psychologist*, *44*(4), 709–716. https://doi.org/10.1037/0003-066X.44.4.709

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of Attachment: A Psychological Study of the Strange Situation*. Erlbaum.

Alexandra, C., & Figueiredo, B. (2006). Versão Portuguesa das "Escalas de Táticas de Conflito Revisadas": Estudo de Validação. *Revista Psicologia: Teoria e Prática*, *8*(2), 14–39. https://editorarevistas.mackenzie.br/index.php/ptp/article/view/1045

Avant P. K. (1982). A maternal assessment strategy Analysis of Current Assessment Strategies. In Humenick S. (Ed.), *The Health Care of Young Children and Childbearing Families* (pp. 171–178). Appleton-Century-Crofts.

Barnes, J., & Theule, J. (2019). Maternal depression and infant attachment security: A meta-analysis. *Infant Mental Health Journal*, *40*(6), 817–834. https://doi.org/10.1002/IMHJ.21812

Benoit, D. (2004). Infant-parent attachment: Definition, types, antecedents, measurement and outcome. *Paediatrics & Child Health*, *9*(8), 541. https://doi.org/10.1093/PCH/9.8.541

Bernard, K., Nissim, G., Vaccaro, S., Harris, J. L., & Lindhiem, O. (2018). Association between maternal depression and maternal sensitivity from birth to 12 months: a meta-analysis. *Attachment & Human Development*, *20*(6), 578–599. https://doi.org/10.1080/14616734.2018.1430839

Bo Sønderlund Ankerstjerne, L., Naftal Laizer, S., Andreasen, K., Katrine Normann, A., Wu, C., Søndergaard Linde, D., & Rasch, V. (2022). Landscaping the evidence of intimate partner violence and postpartum depression: a systematic review. *BMJ Open*, *12*, 51426. https://doi.org/10.1136/bmjopen-2021-051426

Bowlby, J. (1969). *Attachment and Loss* (Vol. 1). Basic Books.

Brockington, I. F., Oates, J., George, S., Turner, D., Vostanis, P., Sullivan, M., Loh, C., & Murdoch, C. (2001). A screening questionnaire for mother-infant bonding disorders. *Archives of Women's Mental Health*, *3*(4), 133–140. https://doi.org/10.1007/S007370170010

Brown, S. J., Yelland, J. S., Sutherland, G. A., Baghurst, P. A., & Robinson, J. S. (2011). Stressful life events, social health issues and low birthweight in an Australian population-based birth cohort: Challenges and opportunities in antenatal care. *BMC Public Health*, *11*(1), 1–12. https://doi.org/10.1186/1471-2458-11-196/TABLES/5

Buchanan, F., Power, C., & Verity, F. (2014). The Effects of Domestic Violence on the Formation of Relationships Between Women and Their Babies: "I Was Too Busy Protecting My Baby to Attach." *Journal of Family Violence*, *29*(7), 713–724. https://doi.org/10.1007/S10896-014-9630-5

Buultjens, M., Murphy, G., Robinson, P., & Milgrom, J. (2013). The perinatal period: A literature review from the biopsychosocial perspective. *Clinical Nursing Studies*, *1*(3). https://doi.org/10.5430/cns.v1n3p19

Christensen, L. F., Heuckendorff, S., Fonager, K., & Overgaard, C. (2020). Impact of maternal mental health problems on perinatal outcomes for the infant. *European Journal of Public Health*, *30*(Supplement_5). https://doi.org/10.1093/EURPUB/CKAA165.129

Condon, J. T. (1993). The assessment of antenatal emotional attachment: Development of a questionnaire instrument. *British Journal of Medical Psychology*, *66*(2), 167–183. https://doi.org/10.1111/J.2044-8341.1993.TB01739.X

Condon, J. T., & Corkindale, C. J. (1998). The assessment of parent-to-infant attachment: Development of a self-report questionnaire instrument. *Journal of Reproductive and Infant Psychology*, *16*(1), 57–76. https://doi.org/10.1080/02646839808404558

Cranley, M. S. (1981). Development of a tool for the measurement of maternal attachment during pregnancy. *Nursing Research*, *30*(5), 281–284. https://doi.org/10.1097/00006199-198109000-00008

Dehghan, M., Ferdosi, H., Abazari, F., & Farokhzadian, J. (2020). *Maternal-Fetal Attachment and Domestic Violence in Iranian and Afghan Pregnant Women: A Cross-Cultural Study*. https://doi.org/10.21203/rs.3.rs-107804/v1

Dubber, S., Reck, C., Müller, M., & Gawlik, S. (2015). Postpartum bonding: the role of

perinatal depression, anxiety and maternal–fetal bonding during pregnancy. *Archives of Women's Mental Health*, *18*(2), 187–195. https://doi.org/10.1007/S00737-014-0445-4/TABLES/5

Erickson, N. L., Julian, M., & Muzik, M. (2019). Perinatal depression, PTSD, and trauma: Impact on mother-infant attachment and interventions to mitigate the transmission of risk. *International Review of Psychiatry*, *31*(3), 245–263. https://doi.org/10.1080/09540261.2018.1563529

Feldman, R. (2017). The Neurobiology of Human Attachments. *Trends in Cognitive Sciences*, *21*(2), 80–99. https://doi.org/10.1016/J.TICS.2016.11.007

Forsdike, K., O'Sullivan, G., & Hooker, L. (2022). Major sports events and domestic violence: A systematic review. In *Health and Social Care in the Community* (Vol. 30, Issue 6, pp. e3670–e3685). John Wiley and Sons Inc. https://doi.org/10.1111/hsc.14028

Galbally, M., Watson, S. J., van IJzendoorn, M. H., Tharner, A., Luijk, M., & Lewis, A. J. (2022). Maternal trauma but not perinatal depression predicts infant-parent attachment. *Archives of Women's Mental Health*, *25*(1), 215–225. https://doi.org/10.1007/s00737-021-01192-7

Ghodrati, F., Setodeh, S., & Akbarzadeh, M. (2017). *A study of the effect of domestic violence on maternal-neonatal attachment in prim gravida women referred to hospitals affiliated to Shiraz University of Medical Sciences*. www.biomedres.info

Goodman, J. H. (2019). Perinatal depression and infant mental health. *Archives of Psychiatric Nursing*, *33*(3), 217–224. https://doi.org/10.1016/J.APNU.2019.01.010

Granqvist, P., Sroufe, L. A., Dozier, M., Hesse, E., Steele, M., van Ijzendoorn, M., Solomon, J., Schuengel, C., Fearon, P., Bakermans-Kranenburg, M., Steele, H., Cassidy, J., Carlson, E., Madigan, S., Jacobvitz, D., Foster, S., Behrens, K., Rifkin-Graboi, A., Gribneau, N., … Duschinsky, R. (2017). Disorganized attachment in infancy: a review of the phenomenon and its implications for clinicians and policy-makers. *Attachment & Human Development*, *19*(6), 534–558. https://doi.org/10.1080/14616734.2017.1354040

Groh, A. M., & Narayan, A. J. (2019). Infant Attachment Insecurity and Baseline Physiological Activity and Physiological Reactivity to Interpersonal Stress: A Meta-Analytic Review. *Child Development*, *90*(3), 679–693. https://doi.org/10.1111/CDEV.13205

Gustafsson, H. C., & Cox, M. J. (2012). Relations Among Intimate Partner Violence,

Maternal Depressive Symptoms, and Maternal Parenting Behaviors. *Marriage Family*, *74*(5), 1005–1020. https://doi.org/10.1111/j.1741-3737.2012.01010.x

Henry, A. L., Kyle, S. D., Bhandari, S., Chisholm, A., Griffiths, C. E. M., & Bundy, C. (2016). Measurement, Classification and Evaluation of Sleep Disturbance in Psoriasis: A Systematic Review. In *PLoS ONE* (Vol. 11, Issue 6). Public Library of Science. https://doi.org/10.1371/journal.pone.0157843

Huth-Bocks, A. C., Theran, S. A., Levendosky, A. A., & Bogat, G. A. (2011). A social-contextual understanding of concordance and discordance between maternal prenatal r epresentations of the infant and infant-mother attachment. *Infant Mental Health Journal*, *32*(4), 405–426. https://doi.org/10.1002/imhj.20304

Judd, F., Newman, L. K., & Komiti, A. A. (2018). Time for a new zeitgeist in perinatal mental health. *Australian and New Zealand Journal of Psychiatry*, *52*(2), 112–116. https://doi.org/10.1177/0004867417741553

Kataoka, Y. (2005). Development of the Violence Against Women Screen. *Journal of Japan Academy of Nursing Science*, *25*(3), 51–60. https://jglobal.jst.go.jp/en/detail?JGLOBAL_ID=200902265966530745

Kavlak, O., & Şirin, A. (2009). The Turkish version of Maternal Attachment Inventory. *Journal of Human Sciences*, *6*(1), 188–202. https://www.j-humansciences.com/ojs/index.php/IJHS/article/view/500

Keller, H. (2013). Attachment and Culture. *Journal of Cross-Cultural Psychology*, *44*(2), 175–194. https://doi.org/10.1177/0022022112472253

Khalili, Z., Navaee, M., Shakiba, M., & Navidian, A. (2020). The effect of a supportive-educational intervention on maternal-fetal attachment of pregnant women facing domestic violence: A randomized controlled trial. *Iranian Journal of Psychiatry and Behavioral Sciences*, *14*(1). https://doi.org/10.5812/ijpbs.92070

Kinsey, C. B., & Hupcey, J. E. (2013). State of the science of maternal-infant bonding: a principle-based concept analysis. *Midwifery*, *29*(12), 1314–1320. https://doi.org/10.1016/J.MIDW.2012.12.019

Kita, S., Haruna, M., Matsuzaki, M., & Kamibeppu, K. (2016). Associations between intimate partner violence (IPV) during pregnancy, mother-to-infant bonding failure, and postnatal depressive symptoms. *Archives of Women's Mental Health*, *19*(4), 623–634. https://doi.org/10.1007/s00737-016-0603-y

Kita, S., Hayashi, M., Umeshita, K., Tobe, H., Uehara, N., Matsunaga, M., & Kamibeppu, K.

(2020). Intimate Partner Violence and Maternal Child Abuse: The Mediating Effects of Mothers' Postnatal Depression, Mother-to-Infant Bonding Failure, an Hostile Attributions to Children's Behaviors. *Psychology of Violence*. https://doi.org/10.1037/vio0000245

Kılıç, Ç. B. (1999). *Determination of domestic violence against women and the role of nurse*. Istanbul University Institute of Health Sciences.

Klaus, M. H., & Kennell, J. H. (1976). *Maternal-Infant Bonding: The Impact of Early Separation or Loss on Family Development*. C.V. Mosby.

Klaus, M., & Kennell, J. (1983). Parent to infant bonding: Setting the record straight. *The Journal of Pediatrics*, *102*(4), 575–576. https://doi.org/10.1016/S0022-3476(83)80188-7

Kmet, L. M., Cook, L. S., & Lee, R. C. (2004). *Standard Quality Assessment Criteria for Evaluating Primary Research Papers from a Variety of Fields*. https://doi.org/10.7939/R37M04F16

Letourneau, N. L., Fedick, C. B., & Willms, J. D. (2007). Mothering and domestic violence: A longitudinal analysis. *Journal of Family Violence*, *22*(8), 649–659. https://doi.org/10.1007/S10896-007-9099-6/TABLES/5

Levendosky, A. A., Anne Bogat, G., Bernard, N., & Garcia, A. (2018). The Effects of Intimate Partner Violence on the Early Caregiving System. In M. Muzik & K. L. Rosenblum (Eds.), *Motherhood in the Face of Trauma: Pathways Towards Healing and Growth* (pp. 39–54). Springer International Publishing. https://doi.org/10.1007/978-3-319-65724-0_3

Levendosky, A. A., Bogat, G. A., Huth-Bocks, A. C., Rosenblum, K., & von Eye, A. (2011). The Effects of Domestic Violence on the Stability of Attachment from Infancy to Preschool. *Journal of Clinical Child & Adolescent Psychology*, *40*(3), 398–410. https://doi.org/10.1080/15374416.2011.563460

Levendosky, A. A., Huth-Bocks, A. C., Shapiro, D. L., & Semel, M. A. (2003). The Impact of Domestic Violence on the Maternal - Child Relationship and Preschool-Age Children's Functioning. *Journal of Family Psychology*, *17*(3), 275–287. https://doi.org/10.1037/0893-3200.17.3.275

Levendosky, A. A., Lannert, B., & Yalch, M. (2012). The effects of intimate partner violence on women and child survivors: An attachment perspective. *Psychodynamic Psychiatry*, *40*(3), 397–434. https://doi.org/10.1521/pdps.2012.40.3.397

Lyons-Ruth, K. (2008). Contributions of the Mother-Infant Relationship to Dissociative,

Borderline, and Conduct Symptoms in Young Adulthood. *Infant Mental Health Journal*, *29*(3), 203. https://doi.org/10.1002/IMHJ.20173

Main, M., & Solomon, J. (1990). Discovery of a new, insecure-disorganized/disoriented attachment pattern . In Yogman M. & Brazelton T. B. (Eds.), *Affective development in infancy* (pp. 95–124). Ablex.

Marshall, L. L. (1992). Development of the severity of violence against women scales. *Journal of Family Violence*, *7*(2), 103–121. https://doi.org/10.1007/BF00978700

Martinez-Torteya, C., Donovan, A., Gilchrist, M. A., Marshall, H., & Huth-Bocks, A. C. (2021). Neighborhood disadvantage moderates the effect of perinatal intimate partner violence (IPV) exposure on disorganized attachment behaviors among 12-month-old infants. *Psychology of Violence*, *11*(1), 101–111. https://doi.org/10.1037/vio0000285

McIntosh, J. E., Tan, E. S., Levendosky, A. A., & Holtzworth-Munroe, A. (2019). Mothers' Experience of Intimate Partner Violence and Subsequent Offspring Attachment Security Ages 1–5 Years: A Meta-Analysis. *Trauma, Violence, and Abuse*, *22*(4), 885–899. https://doi.org/10.1177/1524838019888560

Mendes, I. Margarida. (2002). *Ligação materno-fetal : contributo para o estudo de factores associados ao seu desenvolvimento*.

Moehler, E., Brunner, R., Wiebel, A., Reck, C., & Resch, F. (2006). Maternal depressive symptoms in the postnatal period are associated with long-term impairment of mother-child bonding. *Archives of Women's Mental Health*, *9*(5), 273–278. https://doi.org/10.1007/S00737-006-0149-5

Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., Shekelle, P., Stewart, L. A., Estarli, M., Barrera, E. S. A., Martínez-Rodríguez, R., Baladia, E., Agüero, S. D., Camacho, S., Buhring, K., Herrero-López, A., Gil-González, D. M., Altman, D. G., Booth, A., … Whitlock, E. (2016). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Revista Espanola de Nutricion Humana y Dietetica*, *20*(2), 148–160. https://doi.org/10.1186/2046-4053-4-1/TABLES/4

Ngoc Do, K., Weiss, B., & Pollack, A. (2013). *Cultural Beliefs, Intimate Partner Violence and Mental Health Functioning among Vietnamese Women*. *2*(3). https://doi.org/10.1037/ipp0000004

NHS England. (2018). *The Perinatal Mental Health Care Pathways*. https://www.england.nhs.uk/mental-health/resources/

Nishigori, H., Obara, T., Nishigori, T., Metoki, H., Mizuno, S., Ishikuro, M., Sakurai, K.,

Hamada, H., Watanabe, Z., Hoshiai, T., Arima, T., Nakai, K., Kuriyama, S., & Yaegashi, N. (2019). Mother-to-infant bonding failure and intimate partner violence during pregnancy as risk factors for father-to-infant bonding failure at 1 month postpartum: an adjunct study of the Japan Environment and Children's Study. *Https://Doi.Org/10.1080/14767058.2018.1560414*, *33*(16), 2789–2796. https://doi.org/10.1080/14767058.2018.1560414

Noonan, C. B., & Pilkington, P. D. (2020). Intimate partner violence and child attachment: A systematic review and meta-analysis. Child Abuse & Neglect, 109, 104765. https://doi.org/10.1016/J.CHIABU.2020.104765

O'connor, E., Bureau, J.-F., Mccartney, K., & Lyons-Ruth, K. (2011). Risks and outcomes associated with disorganized/controlling patterns of attachment at age three years in the National Institute of Child Health & Human Development Study of Early Child Care and Youth Development. *Infant Mental Health Journal*, *32*(4), 450–472. https://doi.org/10.1002/imhj.20305

Ozcan, S., & Kirca, N. (2018). The Effect of Postpartum Violence against Mothers on Mother-Infant Bonding. In *International Journal of Caring Sciences* (Vol. 11). www.internationaljournalofcaringsciences.org

Pallitto, C. C., García-Moreno, C., Jansen, H. A. F. M., Heise, L., Ellsberg, M., & Watts, C. (2012). *Intimate partner violence, abortion, and unintended pregnancy: Results from the WHO Multi-country Study on Women's Health and Domestic Violence*. https://doi.org/10.1016/j.ijgo.2012.07.003

Pariante, C. C., & Duman, E. A. (2023). From Mother to Child: Importance of the Perinatal Period. *Psychoneuroendocrinology*, *153*, 106123. https://doi.org/10.1016/J.PSYNEUEN.2023.106123

Park, S., Greene, M. C., Melby, M. K., Fujiwara, T., & Surkan, P. J. (2021). Postpartum Depressive Symptoms as a Mediator Between Intimate Partner Violence During Pregnancy and Maternal-Infant Bonding in Japan. *Journal of Interpersonal Violence*, *36*(19–20), NP10545–NP10571. https://doi.org/10.1177/0886260519875561

Paulson, J. L. (2020). Intimate Partner Violence and Perinatal Post-Traumatic Stress and Depression Symptoms: A Systematic Review of Findings in Longitudinal Studies. *Trauma, Violence & Abuse*. https://doi.org/10.1177/1524838020976098

Pico-Alfonso, M. A., Garcia-Linares, I. M., Celda-Navarro, N., Blasco-Ros, C., Echeburúa, E., & Martinez, M. (2006). The impact of physical, psychological, and sexual intimate male partner violence on women's mental health: depressive symptoms, posttraumatic

stress disorder, state anxiety, and suicide. *Journal of Women's Health (2002)*, *15*(5), 599–611. https://doi.org/10.1089/JWH.2006.15.599

Pires de Almeida, C., Sá, E., Cunha, F., & Pires, E. P. (2013). Violence during pregnancy and its effects on mother-baby relationship during pregnancy. *Journal of Reproductive and Infant Psychology*, *31*(4), 370–380. https://doi.org/10.1080/02646838.2013.822058

Prior, V., & Glaser, D. (2006). *Understanding Attachment & Attachment Disorders: Theory, Evidence, and Practice - PMC*. Jessica Kingsley Publishers. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2247467/

Quinlivan, J. A., & Evans, S. F. (2005). Impact of domestic violence and drug abuse in pregnancy on maternal attachment and infant temperament in teenage mothers in the setting of best clinical practice. *Archives of Women's Mental Health*, *8*(3), 191–199. https://doi.org/10.1007/s00737-005-0079-7

Rajkumar, R. P. (2023). Cultural collectivism, intimate partner violence, and women's mental health: An analysis of data from 151 countries. *Frontiers in Sociology*, *8*, 1125771. https://doi.org/10.3389/FSOC.2023.1125771/BIBTEX

Rollè, L., Giordano, M., Santoniccolo, F., & Trombetta, T. (2020). Prenatal Attachment and Perinatal Depression: A Systematic Review. *International Journal of Environmental Research and Public Health*, *17*(8). https://doi.org/10.3390/IJERPH17082644

Román-Gálvez, R. M., Martín-Peláez, S., Fernández-Félix, B. M., Zamora, J., Khan, K. S., & Bueno-Cavanillas, A. (2021). Worldwide Prevalence of Intimate Partner Violence in Pregnancy. A Systematic Review and Meta-Analysis. *Frontiers in Public Health*, *9*, 1278. https://doi.org/10.3389/FPUBH.2021.738459/BIBTEX

Rowlands, S., & Walker, S. (2019). Reproductive control by others: means, perpetrators and effects. *BMJ Sexual & Reproductive Health*, *45*(1), 61–67. https://doi.org/10.1136/BMJSRH-2018-200156

SafeLives. (2016). *A Cry for Health Why we must invest in domestic abuse services in hospitals*.

Sherin, K. M., Sinacore, J. M., Li, X. Q., Zitter, R. E., & Shakil, A. (1998). HITS: a short domestic violence screening tool for use in a family practice setting. *Family Medicine*, *30*(7), 508–512. https://europepmc.org/article/med/9669164

Solomon, J., & George, C. (2008). The measurement of attachment security and related constructs in infancy and early childhood. . In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 383–416). The Guilford Press.

Stein, A., Pearson, R. M., Goodman, S. H., Rapa, E., Rahman, A., McCallum, M., Howard, L. M., & Pariante, C. M. (2014). Effects of perinatal mental disorders on the fetus and child. *The Lancet*, *384*(9956), 1800–1819. https://doi.org/10.1016/S0140-6736(14)61277-0

Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The revised conflict tactics scales (CTS2) development and preliminary psychometric data. *Journal of Family Issues*, *17*(3), 283–316. https://doi.org/10.1177/019251396017003001

Takahashi, K. (1986). Examining the Strange-Situation Procedure With Japanese Mothers and 12-Month-Old Infants. *Developmental Psychology*, *22*(2), 265–270. https://doi.org/10.1037/0012-1649.22.2.265

Trombetta, T., Giordano, M., Santoniccolo, F., Vismara, L., Della Vedova, A. M., & Rollè, L. (2021). Pre-natal Attachment and Parent-To-Infant Attachment: A Systematic Review. *Frontiers in Psychology*, *12*, 664. https://doi.org/10.3389/FPSYG.2021.620942/BIBTEX

Ulutaş, Ü., & Uçar, T. (2022). The relationship between domestic violence against women, adaptation to pregnancy and maternal-fetal antenatal attachment. *Perspectives in Psychiatric Care*, *58*(4), 1433–1441. https://doi.org/10.1111/ppc.12947

Umeda, M., & Kawakami, N. (2014). Cross-cultural measurement equivalence of the Japanese version of Revised Conflict Tactics Scales Short Form among Japanese men and women. *Psychiatry and Clinical Neurosciences*, *68*(11), 804–811. https://doi.org/10.1111/PCN.12194

van IJzendoorn, M. H., & Kroonenberg, P. M. (1988). Cross-Cultural Patterns of Attachment: A Meta-Analysis of the Strange Situation. *Child Development*, *59*(1), 147. https://doi.org/10.2307/1130396

Walsh, J. (2010). Definitions matter: If maternal-fetal relationships are not attachment, what are they? *Archives of Women's Mental Health*, *13*(5), 449–451. https://doi.org/10.1007/S00737-010-0152-8/METRICS

Wilson, M. E., White, M. A., Cobb, B., Curry, R., Greene, D., & Popovich, D. (2000). Family dynamics, parental-fetal attachment and infant temperament. *Journal of Advanced Nursing*, *31*(1), 204–210. https://doi.org/10.1046/J.1365-2648.2000.01245.X

Wittkowski, A., Vatter, S., Muhinyi, A., Garrett, C., & Henderson, M. (2020). Measuring

bonding or attachment in the parent-infant-relationship: A systematic review of parent-report assessment measures, their psychometric properties and clinical utility. *Clinical Psychology Review*, *82*, 101906. https://doi.org/10.1016/J.CPR.2020.101906

World Health Organization. (2012). *Understanding and addressing violence against women*.

Yamada, K., Kimura, T., Cui, M., Kubota, Y., Tanaka, E., Wakaizumi, K., Ikehara, S., Kimura, T., & Iso, H. (2021). Antenatal pain, intimate partner violence, and maternal bonding disorder: data from the Japan Environment and Children's Study. *Pain*, *162*(3), 749–759. https://doi.org/10.1097/j.pain.0000000000002084

Yoshida, K., Yamashita, H., Conroy, S., Marks, M., & Kumar, C. (2012). A Japanese version of Mother-to-Infant Bonding Scale: factor structure, longitudinal changes and links with maternal mood during the early postnatal period in Japanese mothers. *Womens Mental Health*, *15*, 343–352. https://doi.org/10.1007/s00737-012-0291-1

Zare, E., Ghaffari, M., Nahidi, F., Nasiri, M., & Masjedi, A. (2022). Relationship Between Domestic Violence in Pregnancy and Maternal Fetus Attachment. *Iranian Journal of Psychiatry and Behavioral Sciences*, *16*(1). https://doi.org/10.5812/ijpbs.111406

Zaslow, M. J., Rabinovich, B. A., Suwalsky, J. T. D., & Klein, R. P. (1988). The role of social context in the prediction of secure and insecure/avoidant infant-Mother attachment. *Journal of Applied Developmental Psychology*, *9*(3), 287–299. https://doi.org/10.1016/0193-3973(88)90031-7

Zeanah, C. H., Benoit, D., Barton, M., Regan, C., Hirshberg, L. M., & Lipsitt, L. P. (1993). Representations of Attachment in Mothers and Their One-Year-Old Infants. *Journal of the American Academy of Child and Adolescent Psychiatry*, *32*(2), 278–286. https://doi.org/10.1097/00004583-199303000-00007

Zeanah, C. H., Danis, B., Hirshberg, L., Benoit, D., Miller, D., & Heller, S. S. (1999). Disorganized Attachment Associated with Partner Violence: A Research Note. *INFANT MENTAL HEALTH JOURNAL*, *20*(1), 77–86.

Zeanah, C., Hirshberg, L., Danis, B., Brennan, M., & Miller, D. (1995). On the specificity of the Adult Attachment Interview in a high-risk sample. *Paper Presented to the Biennial Meeting of the Society for Research in Child Development*.

Zeitlin, D., Dhanjal, T., & Colmsee, M. (1999). Maternal-foetal bonding: the impact of domestic violence on the bonding process between a mother and child. *Womens Mental Health*, *2*, 183–189.

Service Improvement Project

Increasing Engagement within the Pakistani Community: An Evaluation of Buckinghamshire Talking Therapies' Access Project

Tanya Graham

Oxford Institute of Clinical Psychology Training and Research, Division of Medical Sciences, University of Oxford, Oxford, United Kingdom

Word Count: 5283

Submission Date: May 2024

Internal Supervisors: Dr Alasdair Churchard

External Supervisor: Parth Gosh

Proposed Journal: *BJPsych Open*.

This peer-reviewed journal was selected due to its previous publications of relevant papers on both IAPT services and global majority mental health.

Abstract

Aim: There is increasing recognition of the disparity in access and treatment outcomes for individuals from ethnic minority communities in mental health services. To address this, and in accordance with the IAPT BAME Positive Practice Guidelines, Buckinghamshire's Talking Therapy (BTT) service developed the *Access Project*, an outreach project working towards increasing access and engagement of their local Pakistani community. The current study aimed to evaluate BTT's Access Project in improving Pakistani individuals access and engagement to the service, and to better understanding the local community's experiences of BTT.

Method: Referral information from 57281 White British and Pakistani service-users were extracted. In line with the location of the outreach work, data was analysed by area, either High Wycombe or Non-High Wycombe. Pakistani service-user's referral information was compared by area, before the relationship between area, year and ethnicity of referrals was investigated. Interviews from Pakistani service-users, community leaders and BTT staff were examined using thematic analysis to better understand individual experiences and feedback.

Results: While findings did not conclusively indicate that the Access Project increased Pakistani referrals to the service, evidence suggests that the total referrals from the community significantly increased as compared to White British referrals. Qualitative themes provided positive feedback for the outreach program, and highlighted areas for continual development.

Discussion: Based on these findings, recommendations to BTT are outlined and limitations of the study discussed.

Introduction

It is estimated that one in six adults in England experience symptoms of common mental disorders (CMD) per week (1). The prevalence of these common mental health problems has increased by more than 20% since 1993, resulting in a growing burden on the economy, with costs equivalent to 5% of the UK's GDP per year (2,3). A particular cohort that is more vulnerable to experiencing CMD are individuals from ethnic minorities (4). It is well established that, through racism and discrimination, these individuals are more likely to experience inequalities that not only contribute to the development of mental health difficulties, but also bar them from seeking and accessing treatment (5,6).

To address the growing prevalence and burden of CMD, Talking Therapies (formerly Improving Access to Psychological Therapies (IAPT)) program was established to provide evidence-based psychological interventions for a range of mental health problems (7). However, since its inception, evidence suggests that there is inequality in access and treatment outcomes for individuals from Black, Asian and Minority Ethnic (BAME) communities within Talking Therapies (8–10). While measures have been taken to reduce this disparity, compared to White-British individuals, clients from ethnic minority communities are less likely to refer to Talking Therapies services, receive an assessment following a referral, or access a course of treatment (11,12).

Utilizing social identity theory, this disparity can be understood through in-group favoritism and out-group bias (13). Through categorization, in which an individual orients the world around them by assigning people into social categories based on stereotypes, interpersonal behaviour is associated with intergroup behaviour (13). This then forms the basis of individual social identity, and as individuals positively judge the group they belong to (or in-group), can lead to favoritism and reducing resources to out-groups who can be

viewed as a threat (6). Within the context of services, ethnic minorities may be viewed as out-groups, which may lead to both discrimination and unintended exclusion from services (6).

In recent years there has been a focus on understanding and overcoming this underrepresentation (14). Research has indicated a variety of barriers for individuals from BAME communities accessing Talking Therapies services. This includes higher levels of stigma, lack of awareness of mental health problems or services, and previous experiences of discrimination (4).

In response to this, and in accordance with the Equality Act 2010, the IAPT BAME Positive Practice Guidelines (PPG) was created to outline a set of principles to improve access and outcomes for service users (14). An important aspect of these guidelines is the audit tool, which highlights areas to establish services' cultural responsiveness, and encourages the involvement of service users and community organizations. Beyond setting standards, the tool provides a framework to evaluate the effectiveness of ongoing service development in improving access to BAME clients. However, reports indicate that the PPG do not appear to be used consistently across services (10).

Service Context

The underrepresentation of ethnic minorities accessing care has also been illustrated in Buckinghamshire's Talking Therapies (BTT) Service. Using the 2011 census data, the service determined that while individuals from a Pakistani background composed the largest ethnic minority community within their jurisdiction, they were significantly underrepresented among their service users. As a result, BTT began the *Access Project*, a dedicated outreach program focused on increasing referrals and attrition rates from BAME backgrounds. In line with their local population, this project has been focused on building relationships with leaders from the Pakistani community, including working with local charities and places of

worship, only within the High Wycombe (HW) area of the service.

A recent audit of BTT found that there has been an increase in referrals from individuals of Pakistani heritage from 1.4% to 3% in the last 3 years; however, it is not clear if this increase is due to the work of the Access Project. As the outreach work has been confined to HW, it provides an opportunity to assess the access project's impact by comparing referral and attrition rate (conversion of referrals to assessments) from HW to other areas that access BTT. It is important to not only understand the impact of the Access Project on engagement but also the experiences of the Pakistani community, to continue to improve their access to psychological support.

This project aims to evaluate BTT's Access Project in increasing engagement to the service from individuals who identify as Pakistani origin. Through this, it hopes to understand the experiences of Pakistani service users and community leaders, alongside clinicians, and explore if there are any unresolved barriers to the service this community are experiencing that can be addressed by the Access Project. The study aimed to make recommendations to BTT based on these findings to continue to improve access and engagement from the Pakistani community.

Methods

General Design

This paper utilized a mixed-method design, and was broken into two studies. In Study 1, service user data was extracted to analyse differences in referrals by ethnicity and area. In Study 2, semi-structured interviews were conducted with service users, clinicians, and a community leader to explore views, experiences and feedback on working with BTT. Both elements of this study are key areas highlighted within the IAPT BAME PPG's Audit Tool,

specifically the *Improving Access* and *Improving Engagement* standards (14). This study was approved by the Oxford Healthcare Improvement Team, see *Appendix 2.1* for registration.

Study 1

Sample and Procedure

Anonymized demographic, referral information, and opt-in status, collected routinely at referral and post-assessment to BTT, was extracted from PC-MIS. Data was collected for service users between the 1st of January 2018 to 31st of December 2023, reflecting the implementation of the Access Project. Data was collected for both service users who identified as Pakistani and White-British. All referrals were categorised into either High-Wycombe (HW) or Non-High-Wycombe (NHW) referrals, based on registered GP surgery.

Analysis

Statistical analysis was conducted using IBM SPSS statistics version 29. Descriptive statistics were used to summarise patient's demographic and referral information. Chi-Square tests of homogeneity and the Mann-Whitney U-Test of normality were used to compare HW and NHW Pakistani referrals on demographic and referral characteristics. To explore the relationship between ethnicity, year and area, a log-linear analysis was conducted, with further Chi-Square tests run to explore significant interactions.

Study Two

Participants

Participants for the semi-structured interviews were recruited through BTT. All participants were screened to ensure they were above 18 years-old, were able to speak English, and provided informed consent.

Service users who had been referred or accessed BTT between January-December 2023, identified as Pakistani, and who had provided consent to be contacted for research purposes were shortlisted. Participants were initially contacted over the phone, and after gaining consent, partook in a semi-structured interview. If clients were unable to be contacted over the phone, and had consented to email correspondence, an email outlining the purpose of contact, research contact details, and an alternative online survey option (which presented the same questions as in the semi-structured interview), was provided.

An email was circulated to BTT staff members, asking if they would like to participate in an interview or fill in an online survey to gather their feedback. Community leaders were identified by BTT, and were contacted through email.

Interviews took place between December 2023 and February 2024.

Design and Procedure

A semi-structured interview schedule was developed, with specific sections for the three different sub-groups, and was reviewed based on feedback from a clinician working in the Access Project, see *Appendix 2.2*. Areas explored included knowledge of BTT before referral/being approached by the service, their experiences of the service, cultural considerations in therapy, barriers to accessing BTT and their feedback for improving engagement. All interviews took place individually over the phone or by videoconferencing, with each interview between 15-60 minutes.

Five service users, three staff members and the community leader partook in interviews, with the remaining two service users and two staff members completing the online survey. Two of the three staff members who completed the interview were involved in the Access Project.

Analysis

Interviews were recorded and transcribed. Utilising Braun & Clarke's (15) reflexive approach, transcripts were analysed with thematic analysis using NVivo 12. To ensure familiarization, the lead author read each transcript several times before beginning the initial coding and provisional theme generation. Codes and themes were reviewed by research supervisors, and refined to ensure coherence, see *Appendix 2.3* for full thematic analysis process.

Results

Study 1

A total of 57281 referrals were extracted from PC-MIS, with 2546 referrals identifying as Pakistani.

Comparison of Locality within Pakistani Cohort 2018-2023

Most Pakistani service users self-referred to BTT (83.0%, n=2113) and were from HW (58.4%, n=1487). The average age of Pakistani referrals was 34 years old (range: 17-90; *SD*=12.05) and was predominately female (69.5%, n=1769). 77.4% of all referrals opted-in to the service (n=1971), with 71.1% reporting that English was their first language (n=1810). Referral breakdown by year and area can be found in *Table 1.*

Table 1

Pakistani Referrals by Year and Area

Year	HW	NHW
2018	176 (11.8%)	109 (10.9%)
2019	238 (15.9%)	164 (15.5%)
2020	187 (12.6%)	158 (14.9%)
2021	292 (19.6%)	184 (17.4%)
2022	300 (20.2%)	239 (22.6%)
2023	295 (19.8%)	200 (18.9%)
Total	1488	1054

Note: HW = High Wycombe, NHW = Non-High Wycombe

Group Differences

The HW and NHW cohorts only significantly differed on referral source, with the odds ratio indicating that 1.39x more referrals from HW originated from health-professionals. There were no significant differences across age, gender, opt-in status, first language (English), or previous referral to BTT. All group differences are presented in *Table 2*.

Table 2

Comparison of Pakistani Referrals by Area

Variable		HW		NHW		Test Statistic	Significance	Effect Size
Age (*Mdn,* Range)		32, 17-90		33, 18-83		*U* = 770086.00, *z* = -0.83	*p* =.409	*r* = -.009
Gender		*n*	%	*n*	%	$\chi 2$ (1, *n* = 2532) = .564	*p* =.453	φ = -.032
	Male	438	57.3	327	42.7			
	Female	1040	58.9	727	41.1			
Referral						$\chi 2$ (1, *n* = 2511) = 8.27	*p* =.004*	φ = -.057
	Self	1209	57.3	902	42.7			
	Other	260	65.0	140	35.0			
Opt-In						$\chi 2$ (1, *n* = 2543) = 0.48	*p* = .487	φ = -.014
	Attended	1158	58.8	810	41.2			
	DNOI	329	57.2	246	42.8			
English First Language						$\chi 2$ (1, *n* = 2270) = 1.83	*p* = .177	φ = -.028
	Yes	1058	58.6	749	41.4			
	No	255	55.1	208	44.9			
Previous Referral						$\chi 2$ (1, *n* = 2543) = 0.001	*p* = .972	φ = -.001
	Yes	188	58.4	134	41.6			
	No	1299	58.5	1056	41.5			

Note. HW = High Wycombe; NHW = Non-High Wycombe, DNOI= Did Not Opt-In; *p*-values marked with * indicate significant findings.

Log-Linear Analysis

A three-way log-linear analysis was performed to determine a hierarchical unsaturated model for the associations between ethnicity, area, and year of referral. A total of 57281 patients' data was analysed, with all cells having greater than five expected frequencies, no outliers, and approximately normally distributed adjusted residuals for the chosen model.

An unsaturated model was chosen using SPSS Statistics' hierarchical loglinear model selection procedure with a backward elimination stepwise procedure. The likelihood ratio of this model was $\chi 2$ (0)=0, p=1. This produced a model that included all main effects but indicated that the highest-order interaction (year x ethnicity x area) was not significant, $\chi 2$ (1)=.762, p=.383. The model found that two two-way associations of referral year* ethnicity and area*ethnicity were significant. See *Appendix 2.4* for partial likelihood ratio $\chi 2$ and loglinear parameter estimates.

To break down the significant interaction effect, separate chi-square tests were performed. There was a significant association between ethnicity and area of referral, $\chi 2$ (1)=.1814.23, p<.001. The odds ratio indicated that a Pakistani referral was 5.04x times higher in HW than in NHW areas.

To assess the association between year and ethnicity, the first and last years of the Access Project (2018 vs 2023) were compared. A significant association was found between year and ethnicity, $\chi 2$ (1)=35.50, p<.001. An odds ratio calculation showed that a referral from a Pakistani service user was 1.57x higher in 2023 than in 2018. See *Table 3* for further chi-square data.

Table 3

Chi-Square Results for Interactions

Variable		White-British		Pakistani		Effect Size
		n	*%*	*n*	*%*	
Area						
	HW	11961	21.9	1487	58.5	φ = .034
	NHW	42777	78.1	1056	41.5	
Year						
	2018	8538	96.8	366	3.2	φ = .043
	2023	9490	95.0	496	5.0	

Note. HW = High Wycombe, NHW = Non-High Wycombe

Study 2

Participant Characteristic's

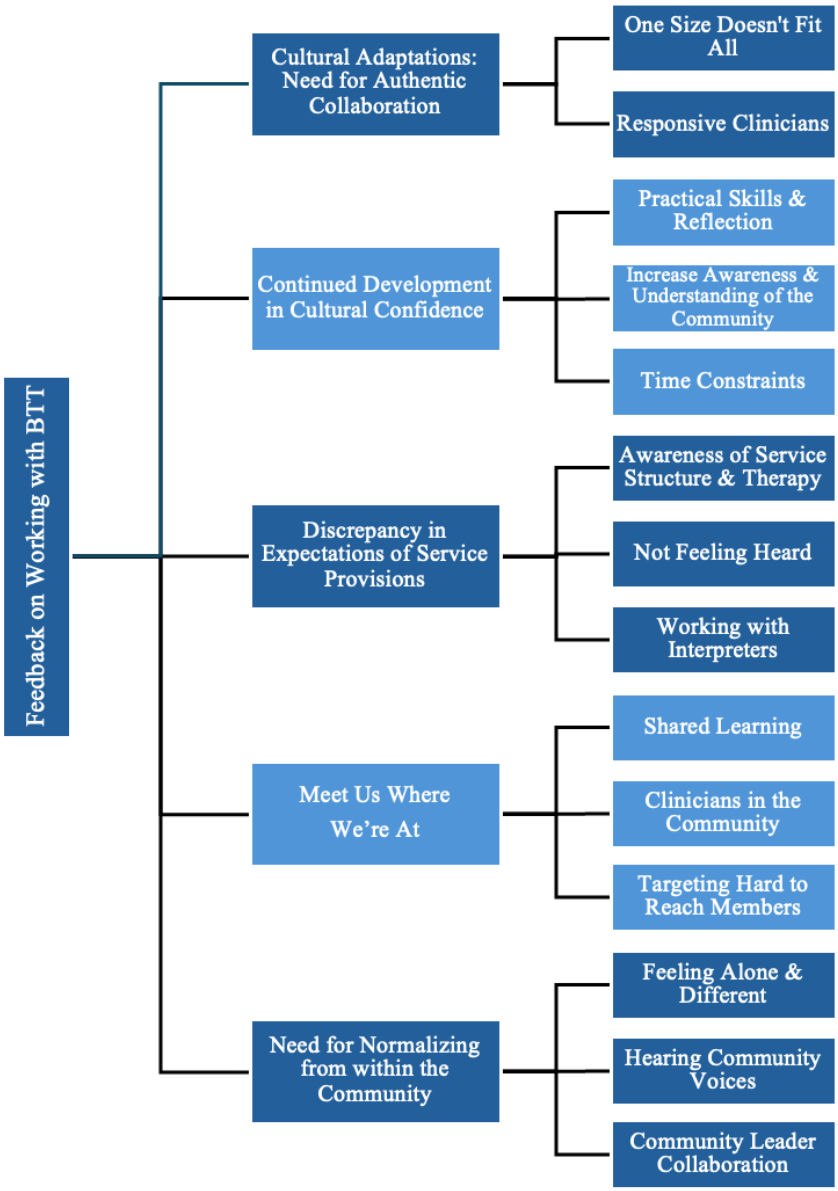
A total of seven service users, five staff members and one community leader (CL) took part in interviews or completed the online survey. A total of 76% participants identified as South Asian, with the majority identifying as Pakistani, with the remaining declining to disclose their ethnicity. See *Appendix 2.5* for participant demographic information.

Themes and Subthemes

Five themes and thirteen subthemes were identified, see *Figure 1*. Direct quotes are italicised below, with additional illustrative quotes found in *Appendix 2.6*

Figure 1

Themes and Subthemes



Cultural Adaptations: The Need for Authentic Collaboration

The assumption that culture and religion should be incorporated into therapy was contested by contrasting patient perspectives, with some arguing the benefits while others expressing how their mental health had *nothing to do with [it].* One patient further explained how the lack of collaboration, and an overgeneralisation of similarities of cultural experiences, can detract from meaningful individual differences:

Honestly – the tailoring it for cultural stuff, isn't … it just feels like another tick-box to be honest. The issues are so individualistic, to give you an example, my parents are religious but I'm not – so there's a dilemma there with two religions fighting against each other, so what category do you put me in.

While clinicians indicated that they are *very much led by [clients] in terms of what we need to adapt and how to do it*, they expressed how it is a *shared responsibility,* highlighting the importance for the therapist to create a space and relationship with clients to facilitate these conversations. This was echoed by clients, who expressed a desire for therapists to have an *open mind* and a *broader understanding of culture and religion*, reflecting that when *that understanding wasn't there…the connection wasn't there*.

Beyond clinicians being receptive and *respectful* to these conversations, there was a sentiment for clinicians to be more responsive in incorporating cultural and religious beliefs into therapy. One participant described how when they *told [clinician] about how that wouldn't work in my faith…they got stuck* and were not able to adapt the technique to the constraints of their religion.

While the emphasis of desired therapeutic characteristics around familiarity of culture and religion, and practical adaptations to therapy, might naturally lend itself for a preference for therapist being of a similar background as clients, participants were again split. While some voiced a preference for South Asian clinicians, others explained that having someone from a different background provided a more *confidential* space and can be beneficial:
And I think, the person probably doesn't need to be of Asian culture – the therapist. I have a therapist now who understands Asian culture even though they are not of an Asian background – so it often helps me as an Asian person to have therapy from someone is not an Asian person as well, just because the different culture is able to provide a different outlook on life, which is really helpful.

Continued Development in Cultural Confidence

Clinicians outlined how feeling confident, both in knowledge and practical skills, impacts their ability to ask clients about culture and religion:

you almost don't want to ask questions and unintentionally come across ignorant or say the wrong thing

While staff acknowledged helpful training in the past, one didn't *remember walking away from [the training] feeling much more* confident, and in terms of practical application to their role or practice *didn't give [them] very much.*

This sentiment was echoed by others, who raised that more specific training on how to *sensitively raise the topic*s, or how to deliver *CBT with an element of religion* integrated into it would be helpful. A desire for *more education about cultural and religious groups within the Pakistani community and their values, events* was also voiced.

However, it was also acknowledged that developing confidence *is an ongoing process and culture is so big and it's so different for every single person, even those from the same culture that I think it's gonna take years for therapists to feel confident because you don't know who you're going to encounter.*

In response to this, it was suggested that having spaces to reflect and discuss culture and religion would be beneficial, as there *needs to be more of an ongoing conversation and training [opportunities].* Especially, as there was a sense that *the main barrier* is time, both within sessions and supervision, which curtails discussions and development in this area.

Discrepancy in Expectations of Service Provisions

Service users highlighted issues around expectations of service provisions as reasons for disengaging from the service, with several indicating that session length, the structure of

CBT, and wanting *face-to-face* as factors. Others just wanted a *space to talk*, with the CL suggesting that specific individuals' expectations of therapy may be influenced by *American Hollywood…where they're sitting on a couch and talking.*

One service user also indicated that they *were led to other things which weren't one to one therapy*, and resulted in feelings that the service *couldn't be bothered with me.* Another client felt that the severity of their needs was not being heard, and felt like they were being told to *go away and do some booklet thing.*

Therapists, on the other hand, spoke about their own expectations, and challenges, of working with interpreters. The difficulty of not having *consistent* or *clinically trained* interpreters raised concerns around what is being communicated to the client and the impact on therapeutic relationships. Staff members also explained how trying *to explain around* clinical terminology they are unsure exist in certain languages, further makes them question if it is being *translated properly.*

Meet Us Where We're At

The CL described how positive they had found *information sharing* with a clinician, reflecting how the clinician was trying to better understand how the community approaches mental health issues as well as sharing what services BTT offers. This sentiment was also reflected by clinicians, who expressed a desire to *hear from the community* more so they can be *responsive* to community needs and not work off *assumptions*.

Beyond creating a better understanding of how the community already offer support for mental health, approaching communities with a curious stance *creates a good impression…[as] they are making an effort, they've come to the mosque.*

The importance of clinicians working in the community goes further than fostering good relations with community leaders, with the CL explaining that *doing some sessions in*

the mosque or in our Community Centre…where people are comfortable…they may be more likely to access the service. This was also voiced by a service user, who suggested that more women might access support if it was at a centre where there would be fewer barriers.

Through conversations with clients and the CL, it became apparent that there are certain sub-groups that might be more difficult to reach. Factors such as age, gender and language, were indicated as potential barriers, making some groups even less likely to access support. The CL spoke of how for certain individuals, having a clinician of the same gender would mean they are *more likely to open up*. They also discussed how the *older generation* may have a *different approach, understanding* and bias towards mental health and services.

The CL also discussed how different advertising and materials, such as video or audio resources, in multiple languages could be more inclusive for individuals who are not able to communicate in English or come from different educational backgrounds. They also explained how knowing the community better, can result in more targeted approaches. They provided the example of how a large portion of their male community are taxi drivers, which could create an opportunity to increase awareness during Ramadan:

There's like a Ramadan radio and so the taxi drivers listen to that because they're on the road all the time…and in Ramadan, they won't be listening to music…so if there was messaging on there in the local language, that would be a good way of reaching out to them in Ramadan.

Need For Normalising from Within the Community

Service users explained how *isolating* and *alone* they had felt due to the *stigma* around mental health. One client explained how they *found it difficult to talk within [their] community…mosque…imam, and family* about their own mental health. Another described feeling like they were the *only South-Asian woman that goes to [BTT].*

Both service users and clinicians spoke about the positive impact of client's *knowing [they] are not alone.* They spoke to the importance of having *people within the community who have come to [BTT]* or Pakistani individuals have experienced mental health difficulties *share their experiences*, as a way to *validate,* normalise, and encourage further engagement.

Another pathway that was discussed by all three groups, was further involvement of community leaders to help raise awareness and signpost individuals. Clinicians spoke of how CLs provide an *indirect way* of accessing the community, with the CL explaining how *imams or spiritual healers* are commonly approached to discuss mental health issues. These respected figures could also provide another channel to help normalise mental health, as one clinician suggested:

A Pakistani Muslim male is going to their mosque and their hearing in Imam speak about mental health, for example, that could be so powerful…because that's someone that's a very respected figure in the community.

Discussion

The aim of this study was to evaluate the Access Project in increasing engagement Pakistani service users to BTT. The findings comparing Pakistani referrals by area demonstrated that there was no significant difference in the proportion of referrals that opted-in to assessment between HW and NHW. Further analysis demonstrated that there was no main interaction between area, year and ethnicity, indicating that the Pakistani referrals had not significantly increased in the area targeted by the Access Project (HW) from 2018 to 2023 as compared to White-British referrals.

While the data suggested that there has been a significant increase in Pakistani referrals between 2018 and 2023, the lack of a significant interaction suggests that other factors may have influenced this increase besides the Access Project. Research investigating

the impact of the COVID-19 pandemic on IAPT services found that referral and engagement rates were significantly higher following the lockdown than before (16). This is in line with literature demonstrating that mental health difficulties increased during the pandemic, and may have contributed to a general increase in referrals to BTT across the two regions and ethnicities during the pandemic (17).

However, studies have further demonstrated that individuals from ethnic minority groups were disproportionally impacted by the pandemic, with men from ethnic minorities experiencing greater increase in mental health distress (18). This has been attributed to an intersection of several factors, and resulted in individuals from this community feeling more 'alienated' with increased levels of mistrust in health systems (19,20). This may have further distinguished ethnic minorities as 'out' groups, through the lens of social identity theory (6,13). This increased separation and negative shift towards services, may have indirectly impacted the results of Access Project, and it is important that interpretations of the efficacy of the program considers the consequences of the pandemic.

Another interesting factor to consider is the significantly more referrals from health professionals in HW than in NHW for Pakistani individuals. The Access Project should explore further why this may be occurring, and consider providing support, training, or placing advertisements in GP surgeries to further increase access.

While the data does not conclusively link the impact of the Access project to increasing engagement and access, feedback from the CL and service users highlight the importance of this outreach work, reflecting the second aim of the study to hear from community voices. In particular, the CL reflections on how a key factor in building trust with BTT was due to the positive impression clinicians had made by putting in the effort to go into the community settings. Not only is this in line with the BAME PPG, but the CL further explained how they were more likely to promote BTT as a result (14) . Furthermore, it was

felt that embedding services into the community would increase comfort and thereby engagement. This theme is reflected in other literature exploring this topic, and should be explored further by not only the Access Project, but by research generally (21).

The need to normalise mental health from within the community was another key aspect discussed, as it was highlighted how isolated and different Pakistani individuals with mental health difficulties felt, creating an 'out-group' within their community. Integrating community voices raises the importance of co-production within the Access Project. Not only would it help to normalise mental health difficulties, but also ensure that materials and information around BTT is adapted and appropriate to best fit the wider community (22). The importance of prioritizing this was reflected in the differing beliefs service users had regarding service provisions. This highlights how beyond increasing awareness of mental health, services should make very clear what is offered, as if expectations are in alignment with service provisions, this may help increase engagement.

Aside from community outreach, the Access Project can continue to develop by focusing inward on clinician development. Clinicians spoke about wanting to build their confidence in discussing culture and religion with clients, to be able to enquire more about these factors during assessment and therapy. The importance of this was echoed by patients, who felt that generalisation of culture and religion can detract from therapeutic relationships, especially as some did not see its relevance in therapy. Others felt that preferable clinicians were those who were collaborative and responsive to individual differences, not only in asking about differences but also effectively implementing appropriate adaptations into therapy.

While previous staff training was found to be beneficial, interviews highlighted how practical skills and reflective practice would further this development. The effectiveness in peer role-playing on clinical skills development for mental health practitioners has been

demonstrated in the literature (23,24). While reflective practice can take on several forms, including peer discussions or written, the British Psychological Society suggests that it be promoted through supervision (25). Considered a 'central competency', reflective practice assumes that professionals learn from their clinical experiences by reflecting on them, and would improve performance in similar situations (26). While time constraints were brought forward as a barrier to explore these concepts, especially in supervision, due to the impact therapeutic relationships have on engagement in therapy, it is important that the Access Project continue to develop this stream alongside their community outreach programs (27).

A recent report outlined the continual inequalities ethnic minorities have in accessing Talking Therapies services, highlighting how further support and research is required in this area (10). The feedback and experiences from clients highlighted in this study, echo findings found in both recent and literature form nearly ten years ago(21,28). While positive changes are occurring, it is important to consider that building relationships with communities, especially those that may have negative narratives of services, takes time. While the Access Project has been actively engaging in outreach work for five years, this may not be enough time to see significant change in outcomes.

However, it also raises the question of challenging how outreach work is approached, especially that targeting increasing access and engagement, in ethnic minority groups. While continuing to build relationships and trust is key, it is important to remember that 'therapy' as a concept may be quite different from cultural norms of certain backgrounds, and that communities may approach mental health in their own effective ways (29). Learning from these communities around their mental health discourses, who individuals reach out to for help, what support is offered, and integrating this knowledge with how we can support these individuals, may result in meaningful change. Furthermore, integrating community leaders and individuals with lived experience, through co-production, would help further empower

individuals and the community (29). This in turn may help reduce stigma, not only within the community but of services, but may also continue to develop how we approach and treat mental health difficulties overall.

Limitations

One of the limitations of this study is the categorisation of area by GP surgery into either HW or NHW groups. While this method was selected to help protect anonymity of the participants, it is important to consider that the Access Project may have had a county-wide impact, and that individuals from HW and NHW may overlap, influencing the results.

Furthermore, as this study only spoke to service users who had agreed to be contacted for research purposes, this may have created selection bias, as the study was not able to contact individuals who had not accessed BTT or who had not provided consent. While speaking to patients who had already accessed the service allowed for the study to see how to improve engagement, it was not able to investigate barriers that prevented individuals from referring or accessing support from a first-hand perspective. This was also reflected in the clinicians the research heard from, as this may be because this is an area of importance to them. Finally, as only one CL partook in this study, it is hard to generalise the findings. It was hypothesised that the lack of uptake from CLs may have been influenced by world events, which resulted in spiritual leaders being unable to find time to discuss the project due to increase demands within their community to manage distress.

Conclusions

The data from Study 1 indicates that the Access Project has not significantly increased the number of Pakistani service users from HW as compared to NHW from 2018 to 2023. However, the Access Project is succeeding in building relationships with the local Pakistani community, with positive feedback from the CL and service users highlighting the

appreciation and need for continual outreach work and involvement of people with lived experience.

Recommendations

Based on the findings of this study, recommendations were made to BTT in accordance with BAME PPG, see *Table 4*. Recommendations centred around continuing community outreach, involvement of people with lived experience, production of psychoeducational resources, supporting staff through additional skill-based provisions and working with interpreters. Feedback was acquired through presentations of findings in several different service meetings.

While several different categories of recommendations were made, those falling under 'community outreach' and the 'involvement of people with lived experience' were drawn from themes reflected by many of the staff, service users, and the community leader. This strengthens the basis for this recommendation, which is also reflected in the wider literature (14,22). As only five staff members provided feedback, it is important to highlight that views influencing recommendations regarding staff provisions and working with interpreters may not be representative of the entire BTT team.

It is hoped that through the implementation of these recommendations, and general findings from this study, that the Access Project can continue to increase referrals and engagement for individuals from Pakistani communities.

Table 4

Service Recommendations and Feedback

Findings	IAPT BAME PPG	Recommendations	Service-Feedback
		Community Outreach	
Feedback from community leader about the positive impact BTT community outreach has had so far.	**Audit Tool:** **3. Improving Engagement with Service users & communities** *Workshops on mental health and accessing help are held with local BAME communities*	To continue: 1. Going to the community: visiting mosques, community centres, etc. 2. Building relationships with community leaders 3. Learning about how communities already offer support to individuals with mental health difficulties 4. Information sessions to communities about BTT a. Ideally with the same clinicians to build rapport and trust	The service was pleased with the feedback from service users and the community leader, and have already planned further outreach events and programs.
Feedback from community leader and service users about importance of targeting specific members in the community that are hard to reach/not accessing support due to barriers.	**Section 3: Engagement with Service Users and Communities** *Outreach work can use a variety of community organizations, media and formats (community radio)* *Make sure there are other routes into services besides self-referral* *Offer as much choice as possible in terms of the time and place of appointments*	Work with Community leaders to target hard to reach members: 1. Work to create spaces for therapist to deliver therapy within the community (community centres, etc.) 2. Facilitation of Women's/Men's only group in community centres 3. Use of Ramadan Radio to spread awareness of Mental health and BTT. 4. Supporting community leaders in making referrals to the service	The team was interested in pursuing advertising on specific radio channels as well as creating a clinic within the community. They are actively pursuing funding for both.
		Involvement of People with Lived Experiences	
The importance of hearing community members discussing their mental health	**Section 3: Engagement with Service Users and Communities** *It is important to hear from a variety of voices within communities in terms*	Sharing Lived Experiences 1. To invite current & past service users to share their experiences of mental health	The service agreed to ask both current and past service users if they would like to partake in sharing their experiences of

Findings	IAPT BAME PPG	Recommendations	Service-Feedback
experiences in helping reduce stigma and normalise mental health difficulties.	*of age, gender, sexuality and religious affiliation* *Outreach work can use a variety of community organizations, media and formats*	a. Either in person at events or through creation of recorded material (video or audio) 2. Sharing online materials/stories about Pakistani individuals who have experienced mental health difficulties (both on website and during outreach events).	mental health, and agreed to speak to community leaders as how best to implement this.
To ensure that community voices are consulted and participate in the development of appropriate resources.	**Audit Tool:** **3. Improving Engagement with Service users & communities** *"Participation groups involve stakeholders who reflect the ethnic composition of the population served."* *"Stakeholder groups include organisations that reflect the ethnic composition of communities served"*	Further Development of "People Bank"/Service user Working Group 1. To further develop existing "people bank" to ensure that is reflective of diversity of the BTT community, or specific ethnic minority groups. 2. Co-Production or review service materials and development with group for feedback and recommendations	While the service already has a "people bank" they felt they could utilise this further, ensuring that it represents their population. They thought about how they could create co-production teams to help provide feedback.
		Psychoeducational Resources	
Some of the discrepancies outlined from service users in expectations of service provisions were due to a lack of awareness of service structure and mental health difficulties generally.	**Section 1: Service-Level Changes to Improve Access** Reducing Barriers to Accessing Services *Make leaflets about how the service works available in community languages* *Use the Internet, social media and community media to make people aware of the help available and how to access it* **Audit Tool: 1. Improving Access** *Information leaflets are available in community languages Information leaflets have been approved by*	Development of: 1. Written material, video and audio resources translated to key different languages (Urdu, Punjabi) 2. Resources providing psychoeducation around general mental health 3. Resources explaining service provisions and structure (what is therapy) 4. Resources reviewed and/or co-produced by working group of community leaders, Pakistani service users	While the service had heard of using different formats to present psychoeducation, as well as advertise the service, they found using video material would be interesting to pursue. They also felt that creating a resource explaining what the service offers, and its pathways, would also be very helpful.

Findings	IAPT BAME PPG	Recommendations	Service-Feedback
	service user representatives from the appropriate community		
		Staff Provisions	
Staff outlined how having more practical skills training and reflection spaces to discuss working with diversity would be beneficial. They further outlined how specific resources about community beliefs and norms would be beneficial.	**Audit Tool: 2. Adapting Therapy** *100% of the clinical staff group have accessed CPD which included working with cultural diversity* *100% of the supervisors have accessed CPD which included working with cultural diversity (either therapeutically or in terms of providing supervision)* *The service has looked at whether there is a need to develop provision in specific culturally adapted therapies* *The service has shared values and practices to support the provision of culturally responsive therapies* **Section 1: Service-Level Changes to Improve Access** *Culturally Adapted and Culturally Responsive therapies*	1. Continuation of regular CPD for working with cultural diversity 2. Continue to support and encourage clinicians to be curious, receptive, and responsive about asking about culture and religion in assessments and treatments. 3. Creation of information resources with focus on awareness of Pakistani and Muslim community (beliefs, perspectives, holidays). 4. Development of Specific Skill Based Training for Staff a. Role-playing how to ask about culture and religion sensitively b. Adaptation of CBT for religion 5. Developing a space for Reflective Practice a. To continue to build confidence, cultural awareness, and discuss b. Either as separate CPD or to integrate into individual supervision	The team was pleased to hear that previous CPD had been beneficial, and are already in the process of developing further training. They felt that the integration of skill-based training would be beneficial. However, they felt that reflective practice should be conducted during individual supervision, and thought about how this could be managed with time constraints. It was agreed that this would be taken to supervision training, and be discussed as to how best implement this.
		Working with Interpreters	
Clinicians reported how difficulties with interpreter consistency, translations, and mental health training can impact patient care	***Audit Tool:*** ***2.* Adapting Therapy** *The service has a coherent policy for working with interpreters*	1. To remind staff/interpreter service: a. That interpreters have mental health sensitivity training	The service was surprised that staff had brought up difficulties with working with interpreters, as a protocol already exists regarding how to raise issues. It was felt that raising awareness of

Findings	IAPT BAME PPG	Recommendations	Service-Feedback
and therapeutic relationships.	*There is training in basic principles of mental health and self-care available to interpreters Interpreters are adequately prepared for the session before the appointment starts and have the opportunity for debriefing*	b. Interpreters can be booked in advanced (for consistency if interpreter throughout therapy sessions) c. Interpreters are asked to set aside time prior and following an appointment for preparation and debriefing of session 2. To routinely remind staff the recommended guidelines and service policy regarding working with interpreters, including: a. Preparing and debriefing interpreters for individual appointments b. Booking interpreters in advanced (for consistency of interpreter throughout therapy sessions) 3. To create document outlining how to escalate issue regarding working with an interpreter/interpreter service, and to make this easily accessible for all clinicians. 4. Development of system where staff are able to document difficulties with interpreters that impact patient care (but does not require escalation) a. Information/reports to be reviewed on annual basis and action points made based on reports 5. Supporting staff in developing and describing how mental health can be described in different ways. a. Development of a resource oh how depression or anxiety can de described in different languages (phrases, common words, etc.)	how to escalate difficulties, and creating easier channels to do so, would be beneficial for the team.

References

1. Baker C. Mental Health Statistics (England) [Internet]. 2021 [cited 2022 May 15]. Available from: https://researchbriefings.files.parliament.uk/documents/SN06988/SN06988.pdf
2. McManus S, Bebbington P, Jenkins R, Brugha T. Mental healthand wellbeing in England: Adult psychiatric morbidity survey 2014. [Internet]. 2016. Available from: https://webarchive.nationalarchives.gov.uk/ukgwa/20180328140249/http://digital.nhs.uk/catalogue/PUB21748
3. McDaid D, Park AL, Davidson G, John A, Knifton L, Morton A, et al. Mental Health Foundation Shari McDaid, Mental Health Foundation, Mental Health Foundation Naomi Wilson. Mental Health Foundation. 2022 Feb; 1-33.
4. Ahmad G, Mcmanus S, Cooper C, Hatch SL, Das-Munshi J. Prevalence of common mental disorders and treatment receipt for people from ethnic minority backgrounds in England: repeated cross-sectional surveys of the general population in 2007 and 2014. The British Journal of Psychiatry. 2021;1–8.
5. Wallace S, Nazroo J, Bécares L. Cumulative effect of racial discrimination on the mental health of ethnic minorities in the United Kingdom. Am J Public Health. 2016 Jul 1;106(7):1294–300.
6. Hatch SL, Gazard B, Williams DR, Frissa S, Goodwin L, Selcoh Study Team, et al. Discrimination and common mental disorder among migrant and ethnic groups: findings from a South East London Community sample. Soc Psychiatry Psychiatr Epidemiol. 2016;51:689–701.
7. Clark DM. Implementing NICE guidelines for the psychological treatment of depression and anxiety disorders: The IAPT experience. http://dx.doi.org/103109/095402612011606803. 2011 Aug;23(4):318–27.
8. Clark DM, Layard R, Smithies R, Richards DA, Suckling R, Wright B. Improving access to psychological therapy: Initial evaluation of two UK demonstration sites. Behaviour Research and Therapy. 2009 Nov 1;47(11):910–20.
9. Parry G, Barkham M, Brazier J, Dent-Brown K, Hardy G, Kendrick T, et al. An evaluation of a new service model: Improving Access to Psychological Therapies demonstration sites 2006-2009. 2011.
10. Collaborating Centre for Mental Health N. Ethnic Inequalities in Improving Access to Psychological Therapies (IAPT) Full report. 2023.

11. Harwood H, Rhead R, Chui Z, Bakolis I, Connor L, Gazard B, et al. Variations by ethnicity in referral and treatment pathways for IAPT service users in South London. Psychol Med. 2021; 53(3): 1084-1095.
12. Kapadia D, Zhang J, Salway S, Nazroo J, Booth A, Villarroel-Williams N, et al. Ethnic Inequalities in Healthcare: A Rapid Evidence Review. 2022.
13. Tajfel H, Billig G, Bundy R, Flament C. Social categorization and intergroup behaviour. Eur J Soc Psychol. 1971;1(2):149–78.
14. Beck A, Naz S, Brooks M, Jankowska M. Improving Access to Psychological Therapies (IAPT): Black, Asian and Minority Ethnic Service User Postice Practice Guide. 2019.
15. Braun V, Clarke V. One size fits all? What counts as quality practice in (reflexive) thematic analysis? https://doi.org/101080/1478088720201769238. 2020;18(3):328–52.
16. Verbist IL, Fabian H, Huey D, Brooks H, Lovell K, Blakemore A. Exploring access and engagement with Improving Access to Psychological Therapies (IAPT) services, before, during, and after the COVID-19 lockdown: A service evaluation in the Northwest of England. Psychotherapy Research. 2024;34(2):216–27.
17. Pierce M, Hope H, Ford T, Hatch S, Hotopf M, John A, et al. Mental health before and during the COVID-19 pandemic: a longitudinal probability sample survey of the UK population. Lancet Psychiatry. 2020 Oct 1;7(10):883–92.
18. Proto E, Quintana-Domeque C. COVID-19 and Mental Health Deterioration among BAME Groups in the UK. 2020; 16(1).
19. Katikireddi SV, Hainey KJ, Beale S. The impact of COVID-19 on different population subgroups: ethnic, gender and age-related disadvantage. J R Coll Physicians Edinb. 2021;51(S1):S40–6.
20. Vandrevala T, Hendy J, Hanson K, Alidu L, Ala A. Unpacking COVID-19 and conspiracy theories in the UK black community. Br J Health Psychol. 2023 May 1;28(2):482–98.
21. Yasmin-Qureshi S, Ledwith S. Beyond the barriers: South Asian Women's Experience of accessing and receiving psychological therapy in primary care. J Public Ment Health. 2021 Apr 1;20(1):3–14.
22. Burgess RA, Choudary N. Time is on our side: operationalising 'phase zero' in coproduction of mental health services for marginalised and underserved populations in London. International Journal of Public Administration. 2021 Jul 4;44(9):753–66.

23. Gryglewicz K, Monahan MM, Chen JI, Bozzay M, Bender A, Gleason LDL, et al. Examining the effects of role play practice in enhancing clinical skills to assess and manage suicide risk. J Ment Health. 2020 Sep 2;29(5):549-557.
24. Xu L, Liu W, Jiang X, Li Y. Impact of using peer role-playing on the clinical skills performance of pediatric trainees. BMC Med Educ. 2023 Dec 1;23(1):1–5.
25. The British Psychological Society. Practice Guidelines, Third Edition. Leicester; 2017 Aug.
26. Lilienfeld SO, Basterfield C. Reflective practice in clinical psychology: Reflections from basic psychological science. Clinical Psychology: Science and Practice. 2020 Dec 1;27(4).
27. Stubbe DE. The Therapeutic Alliance: The Fundamental Element of Psychotherapy. Focus: Journal of Life Long Learning in Psychiatry. 2018 Oct;16(4):402.
28. Loewenthal D, Mohamed A, Mukhopadhyay S, Ganesh K, Thomas R. Reducing the barriers to accessing psychological therapies for Bengali, Urdu, Tamil and Somali communities in the UK:: some implications for training, policy and practice. Br J Guid Counc [Internet]. 2012 Feb [cited 2024 May 20];40(1):43–66. Available from: https://pure.roehampton.ac.uk/portal/en/publications/reducing-the-barriers-to-accessing-psychological-therapies-for-be
29. Bansal N, Karlsen S, Sashidharan SP, Cohen R, Chew-Graham CA, Malpass A. Understanding ethnic inequalities in mental healthcare in the UK: A meta-ethnography. PLoS Med. 2022 Dec 1;19(12).

Theoretically Driven Research Project

"A Crisis Point": The relationship between Perceived Stress, Alexithymia and Coping Strategies in Young People with Functional Tic-Like Behaviours

Tanya Graham

Oxford Institute of Clinical Psychology Training and Research, Division of Medical Sciences, University of Oxford, Oxford, United Kingdom

Word Count: 5398

Submission Date: May 2024

Internal Supervisors: Dr Fiona McFarlane, Dr Neil Carrigan

Proposed Journal: Clinical Child Psychology and Psychiatry

A peer-review journal that focuses on topics in line with this paper and has published articles related to this topic.

Abstract

Aim: A sudden increase in functional tic-like behaviours (FTLBs) was reported in females aged between 13-25 during the COVID-19 pandemic. Due to the limited research in this area, and in line with current functional disorder literature, the current study aimed to explore how coping strategies, alexithymia and perceived stress of the pandemic differ between individuals with FTLBs and controls, and how these factors influence tic presentation.

Method: Through an online survey, 96 individuals with FTLBs were compared to 91 controls on measures exploring coping strategies, alexithymia and perceived stress. Individuals with FLTBs also completed a questionnaire exploring tic severity, and optional free-text response questions regarding their views on factors that influenced their tic onset and expression, including social media and the pandemic.

Results: Compared to controls, individuals with FTLBs utilised significantly more maladaptive coping strategies and fewer adaptive coping strategies. They also reported significantly more alexithymia characteristics and greater levels of perceived stress of the pandemic. Within the FTLBs cohort, perceived stress of the pandemic and maladaptive coping strategies were significant predictors of tic severity. Thematic analysis was conducted by question, revealing several themes including *culmination of stress* and *you can't catch tics.*

Discussion: Implications of these findings on the understanding of FTLBs and the impact of stress during a sensitive developmental period, as well as limitations of the study, were discussed.

Introduction

Since the beginning of the COVID-19 pandemic, there has been a marked global increase in the presentations of sudden-onset, complex, motor, and vocal tic-like behaviours (1). This “parallel pandemic” is almost exclusively in adolescent and young adult females, with the severity of these tic-like behaviours resulting in hospital admissions and drastic disruptions to the individual’s functioning (1,2).

The aetiology of these behaviour is not well understood, with some clinicians reporting stark clinical differences from Tourette Syndrome (TS), others arguing symptom overlap, but most of the literature hypothesizing that it is a functional neurological disorder (FND) (2,3). As a result, these behaviours have been referred to as Functional Tic-Like Behaviors (FTLBs), with current evidence reporting atypical treatment responses from small sample observational studies (4,5). In 2022, an international body agreed on the three main criteria for a clinical diagnosis of FTLBs: age of onset, rapid evolution of symptoms, and phenomenology (6).

While the underpinning mechanisms are unclear, the FTLBs hypothesis is supported by the strong association between perceived threat and psychological stressors with FTLBs impairment and severity, indicating their importance to the propagation and expression of these tics (5,7,8). This mirrors current FND aetiology understanding, as it has been suggested that traumatic events could precipitate FND, with negative perceptions of stressful events described as crucial in their development (7).

COVID-19, and pandemics more generally, have been established as ‘traumatic experiences’, even when experienced indirectly (9). One hypothesis for the increasing prevalence of FTLBs is the perceived stress and threat of the pandemic (4). It is well documented that adolescents were more vulnerable to experiencing stress, anxiety, and

depression during Covid-19, including those with no history of mental health difficulties (10,11). It has been suggested that the lack of social interaction (exacerbated by repeated lockdowns), increased interpersonal stress, and developing emotional regulatory system, put young people between the ages of 10-24 at a greater risk of developing mental health disorders (12,13). This stress may have unmasked a tic predisposition or compounded existing vulnerabilities or emotional difficulties, to the point of being overwhelming (1).

Lazarus and Folkman's (14) Transactional Model of Stress states that psychological stress experienced by an individual depends on both the appraisal of the situation and whether the demands of the event exceed the resources available to cope (14). This transaction between the person and environment begins with the evaluation of the stressor, followed by the individual's resources to overcome the event; referred to as primary and secondary appraisals (15). Following this assessment, and the perception of how changeable the situation is, either problem-focused or emotion-focused coping strategies are employed (16). The effectiveness of the strategies implemented impacts the overall stress experienced, and are categorized as adaptive or maladaptive. The appraisal of COVID-19 as a threat, coupled with the impact of the pandemic on developmental and social resources available, may have negatively impacted young peoples' coping styles and perception of their ability to cope.

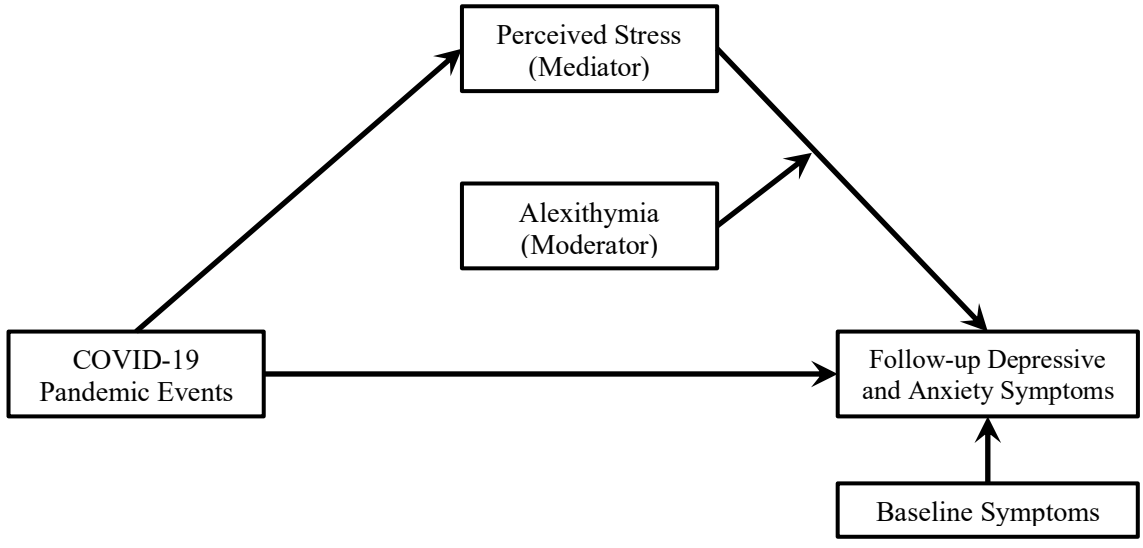
Somatic experiences of stress may also impact the coping style utilized by the adolescent, and their perception of both the threat and coping ability, with physiological responses following a traumatic event a potential precipitating factor to FNDs (17). It is therefore hypothesized that those with elevated levels of stress, due to high perceived threat of the pandemic, and poor coping would have been at greater risk of developing a functional condition (18,19).

Stress-Alexithymia Hypothesis

The impact of experiencing a stressful or traumatic event may be moderated by individual characteristics (20,21). One such factor is alexithymia, or the difficulty in identifying and expressing emotions, which has been consistently associated with stress-related disorders (22). This has resulted in the stress-alexithymia hypothesis, which states that a lack of emotional awareness can lead to infective coping strategies, prolonging the exposure to the stressor and increasing the risk of mental health difficulties (23). This association has not only been established with a variety of mental health disorders, but has also been found in FNDs, with individuals affected by functional motor symptoms significantly more likely to have alexithymia characteristics than controls (24,25). An association between alexithymia, poor resilience, and perceived stress has also been found in adults with FNDs (26,27).

Li and colleagues (28) demonstrated that alexithymia moderated the perceived stress mediated relationship between COVID-19 and mental health changes in adults, see *Figure 1*. However, this model does not include the influence of individual coping strategies, and it remains unclear how alexithymia interacts with perceived stress to predict the impact of stressful events on FTLBs presentation in young people.

Figure 1.
Conditional Process Model (Li et al., (30))



Social Media

Research indicates that perceived stress and coping not only predict FND, but mental health difficulties more generally (25). The question of why some develop FTLBs as opposed to other mental health disorders remains (25). Researchers have suggested that the similarity in tic behaviours across the globe is a result of social modelling through online platforms (29). It has been clinically reported that some individuals with FTLBs not only disclose viewing tic-related content on social media, but that their tic presentations mirror social media influencers' (30). Through platforms like TikTok, individuals have shared their tic presentations and stories, but these tics have been described as differing from typical TS presentations, having greater similarity with FTLBs, including female predominance (29).

The association between FTLBs and social media is controversial, with some authors citing 'mass sociogenic illness' but both the FTLBs and TS communities responding negatively to this narrative (31,32). While evidence suggests that exposure to patterns of movements serve as a disease-modelling mechanism, with individuals with other functional movement disorders more likely to have friends or family with phenotypically similar movements, the relationship is not well understood (31,33–35). This suggests that exposure to tic-like behaviours on social media may function as a trigger or exacerbate symptoms in those who are already vulnerable to the development of FNDs. However, it is important to understand the views of individuals themselves with FTLBs on these mechanisms.

Aims & Hypothesis

As there is little research into FTLBs, and FND more broadly, this study aimed to investigate potential mechanisms and vulnerability factors that may have precipitated the recent increased onset of FTLBs in young people. Given the literature suggesting the influence of perceived stress, alexithymia and coping strategies, this paper hypothesized that

these factors would differ between individuals with FTLBs and controls. Specifically, it hypothesized that individuals with FTLBs would:

- demonstrate higher levels of perceived stress relating to COVID-19
- utilize more maladaptive and fewer adaptative coping techniques
- have higher levels of alexithymia

Furthermore, this study hypothesized that alexithymia, coping strategies and perceived stress would predict tic severity within the FTLB cohort.

This study also aimed to gain an understanding of what individuals with FLTBs believe caused and influences their tics.

Methods

Design

This study utilized a cross-sectional, mixed-methods design. Data was collected between November 2023 to April 2024. Ethical approval was obtained from the University of Oxford Central University Research Ethics Committee (R87565/RE003).

Participants

The majority of participants were recruited online through paid advertisements placed on social media, specifically Instagram, Facebook and TikTok. Through advertisement targeting features on the different social media platforms, advertisements were designed to target individuals between the ages of 13-25 and who live in the United Kingdom. Individuals for the FTLBs cohort were also recruited through advertisements on Tourette's Action, a charity organization, on their website and monthly newsletter.

Participants were included if they were between the age of 13-25 years-old, lived in the United Kingdom, had access to the internet, and were able to communicate in English. To

be eligible for the FTLB cohort, participants had to self-report experiencing sudden onset of tics since March 2020. For the control group, participants had to report no experiences of functional disorders, tics, or tic-like behaviours. Participants were excluded if they had had a diagnosis of a severe mental health disorder or had been kept overnight in hospital for their mental health, other than tic-related admissions (26,29,38).

Measures

Demographic & Screening Information

Demographic information regarding gender, ethnicity, age, and country of residency was collected. Screening questions were developed by researchers to reflect inclusion criteria and were used to define the two cohorts: FTLBs and controls, see *Appendix 3.2*.

Questionnaires

For an overview of all four measures used in this study, along with psychometric properties, see *Table 1*.

Table 1

Questionnaires Utilized in Data Collection

Measure	Description & Psychometric Properties
The Motor Tic, Obsessions and compulsions, Vocal tic Evaluation Survey (MOVES) (Gaffney et al. (36)**)**	The MOVES is a self-report scale for TS severity and has been validated in people from 12 years of age and older (37,38). The measure contains 20 questions describing five domains: motor tics, compulsivity, vocal tics, other tic symptoms (complex tics) and obsessionality. The measure uses a 4-point Likert scale to capture the presence of and frequency of a range of common tics, obsessions, and compulsions experienced by individuals with FTLBs. The MOVES correlated significantly with examiner-rated scales (the Yale Global Tic Severity Scale, considered the gold standard measure), has no cut-off score regarding severity, and has demonstrated good reliability, validity, and sensitivity (39). Cronbach's alpha for the MOVES was .91.
The Toronto Alexithymia Scale – Adapted (TAS-A) (Bagby et al. (40)**)**	The Toronto Alexithymia Scale (TAS-20) is one of the most widely used self-report measures for alexithymia. It uses a 5-point Likert scale and is compiled of three subscales, Difficulty Describing Feelings, Difficulty Identifying Feeling and Externally-Oriented Thinking (EOT)(41). This study uses the amended version for adolescents, which does not include the Externally-Oriented-Thinking 8-question subscale. The adapted version of the TAS, with a total of 16 questions, has been demonstrated to be valid and

	reliable in those under 18, as it allows for more homogeneity of the measured concept, with the remaining two factors better representing the presentation of alexithymia in adolescents (42). The TAS-A was found to be highly reliable (α = .90).
Perceived Stress Scale-12 (PSS-12). (Eubank et al. (43)**)**	An adapted version of the original Perceived Stress Scale (PSS), the PSS-12 includes 9 of the original 10 questions measuring general stress, as well as 3 questions from the Impact of Events Scale, which measures retrospective stress from a specific event. The PSS-12 was developed as a tool to measure the impact of the COVID-19 pandemic and has been validated in recent research (43). Both scales that make up the PSS-12 have independently been validated in the literature, including investigations into adult and young people's mental health. The self-report measure generates one overall score measuring stress, and utilizes a 5-point Likert Scale to determine the degree to which the respondent relates to each statement. The measure was found to be highly reliable (α = .90).
The Measure of Adolescent Coping Strategies (MACS) (Sveinbjornsdottir & Thorsteinsson, (44)	The MACS is a 34-item questionnaire which measures coping on two dimensions: maladaptive coping response (MACS-M) and adaptive coping response (MACS-A). The measure uses a 4-point Likert scale to measure whether the participant would use the described coping strategy in stressful or demanding situations (44). The MACS has demonstrated good validity and reliability, greater than other adolescent coping scales, and stems from Lazarus and Folkman's (1984) two-factor coping mechanisms (44,45). Cronbach's alpha for the 12-item maladaptive and the 22-item adaptative items were .79 and .80, respectively.

Free-Response Questions

Four free-response questions were developed through consultation with people with lived experiences of FTLBs. Questions explored participants' understanding of their tics onset, factors that influence their presentation, views on social media, and relationship to COVID-19, see *Appendix 3.3.*

Patient and Public Involvement

Three lived-experience advisors consulted on the study's research questions, free-response questions, consent and information sheets. All individuals were above 18 years-old and were compensated for their time.

Procedure

Through the online platform Qualtrics, participants indicated their age, and provided age-appropriate informed consent, with under 16's requiring guardian consent. All participant information was anonymous.

Demographic and screening questions placed participants into either control or FTLB groups. Participants who did not meet inclusion criteria, were redirected to a debrief page and asked to exit the survey. All eligible participants completed three measures: MACS, TAS-A, PSS-12. Individuals in the FTLB cohort also provided information regarding their FTLB presentation, completed the MOVES, and were presented with optional free-response questions.

On completion, participants were provided with an age appropriate debrief page with additional contact information if they required further support.

Sample Size

A priori power analysis was conducted using an alpha level of .05 and power of .90 to determine that a total sample size of 176 participants would be required to detect a medium effect size, in line with previous literature investigating FNDs and TS (24,27,28).

Data Analysis

Quantitative Data

Analysis for this study was performed using IMB SPSS Statistics (Version 27). Normal distribution of data was visually inspected through histograms and the Shapiro-Wilk test for all groups, with non-parametric tests utilized when z-sores calculations indicated non-normal distributions. Differences between groups were also examined using Chi-Squares and

independent sample t-tests. Levene's test of homogeneity was examined for all t-tests, with Welsch's t-test utilized if unequal variances were demonstrated.

To examine the relationship between coping strategies, alexithymia, and perceived stress on tic severity within the FTLBs group, a multiple regression was utilized.

Qualitative Data

An inductive thematic analysis was conducted using NVivo 14. Analysis followed Braun and Clarke's (46,47) recommended six-step process, with the lead author reading each response several times before beginning initial coding and theme generation. Codes were reviewed by research supervisors, and refined to ensure coherence, see Appendix 3.4 for thematic analysis process (48). While a constructionist approach was utilised in steps one through five, during phase six of the process it was agreed to deviate from this lens and include the number of participants that had contributed to each theme. This quasi-frequentist position was taken to emphasise the young peoples' perspectives and voices.

Results

Demographics

96 individuals with FTLB and 91 controls completed the online questionnaire, see *Table 2* for demographic data.

To explore group differences between gender and ethnicity, 'prefer not to say' was exclude from gender analysis, while individuals who identified as 'White' were compared to all other identified ethnicities. There were no significant differences between gender $\chi 2$ (2)=8.13, p=.017, or ethnicity $\chi 2$ (1)=4.14, p=.042.

A Mann-Whitney U test run to explore differences in age between groups found a small but significant difference U= 2984.00, z= -3.77, p<.001. However, the absolute

difference between groups was small (see *Table* 2), and hence was not controlled for in later analysis.

Within the FTLBs cohort, 26% self-reported they had a diagnosis, with "Tourette's" the most common.

Table 2

Demographic Data

Variable	FTLB n = 96	Control n = 91
Gender		
Male	7	11
Female	56	68
Non-Binary	26	11
Prefer Not to Say	7	1
Ethnicity		
White	83	68
Black/African/Caribbean/Black British	4	1
Asian/Asian British	4	15
Mixed/Multiple Ethnic Groups	3	6
Other	2	1
Age		
Median	17	18
Range	13-24	13-25
Diagnosis		
No	76	
Yes	20	
Tourette's	8	
Functional Tics	5	
Chronic Tic Disorder	1	
Complex Tic Disorder	3	
Motor Tic Disorder	1	
Tourette's & FND	2	

Group Differences

Visual inspection of means and standard deviations indicated that compared to controls, the FTLBs cohort had higher scores on all measures except the MACS-A, see *Table 3*. For further descriptive statistics of measure subscales, see *Appendix 3.5.*

Table 3

Measures Mean (Standard Deviation) by Group

Variable	Mean (SD)	
	FTLBs	Controls
Adaptative Coping (MACS-A)**	23.45 (6.64)	27.62 (9.93)
Maladaptive Coping (MACS-M)**	17.54(5.86)	14.19 (5.43)
Alexithymia (TAS-A)**	46.05 (7.95)	37.20 (9.66)
Perceived-Stress (PSS-12)**	34.58 (7.03)	25.60 (9.65)
Tic Severity (MOVES)	26.9 (11.580)	

Note. **group comparisons significant at $p<.001$.

An independent samples t-test indicated that the FTLB cohort utilized significantly more maladaptive coping strategies than controls, $t(185)= -4.05$, $p<.001, d =.59$

A Welch t-test was utilized to determine group differences in adaptive coping styles between FTLBs and controls, as Levene's Test of Equality of Variances was significant. The control group reported using more adaptative coping styles than FTLBs group, $t(155.93)=3.36$, $p<.001$, $d=.49$.

A Mann-Whitney U test demonstrated that alexithymia scores were significantly higher in the FTLBs cohort (Mdn=48) than in controls (Mdn=38), $U= 6621$, $z= 6.09$, $p<.001$, $r =.45$. A separate Mann-Whitney U test indicated that FTLBs individuals had significantly higher scores on the PSS-12 (Mdn=36) compared to controls (Mdn=25), $U= 6728.50$, $z= 6.39$, $p<.001$, $r =.47$.

Multiple Regression

A multiple regression was run to predict tic severity from perceived stress, alexithymia, maladaptive and adaptative coping styles. Assumptions of normality, linearity and homoscascity were confirmed, with no evidence of multicollinearity.

The overall multiple regression model statistically significantly predicted MOVES scores, $F(4,91)=18.618$, $p<.001$, *adj.* $R^2=0.43$. The MACS-M and PSS-12 were the only statistically significantly predictors, $p<.001$ and $p=.004$ respectively. See *Table 4* for regression coefficients and standard errors.

Table 4

Multiple regression results for Tic Severity (MOVES)

MOVES Total (Tic Severity)	*B*	95% CI for *B*		*SE B*	β	R^2	ΔR^2
		LL	UL				
Model						.45	.43**
Constant	-16.37	-29.33	-3.42	6.52			
MACS-A	.274	.001	.547	.14	.16		
MACS-M	.789**	.426	1.15	.18	.40**		
TAS-A	.168	-.086	.423	.13	.12		
PSS -12	.441*	.146	.735	.15	.27*		

Note. Model = "Enter" method in SPSS Statistics; *B* =unstandardized regression coefficient; CI= confidence interval; LL = lower limit; UL= upper limit; SE B = standard error of the coefficient; β = standardized coefficient; R^2 = coefficient of determination; ΔR^2 = adjusted R^2.
*p<.05. **p<.001

Qualitative Analysis

All 96 participants in the FTLB group completed all four free-response questions. Themes and subthemes were identified by question, see *Figure 2*. Direct quotes are italicised below, with additional illustrative quotes in *Appendix 3.6.*

Figure 2

Themes and Subthemes

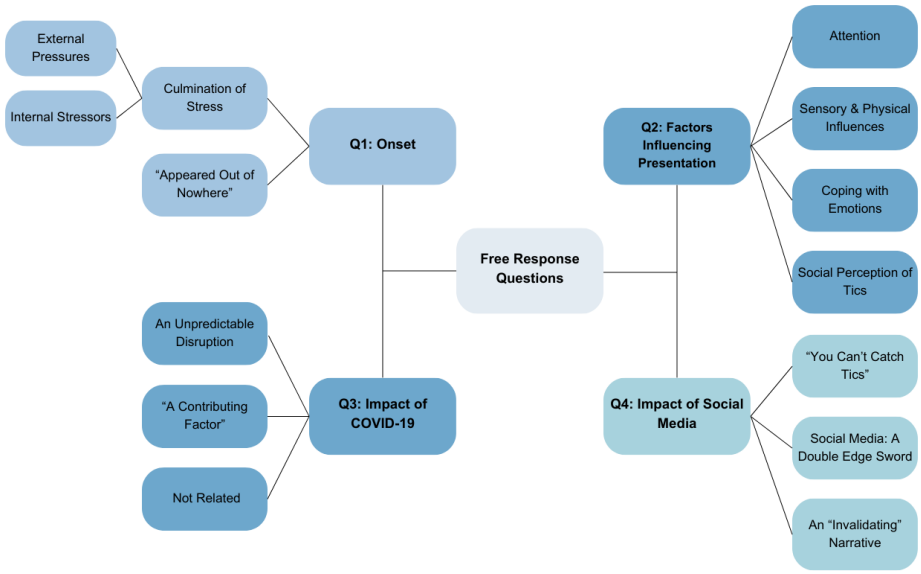


Table 5

Free Response Questions Word Count

Question	Median	Interquartile Range (Q1 - Q3)
Question 1	**17**	**4 – 29.75**
Question 2	**12**	**7 – 22.75**
Question 3	**14**	**6.25 – 31**
Question 4	**24.5**	**13 – 45.5**

Q1: What thoughts do you have about what started or caused your tics?

Culmination of Stress

Thirty-four responses directly stated *stress* in their answers, whilst another thirty-six did not directly use the term but spoke about how different types of experiences, which could be perceived as stressful, impacted the onset of their tics.

Individuals linked tic onset to major life events and transitions, including bereavement, relationships, moving away from or back home, starting university, and *growing up.* Others explained their tics originating from specific stressors, such as exams and bullying.

Some young people reflected how their tics were related to the pandemic, naming lockdowns as the cause. Specific aspects of the lockdown, including being isolated, the first lockdown ending, and transitioning back into in-person school were highlighted by eleven participants.

Others reflected how they had a *hard time during the lockdowns*, and named *anxiety that was caused by the pandemic* as a potential causal factor. One individual reflected how they *did not have any of the things [they] relied heavily on for [their] well-being…which made [it] worse.*

Common mental health difficulties, historic or associated with the pandemic, alongside deliberate self-harm, suicidal ideation, and difficulties processing thoughts and emotions were also listed as contributing to their tic onset:

"My mental health was not very good at the time (I was very anxious and overwhelmed) and I was not being very open about it. It was almost as if my brain needed a way to release the tension building up on the inside."

Neurodivergence was discussed as another influential factor. Several young people spoke about how their autism spectrum disorder had impacted onset, with some reflecting that their tics started as *suppressing autistic stims* and coincided with the removal of specialised support at school due to COVID-19. Five participants noted that they may have had tics in childhood, but that these did not *fully develop* until they reached adolescence. Three individuals linked tic onset with starting sertraline.

Some respondents went further and discussed how these stressors interact, especially within the context of the COVID-19 pandemic. Young people highlighted how a culmination of multiple different stressors, including external and internal factors, influenced their tic onset:

"Stress relating to personal life, specifically during and after doing GCSEs and leaving school and after a really bad breakup".

Appeared out of Nowhere

Thirteen young people were unsure about what caused their tics, most simply stating they didn't know as they *randomly started*.

Q2: Have you noticed anything that makes your tics better or worse?

Attention

The majority of young people commented on how thinking, talking, or *paying attention* to their tics *makes them worse*. This included *seeing other people tic*, including *other people making similar repetitive movements*, and trying to suppress them.

Many commented that *concentrating on something* or being *distracted with something that makes [them] happy* or calm, made their tics better. Hobbies such as drawing, listening to music, physical activities, reading, and singing were all listed as helping manage tics.

Coping with Emotions

Young people further linked *intense emotions*, such as anger, excitement, or feeling *overwhelmed* as *making [tics] harder to control.* Nearly half the responses spoke of how stress, either in response to a specific situation or generally, resulted in their tics worsening.

In contrast, *healthy coping strategies to handle…overall mental health,* including *time management* was listed as helping improve tics. Learning alternative coping strategies was described by a few as having an indirect effect on tic severity, e.g. one young person reflected that working *on emotional regulation helps with the unconscious responses to stress [they] feel.*

Sensory & Physical Influences

Sensory *overstimulation*, including loud noises, lighting, temperature (especially the cold) or generally feeling *uncomfortable* was a common shared factor that made tics worse (n=29). Other factors that impact how participants interact with their environment, such as tiredness, illness, pain, alcohol, and caffeine were also mentioned in increasing tics (n=28).

In contrast, *feeling comfortable,* being in a calming environment*,* less sensory input*,* and relaxing*,* improved tics. Physical pressure, such as weighted blankets*,* hugging people, or holding pets, were named helping reduce tics.

Social Perceptions of Tics

Social situations, with *lots of people* or certain individuals who made participants more self-aware, were noted to make tics *more consistent*. Environments where they were *worried about other people seeing them,* or *drawing attention* made tics worse, with one person explaining they worry *what others may be thinking about them.*

Being alone, or *around trusted people,* was noted as positively impacting frequency, as was *getting more comfortable around people.*

Q3: A lot of young people developed sudden onset tics during the COVID-19 pandemic. Some researchers wonder if the pandemic or lockdowns had something to do with this. Do you think anything about the pandemic caused your tics?

An Unpredictable Disruption

The majority of participants attributed *increased emotions and stress* from the *unpredictability* surrounding COVID-19 as the source of their tics. The frequent changes, *loss of routine* and *not being able to…control what was going on*, left individuals *extremely stressed* during the pandemic.

Lockdowns were reported to have *massively increased* stress, *as life [was] disrupted*. Not only was the isolation felt during the pandemic cited as a causal factor but as was *being released back into the world again* following lockdowns ending, with *the sudden expectation to fully socialise again.*

Alongside other factors, two participants wondered whether being unwell with COVID-19 may have physically influenced their tic onset.

"A Contributing Factor"

Other individuals attributed stress, directly or indirectly related to the pandemic, as an *influential* factor*,* making their tics worse or *more frequent* and preventing them from learning *how to deal with [their] emotions*, but not the only cause of their FTLBs*.* As one person explained:

While the pandemic did not cause me new issues it caused a crisis point in my pre-existing problems.

However, seventeen participants did not feel the pandemic contributed to their sudden onset tics. Responses ranged from individuals acknowledging the stress of the pandemic but not seeing the connection to their tics, to others stating there was no connection*.*

Q4: Other researchers are wondering if viewing tics on social media might influence tics. What are your opinions about this?

"You Can't Catch Tics"

Forty-two participants shared the sentiment that *you can't catch tics* and did not agree that *social media causes tics.* Eighteen young people reflected how their *tics started before [they] started watching videos* on social media, with some not having access to social media at all prior to their onset, and one never having *seen anyone tic in [their] life before.*

Most participants expressed that onset is *more complex than just social media* influence, linking the online platforms in drawing *awareness* and *exacerbating* tic presentations rather than developing tics.

Social Media: A Double Edge Sword

Individuals spoke about positive aspects of social media as it had *helped* them to see that they were *not alone*. Others spoke about how they *wouldn't have been able to cope at all if it wasn't for social media,* as it helped normalize their experience and was a source of information.

In contrast to the above theme, four individuals did attribute social media as one of the reasons they developed tics, as they *constantly viewed them on social media due to following influencers,* with another linking their onset to *imitating* streamers tics.

However, it was more commonly reflected that watching tic-related videos on social media *made [tics] worse*. This was a shared observation, as eighteen individuals noticed *watching others tic can trigger my own* and increase the frequency of their tics. Twelve others acknowledged how viewing others tic can *influence their own tic* presentation, resulting in *tic swapping*, and actively avoid watching tic-related content on social media platforms.

Interacting on social media generally, even with non-tic-related content, was reported to negatively impact tic expression, as *reducing social media in general also helped…particularly watching less short form videos (TikTok/Instagram reels).*

An *"Invalidating"* Narrative

A recurrent thread amongst participant's responses to this question was how this narrative *really damages the concept of functional tics…and is completely disrespectful to*

those facing them. This *stereotype* was felt to be *invalidating*, creating a *negative view on young people* with FTLBs, and increasing *stigma* and *judgment.* One person reflected how this narrative has negatively impacted them seeking support for their tics:

"it's also the reason I haven't sought help. I worry I will be dismissed as just another young "girl" (I'm afab) who "caught tics from TikTok" and is "faking it".”

Others described how they felt some individuals on social media had faked their tics, but did not feel the *responsibility* lay with influencers, and felt that research needs to *think about WHY young people might be doing that, rather than being critical of [it].* One young person further felt:

...to soley blame social media is in my opinion an escape route and easy way out for people to avoid talking and helping this influx of teenagers with these disorders.

Discussion

This study aimed to investigate the role of perceived stress, alexithymia, and coping strategies in young people with FTLBs. As hypothesized, the FTLBs group had higher levels of perceived stress, more alexithymia characteristics, and utilized more maladaptive and fewer adaptive coping strategies than controls. Within the FTLBs cohort, maladaptive coping and perceived stress were significant predictors of tic severity.

These findings highlight the role perceived stress, either caused or exacerbated by the COVID-19 pandemic, and maladaptive coping strategies has had on the presentation of

FTLBs. While this relationship needs further exploration, these findings align with Lazarus and Folkman's (14) model, as these young people's experiences of stress may have interacted with their appraisal of the situation, influencing the resources they had available to cope.

Adolescence, defined as ages ranging from 10-24, is described as a period of maturing social and cognitive development, where individuals widen their repertoire of coping strategies and refine processes from social modelling (49,50). Evidence suggests that difficulties in social interactions (including peer rejection and loneliness), act as risk factors for affective conditions in adolescents (51). The enforced social distancing and reduction in social contact with peers during the pandemic, may have negatively influenced not only the availability of strategies the young people relied upon on before, but also impacted social and behavioural development during this sensitive period (50). This may have left individuals in this age group more vulnerable to process and cope with future stressors. This hypothesis was supported by the participants in this study, who reported utilizing more maladaptive strategies, and linked their tics to the isolation and sudden expectations of returning to normal following the lockdowns. This is also echoed in the findings from a large population-based cohort study, that found the highest incidence of tics were reported after the end of the 3rd lockdown in the UK (52).

Seventy young people with FTLBs stated how interpersonal or intrapersonal stressors impacted the onset of their tics, and with the suggestion that perceived stress may impact effectiveness of coping styles, this may have resulted in extended exposure to stress (53). While this requires further investigation, it mirrors clinical anecdotes that have hypothesized the increase threat and perceived stress during the pandemic influenced tic presentations (4,54)

Perceived stress is associated with other psychological factors, such as uncertainty, another factor that was named by the young people in this study (14). Research on the impact

of uncertainty caused by the pandemic is still emerging, but suggests that adaptive, emotion-focused coping strategies were associated with less psychological distress (55–57). Another factor that could have influenced how young people with FTLBs approached coping, was the significantly greater alexithymia characteristics reported within the cohort. This finding is consistent with previous literature investigating FND and somatic conditions, with one study finding that alexithymia correlated with maladaptive coping strategies, providing an explanation as to why stressors have a greater impact in this population (19–22,58). Evidence suggests potential gender differences in the impact of alexithymia traits during adolescence, with one study suggesting that it is a contributing factor to the increased prevalence of internalizing psychological disorders in females during this period (59). The interaction of a sensitive period for the development of emotional regulation, increased perceived stress, and greater difficulties in recognising and understanding emotions, may have resulted in young people with FTLBs relying on more maladaptive coping strategies.

While perceived stress may have played a role in the development of FTLBs in young people, it is important to note that it may have also influenced the reported mental health deterioration across age groups and conditions during the pandemic (21). Recent papers investigating FTLB have identified that this cohort significantly reported more mental health difficulties, including social anxiety disorder and depression, than controls, and that their mental health declined more severely during the pandemic than controls and other individuals with Tourette's Syndrome (60,61). While these findings, and the results from this paper, fit the diathesis-stress model, the question remains as to why these young people developed FTLBS when their peers may have only developed other mental health conditions (11).

Furthermore, as the official criteria for FTLBs were agreed upon in 2023, it may be hard to conclude the exact increase in the prevalence of these behaviours during the pandemic as young people may not have been correctly diagnosed beforehand (6).While the

evidence suggests that there was a sharp increase in the number of FLTBs presentations, it is important to consider how increased awareness may have impacted this (52).

Regarding the experiences of what impacts FTLBs, responses from young people reflected the wider tic disorder and FND literature. Certain FND symptoms have been demonstrated to be affected by the level of attention given to them (62,63). Furthermore, other studies have reported sensory processing difficulties in individuals with FNDs, with those diagnosed with TS more sensitive to external sensory stimuli (64,65). Shifting attention from social acceptability, reducing anxiety, and learning emotional regulation have been established as beneficial treatments for traditionally classified tic disorders, areas that were all highlighted in the free-responses (66,67). These findings highlight areas of focus for treatment in helping to reduce tic severity and frequency within this population, which is in line with current treatment options for tic disorders (67).

Research indicates that isolation resulting from the pandemic may have increased social media use, specifically with adolescents, to allow for social connection and interaction desired by this age group (50,68). While previous publications suggested that social media was responsible for the sudden increase of FTLBs, several participants in this study acknowledged how viewing tics influenced their tics, but felt that it was not a causal factor (29,69). It is also important to acknowledge how eighteen participants reported experiencing tics prior to watching tic-related content on social media.

While this area requires further investigation, it is important for researchers and clinicians to consider how they approach this topic with young people. Not only because for some, social media is positive and beneficial, but also as the current narrative in the literature is being interpreted as dismissive. This not only may prevent some young people from

seeking support, but the assumption that social media is a causal factor may limit research investigating alternative contributing factors.

In reflecting on the information gathered from the qualitative data, it is important to consider the medians and interquartile ranges for each of the questions. With the highest median response at 24.5 words, and largest interquartile range extending from 13 to 45.5, highlights the wide range of responses, but also the significant differences in participant experiences. While other questions had narrower interquartile ranges, with the smallest 7-22.75 words, the data underscores the depth and breadth of information gathered.

Limitations

To the author's knowledge, this is the first study to investigate the influence of these factors on FTLBs. It is important to acknowledge that findings are based on group classifications using self-identification of 'sudden onset of tics', and not the full emerging clinical criteria of FTLBs. Future research would benefit from recruiting a clinical sample. Furthermore, self-selection bias may have influenced the sample, and as this study largely recruited from social media platforms, could have skewed who participated in the study.

While the ethnicity of the FTLBs sample is reflective of other research, it is important to consider the generalizability of the findings of this study as the population was predominately 'White' (52). All measures used in this study are validated in both individuals over and under eighteen, except for the MACS, which has only been used in samples under eighteen. While demonstrating good reliability within this sample, future research should consider further validating the MACS within this age group.

In conclusion, this study provides evidence that young people with FTLBs differ from those without regarding perceived stress, maladaptive coping styles, and alexithymia characteristics. Further research is required to understand how perceived stress and maladaptive coping styles influence FTLBs, and how clinical interventions can support these young people.

References

1. Heyman I, Liang H, Hedderly T. COVID-19 related increase in childhood tics and tic-like attacks. Vol. 106, Archives of Disease in Childhood. BMJ Publishing Group; 2021. p. 420–1.
2. Pringsheim T, Ganos C, McGuire JF, Hedderly T, Woods D, Gilbert DL, et al. Rapid Onset Functional Tic-Like Behaviors in Young Females During the COVID-19 Pandemic. Vol. 36, Movement Disorders. John Wiley and Sons Inc; 2021. p. 2707–13.
3. Demartini B, Ricciardi L, Parees I, Ganos C, Bhatia KP, Edwards MJ. A positive diagnosis of functional (psychogenic) tics. Eur J Neurol. 2015 Mar 1;22(3):527-e36.
4. Han VX, Kozlowska K, Kothur K, Lorentzos M, Wong WK, Mohammad SS, et al. Rapid onset functional tic-like behaviours in children and adolescents during COVID-19: Clinical features, assessment and biopsychosocial treatment approach. J Paediatr Child Health. 2022 Jul;58(7):1181-1187.
5. Ganos C, Martino D, Espay AJ, Lang AE, Bhatia KP, Edwards MJ. Tics and functional tic-like movements: Can we tell them apart? Vol. 93, Neurology. Lippincott Williams and Wilkins; 2019. p. 750–8.
6. Pringsheim T, Ganos C, Nilles C, Cavanna AE, Gilbert DL, Greenberg E, et al. European Society for the Study of Tourette Syndrome 2022 criteria for clinical diagnosis of functional tic-like behaviours: International consensus from experts in tic disorders. Eur J Neurol. 2023 Apr 1;30(4):902–10.
7. Ludwig L, Pasman JA, Nicholson T, Aybek S, David AS, Tuck S, et al. Stressful life events and maltreatment in conversion (functional neurological) disorder: systematic review and meta-analysis of case-control studies. Lancet Psychiatry. 2018 Apr 1;5(4):307–20.
8. Müller-Vahl KR, Edwards MJ. Mind the Difference Between Primary Tics and Functional Tic-like Behaviors. Movement Disorders. 2021 Dec 1;36(12):2716–8.
9. Bridgland VME, Moeck EK, Green DM, Swain TL, Nayda DM, Matson LA, et al. Why the COVID-19 pandemic is a traumatic stressor. PLoS One. 2021 Jan 1;16(1).
10. Varma P, Junge M, Meaklim H, Jackson ML. Younger people are more vulnerable to stress, anxiety and depression during COVID-19 pandemic: A global cross-sectional survey. Prog Neuropsychopharmacol Biol Psychiatry [Internet]. 2021 Jul 13 [cited 2022 Apr 9];109:110236. Available from: /pmc/articles/PMC7834119/

11. Cohen ZP, Cosgrove KT, DeVille DC, Akeman E, Singh MK, White E, et al. The Impact of COVID-19 on Adolescent Mental Health: Preliminary Findings From a Longitudinal Sample of Healthy and At-Risk Adolescents. Front Pediatr. 2021 Jun 8;9:622608.
12. de Figueiredo CS, Sandre PC, Portugal LCL, Mázala-de-Oliveira T, da Silva Chagas L, Raony Í, et al. COVID-19 pandemic impact on children and adolescents' mental health: Biological, environmental, and social factors. Prog Neuropsychopharmacol Biol Psychiatry. 2021 Mar 2;106:110171.
13. Kauhanen L, Wan Mohd Yunus WMA, Lempinen L, Peltonen K, Gyllenberg D, Mishina K, et al. A systematic review of the mental health changes of children and young people before and during the COVID-19 pandemic. Eur Child Adolesc Psychiatry. 2023 Jun 1;32(6):995–1013.
14. Lazarus R.S, Folkman S. Stress, Appraisal and Coping. New York: Springer ; 1984.
15. Lazarus RS, Folkman S. Transactional theory and research on emotions and coping: https://doi.org/101002/per2410010304. 1987 Sep 1;1(3):141–69.
16. Folkman S, Lazarus RS. An analysis of coping in a middle-aged community sample. J Health Soc Behav. 1980;21(3):219–39.
17. Stone J, Carson A, Aditya H, Prescott R, Zaubi M, Warlow C, et al. The role of physical injury in motor and sensory conversion symptoms: a systematic and narrative review. J Psychosom Res. 2009 May;66(5):383–90.
18. Ganos C, Martino D, Espay AJ, Lang AE, Bhatia KP, Edwards MJ, et al. Tics and functional tic-like movements Can we tell them apart? 2019 Oct 22;93(17):750-758.
19. Ludwig L, Pasman JA, Nicholson T, Aybek S, David AS, Tuck S, et al. Stressful life events and maltreatment in conversion (functional neurological) disorder: systematic review and meta-analysis of case-control studies. Lancet Psychiatry. 2018 Apr 1;5(4):307–20.
20. Yan L, Gan Y, Ding X, Wu J, Duan H. The relationship between perceived stress and emotional distress during the COVID-19 outbreak: Effects of boredom proneness and coping style. J Anxiety Disord. 2021 Jan 1;77:102328.
21. Xiong J, Lipsitz O, Nasri F, Lui LMW, Gill H, Phan L, et al. Impact of COVID-19 pandemic on mental health in the general population: A systematic review. J Affect Disord. 2020 Dec 1;277:55-64.

22. Palser ER, Palmer CE, Galvez-Pol A, Hannah R, Fotopoulou A, Kilner JM. Alexithymia mediates the relationship between interoceptive sensibility and anxiety. 2018 Sep 13; 13(9):e0203212.
23. Martin JB, Pihl RO. The Stress-Alexithymia Hypothesis: Theoretical and Empirical Considerations. Psychother Psychosom. 1985;43(4):169–76.
24. Demartini B, Petrochilos P, Ricciardi L, Price G, Edwards MJ, Joyce E. The role of alexithymia in the development of functional motor symptoms (conversion disorder). Neuropsychiatry. 2014;85:1132–7.
25. Pick S, Goldstein LH, Perez DL, Nicholson TR. Emotional Processing in Functional Neurological Disorder: A Review, Biopsychosocial Model and Research Agenda. J Neurol Neurosurg Psychiatry. 2019 Jun 1;90(6):704-711.
26. Jalilianhasanpour R, Williams B, Gilman I, Burke MJ, Glass S, Fricchione GL, et al. Resilience linked to personality dimensions, alexithymia and affective symptoms in motor functional neurological disorders. J Psychosom Res. 2018 Apr 1;107:55–61.
27. Hadji-Michael M, McAllister E, Reilly C, Heyman I, Bennett S. Alexithymia in children with medically unexplained symptoms: a systematic review. J Psychosom Res. 2019 Aug 1;123:109736.
28. Li R, Kajanoja J, Lindblom J, Korja R, Karlsson L, Karlsson H, et al. The role of alexithymia and perceived stress in mental health responses to COVID-19: A conditional process model. J Affect Disord. 2022 Jun 1;306:9–18.
29. Olvera C, Stebbins GT, Goetz CG, Kompoliti K. TikTok Tics: A Pandemic Within a Pandemic. Mov Disord Clin Pract [Internet]. 2021 Nov 1 [cited 2024 Apr 23];8(8):1200–5. Available from: https://onlinelibrary.wiley.com/doi/full/10.1002/mdc3.13316
30. Hull M, Parnes M. Tics and TikTok: Functional Tics Spread Through Social Media. Mov Disord Clin Pract. 2021 Nov 1;8(8):1248–52.
31. Müller-Vahl KR, Pisarenko A, Jakubovski E, Fremer C. Stop that! It's not Tourette's but a new type of mass sociogenic illness. Brain. 2022 Apr 18;145(2):476–80.
32. Conelea CA, Bervoets J, Davies EB, Varner K, Malli M, Jones D, et al. It's Time to Stop Telling Patients to "Stop It": Response to Müller-Vahl et al.'s "Stop That! It's not Tourette's but a New Type of Mass Sociogenic Illness." 2022;10.31234/osf.io/dj3an. Available from: https://www.researchgate.net/publication/355212302

33. Paulus T, Bäumer T, Verrel J, Weissbach A, Roessner V, Beste C, et al. Pandemic Tic-like Behaviors Following Social Media Consumption. Movement Disorders. 2021 Dec 1;36(12):2932–5.
34. Pellicciari R, Superbo M, Gigante AF, Livrea P, Defazio G. Disease modeling in functional movement disorders. Parkinsonism Relat Disord. 2014 Nov 1;20(11):1287–9.
35. Shill H, Gerber P. Evaluation of clinical diagnostic criteria for psychogenic movement disorders. Movement Disorders. 2006 Aug 1;21(8):1163–8.
36. Gaffney GR, Gaffney GR, Sieg K, Hellings J. The MOVES: A self-rating scale for Tourette's syndrome . Article in Journal of Child and Adolescent Psychopharmacology. 1994;4(4):269–80.
37. Gaffney GR, Sieg K, Hellings J. The MOVES: A Self-Rating Scale for Tourette's Syndrome. J Child Adolesc Psychopharmacol [Internet]. 1994 [cited 2024 Apr 23];4(4):269–80. Available from: https://www.researchgate.net/publication/238320140_The_MOVES_A_self-rating_scale_for_Tourette's_syndrome
38. Jalenques I, Guiguet-Auclair C, Derost P, Joubert P, Foures L, Hartmann A, et al. The MOVES (Motor tic, Obsessions and compulsions, Vocal tic Evaluation Survey): cross-cultural evaluation of the French version and additional psychometric assessment. J Neurol [Internet]. 2018 Mar 1 [cited 2024 Apr 23];265(3):678–87. Available from: https://pubmed.ncbi.nlm.nih.gov/29392455/
39. Martino D, Pringsheim TM, Cavanna AE, Colosimo C, Hartmann A, Leckman JF, et al. Systematic review of severity scales and screening instruments for tics: Critique and recommendations. Movement Disorders. 2017 Mar 1;32(3):467–73.
40. Bagby RM, Taylor GJ, Parker JDA. The twenty-item Toronto Alexithymia scale-II. Convergent, discriminant, and concurrent validity. J Psychosom Res. 1994;38(1):33–40.
41. Bagby RM, Parker JDA, Taylor GJ. The twenty-item Toronto Alexithymia Scale--I. Item selection and cross-validation of the factor structure. J Psychosom Res. 1994;38(1):23–32.
42. Loas G, Braun S, Delhaye M, Linkowski P. The measurement of alexithymia in children and adolescents: Psychometric properties of the Alexithymia Questionnaire for Children and the twenty-item Toronto Alexithymia Scale in different non-clinical and clinical samples of children and adolescents. PLoS One [Internet]. 2017 May 1

[cited 2024 Apr 23];12(5):e0177982. Available from: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0177982

43. Eubank JM, Burt KG, Orazem J. Examining the psychometric properties of a refined perceived stress scale during the COVID-19 pandemic. J Prev Interv Community. 2021;49(2):179–92.
44. Sveinbjornsdottir S, Thorsteinsson EB. Psychometric Properties of the Measure of Adolescent Coping Strategies (MACS). Psychology. 2014;05(02):142–7.
45. Sveinbjornsdottir S, Thorsteinsson EB. Adolescent coping scales: A critical psychometric review. Scand J Psychol. 2008 Dec;49(6):533–48.
46. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006;3(2):77–101.
47. Lumivero. NVivo (Version 14). 2023.
48. Braun V, Clarke V. Reflecting on reflexive thematic analysis. Qual Res Sport Exerc Health [Internet]. 2019 Aug 8 [cited 2024 Apr 23];11(4):589–97. Available from: https://www.tandfonline.com/doi/abs/10.1080/2159676X.2019.1628806
49. Skinner E, Zimmer-Gembeck MJ. The Development of Coping. Annual Review of Psychology . 2007;58:119–44.
50. Orben A, Tomova L, Blakemore SJ. The effects of social deprivation on adolescent development and mental health. Lancet Child Adolesc Health. 2020 Aug 1;4(8):634.
51. Kiuru N, Salmela-Aro K, Laursen B, Vasalampi K, Beattie M, Tunkkari M, et al. Profiles of Loneliness and Ostracism During Adolescence: Consequences, Antecedents, and Protective Factors. Child Psychiatry Hum Dev. 2024 Feb 9;1–21.
52. Jack RH, Joseph RM, Coupland CAC, Hall CL, Hollis C. Impact of the COVID-19 pandemic on incidence of tics in children and young people: a population-based cohort study. EClinicalMedicine. 2023;57:101857.
53. Ding Y, Fu X, Liu R, Hwang J, Hong W, Wang J. The Impact of Different Coping Styles on Psychological Distress during the COVID-19: The Mediating Role of Perceived Stress. Int J Environ Res Public Health. 2021 Oct 1;18(20):10947.
54. Heyman I, Liang H, Hedderly T. COVID-19 related increase in childhood tics and tic-like attacks. Vol. 106, Archives of Disease in Childhood. BMJ Publishing Group; 2021. p. 420–1.
55. Freeston M, Tiplady A, Mawn L, Bottesi G, Thwaites S. Towards a model of uncertainty distress in the context of Coronavirus (COVID-19). Cogn Behav Therap. 2020;13:e31.

56. Carnahan ND, Carter MM, Sbrocco T. Intolerance of Uncertainty, Looming Cognitive Style, and Avoidant Coping as Predictors of Anxiety and Depression During COVID-19: a Longitudinal Study. Int J Cogn Ther. 2022 Mar 1;15(1):1–19.
57. Dawson DL, Golijani-Moghaddam N. COVID-19: Psychological flexibility, coping, mental health, and wellbeing in the UK during the pandemic. J Contextual Behav Sci. 2020 Jul 1;17:126-134.
58. Tominaga T, Choi H, Nagoshi Y, Wada Y, Fukui K. Relationship between alexithymia and coping strategies in patients with somatoform disorder. Neuropsychiatr Dis Treat. 2014 Dec 27;10:55-62.
59. Van Der Cruijsen R, Murphy J, Bird G. Alexithymic traits can explain the association between puberty and symptoms of depression and anxiety in adolescent females. PLoS One. 2019 Jan 1;14(1):e0210519.
60. Berg, L., Pringsheim, T.M., Lerario, M. *et al.* Psychological Factors Associated with Functional Tic-like Behaviours during the COVID-19 Pandemic. Res Child Adolesc Psychopathol. 2024 Mar 1; 52 (1): 1157–1172.
61. Cavanna AE, Spini L, Ferrari S, Purpura G, Riva A, Nacinovich R, et al. Functional Tic-like Behaviors: From the COVID-19 Pandemic to the Post-Pandemic Era. Healthcare. 2024 Jun 1;12(11):1106.
62. Misirlisoy E, Brandt V, Ganos C, Tübing J, Münchau A, Haggard P. The Relation Between Attention and Tic Generation in Tourette Syndrome. Neuropsychology. 2015 Jul 1;29(4):658-665.
63. Mark VW. A Functional neurological disorder: Extending the diagnosis to other disorders, and proposing an alternate disease term-Attentionally-modifiable disorder. NeuroRehabilitation. 2022;50:179–207.
64. Belluscio BA, Jin L, Watters V, Lee TH, Hallett M. Sensory sensitivity to external stimuli in Tourette syndrome patients. Mov Disord. 2011 Dec;26(14):25-38.
65. Ranford J, MacLean J, Alluri PR, Comeau O, Godena E, Curt LaFrance W, et al. Sensory Processing Difficulties in Functional Neurological Disorder: A Possible Predisposing Vulnerability? Psychosomatics. 2020 Jul 1;61(4):343.
66. Pile V, Robinson S, Topor M, Hedderly T, Lau JYF. Attention bias for social threat in youth with tic disorders: Links with tic severity and social anxiety. Child Neuropsychol. 2019 Apr 3;25(3):394–409.

67. McGuire JF, Ricketts EJ, Piacentini J, Murphy TK, Storch EA, Lewin AB. Behavior Therapy for Tic Disorders: An Evidenced-based Review and New Directions for Treatment Research. Curr Dev Disord Rep. 2015 Dec 1;2(4):309-317.
68. Sun X, Li BJ, Zhang H, Zhang G. Social media use for coping with stress and psychological adjustment: A transactional model of stress and coping perspective. Front Psychol. 2023 Mar 21;14:114-312.
69. Hull M, Parnes M. Tics and TikTok: Functional Tics Spread Through Social Media. Mov Disord Clin Pract. 2021 Nov 1;8(8):1248–52.

Executive Summary

"A Crisis Point": The relationship between Perceived Stress, Alexithymia and Coping Strategies in Young People with Functional Tic-Like Behaviours

During the COVID-19 pandemic there was a sudden increase in tics in young females aged between 13-25 years old. Clinicians regard that most of these cases represent a different condition to other tic disorders and are 'functional', arising due to psychological factors. As such they are often referred to as 'Functional Tic-Like Behaviors' in the literature. Early research indicates that individuals with FTLBs may not respond well to evidence-based interventions for tics; however, FTLBs, and tic disorders more generally, are under-researched.

Broader research on functional neurological disorders suggests that negative perceptions of stress, and the individual's responses to these stressors, can precipitate the development of functional symptoms. One hypothesis is that the COVID-19 pandemic, acting as the stressor, coupled with lockdowns impacting how adolescents coped with this stress, may have increased the risk for young people to use 'maladaptive' management strategies. Individual characteristics that impact how a young person responds to distress, such as alexithymia, or the inability to recognize one's emotions, may make some individuals more likely to use inappropriate coping strategies, and therefore more likely to be affected. Some researchers also think that social media might be impacting FTLBs, but this is controversial, and it is important to understand the experiences and views of individuals with FTLBs on this topic.

The aim of this study was to compare young people with FTLBs to healthy controls to investigate differences in perceived stress during the pandemic, alexithymia, and coping strategies between these two groups. It hypothesized that individuals with FTLBs would have

higher levels of perceived stress, greater alexithymia characteristics, and use more maladaptive and less adaptive coping strategies than controls. The study further aimed to explore how perceived stress, alexithymia and coping strategies predict tic severity. To better understand the experiences of these young people, the study also asked participants free-response questions about their understanding of what caused and influences their tics.

96 individuals with FTLBs and 91 controls completed an online questionnaire that collected demographic data and three measures, with FTLBs individuals filling in an extra questionnaire about their tics and optional free-response questions.

There were significant differences when comparing the two groups, with the FTLBs group having higher levels of perceived stress, more alexithymia characteristics, using more maladaptive and fewer adaptative coping strategies. Furthermore, for individuals with FTLBs, perceived stress and maladaptive coping strategies were significant predictors of tic severity.

Thematic analysis was used to explore the qualitative data and was divided by question, which asked around opinions of what caused tic onset, what factors influence presentations, the impact of COVID-19 and the influence of social media. *A Culmination of stress* or "*appearing out of nowhere*" were themes regarding onset, while *attention, sensory influences, coping with emotions,* and *social perception of tics* were the four themes identified as factors that influence presentations. When discussing the impact of COVID-19, three themes emerged: *An unpredictable disruption, "a contributing factor", no connection.* The majority of responses agreed that "*you can't catch tics"* from social media. Two other themes were identified when exploring the impact of social media: *Social Media: A Double Edge Sword and An Invalidating Narrative.*

In conclusion these findings demonstrate that individuals with FTLBs differ from

controls on perceived stress, coping strategies and alexithymia characteristics. This provides support for other research that has explored the role that stress, and how an individual copes as a result of that stress, may play a role in the development of functional neurological disorders. Future research should explore how perceived stress and maladaptive coping strategies influence the presentation of FTLBs.

Connecting Narrative (1000)

My approach to both the clinical and research elements of clinical training were founded in my desire to develop a strong foundation in a breadth of information and skills. In clinical work, this took the form of learning a variety of therapeutic modalities and how to apply them in a range of disorders and populations. However, as I had very little experience in research prior to starting the course, I wanted to build a strong understanding and overall confidence in how to conduct research.

This perspective was reflected in different ways across my three projects, as I implemented different research methodologies and explored a variety of populations. While this was partly due to my wide interests in a range of topics, it also reflected my specific interest in exploring communities that are inadvertently excluded, especially those that are less understood in the literature. In particular, the three areas in my thesis were all highlighted to me during the COVID-19 pandemic. Either from my own clinical experiences, or through the news, I was acutely aware of how these groups were disproportionally affected by the pandemic, yet I found limited research in either the mechanisms underpinning these populations or how to best support them. As someone who strongly believes in the scientist-practitioner stance of clinical psychologists, my motivation was to add to literature so that these areas can be continued to be explored and researched.

The combination of wanting to develop a strong foundation in research and desire to work with a variety of populations ties my projects together. Below I present my experiences of working on the three projects, outlining general reflections for each.

Critical Review of the Literature (CRL)

The CRL was developed from my interest in perinatal mental health, as well as my

awareness that IPV prevalence had increased substantially during the COVID-19 pandemic. Initially, I was interested in exploring interventions and support available for mothers experiencing IPV during the perinatal period, as I was keen to explore preventative care for both mother and child. However, through reading the literature it became apparent that there is limited research in this field, especially around the impact of IPV during the perinatal period on infant relationships. This highlighted the assumptions I had made approaching this subject, and solidified my interest in this review and exploring its findings.

Although I had previously conducted a systematic review, I underestimated the intensiveness, especially in time, this review took. This was a theme throughout all three of my projects, as they each took longer than I expected. While this included adjusting to the practicalities of conducting the research, it also highlighted to me the commitment conducting research takes, especially in the context of the demands of clinical work.

Service Improvement Project

This SIP was developed through conversations with a clinical supervisor in a different service than BTT, who knew of my interests in working with ethnic minority groups, and suggested I contact my now external supervisor. My interest in working with global majorities stems from my own cultural background, but was peaked during the pandemic by both the Black Lives Matter Movement and the health inequalities that were made apparent for BAME communities.

This project in particular demonstrated the value of utilizing mixed methodology in research. Having never done qualitative research before, I was apprehensive of including it in my SIP. This wariness was fortified by the challenges of gaining ethical approval for contacting service-users, one that caused significant delays and required additional safeguarding measures. While learning how to do thematic analysis itself was time-

consuming, I found seeing how it enriched the data and added to the findings incredibly valuable.

TDRP

I had heard of the increase FTLBs through the media during the pandemic, and once I heard that a member of staff was interested in tics and Tourette's, I approached them immediately. Having no experience working with this population before, but interested in functional disorders and exploring the impact of the pandemic, it felt like a great opportunity to learn more about this topic and research simultaneously.

Of all my projects, the TDRP provided me with the best overview of what it is like to conduct research. From the process of developing the initial ideas, and ensuring that they fit both with the constraints of the course and theory, through to contacting charities and people with lived experience for support and feedback, to finally experiencing the challenges of recruiting, taught me so much about the intricacies and fluidity of research.

Acknowledgments

I would first like to acknowledge and thank all the participants who so generously took time out of their day to take part in this research. I am also very grateful to Tourette's Action, for their interest and support in my TDRP.

Thank you to my research supervisors, Dr Fiona McFarlane, Dr Alasdair Churchard, and Parth Gosh for all your support and guidance.

To all my incredible family, friends, and fellow trainees, your continued encouragement over the last three years has been invaluable.

Jo, I don't know how I would have done this without you. I am so grateful for your friendship, humour, reassurance and support.

And to Jack, thank you for always being there.

Appendices

Appendix 1

Appendix 1.1: CRL Search Strategy and Term Definition

Search Strategy

The search strategy used across each of the databases were as follows: ("intimate partner violence" or "IPV" or "domestic violence" OR "partner violence" or "physical violence" or "sexual violence" or "psychological violence" or "abuse" or "physical abuse" or "sexual abuse" or "psychological abuse" or "coercion" or "emotional abuse" or "violent partner or husband" or "partner abuse" or "coercive controlling violence" or "coercive control") AND ("perinatal" or "pre-natal" or "post-partum" or "antenatal" or "pregnan*" or "maternal" or "before birth" or "postnatal" or "after birth") AND ("attachment" or "bond*" or "mother infant bond*" or "mother-infant bond*" or "mother fetus bond*" or "attachment style" or "attachment patterns" or "mother-infant bonding failure")

Term Definition

Intimate Partner Violence (IPV)

IPV is defined as behaviour perpetrated by an intimate partner that results in psychological, physical or sexual harm. This includes, but is not limited to, physical, emotional, psychological, and financial abuse, including coercion (World Health Organization, 2012).

Perinatal Period

The perinatal period is defined as the time from pregnancy to the first 12 months after childbirth (NHS England, 2018).

Mother-to-Infant Relationships

Maternal affect, views and behaviours towards their foetus or infant. This paper utilized this term to include mother-infant bonding, maternal-foetal attachment, maternal-infant attachment.

Mother-Infant Bonding

Introduced by Klaus and Kennel (1976), mother-infant bonding is a maternal-driven process, occurring in the first year of an infant's life, in which the affective state of the mother toward the infant is considered to be the basis for the child's later development and attachment.

Attachment

Based on the work of Bowlby (1969) and Ainsworth (1969), attachment is defined as the innate desire to form a relationship with a primary caregiver, with an infant seeking proximity to this figure in stressful situations. Attachment pattern development is based on the sensitivity and responsiveness of this caregiver to the infant, and leads to the development of an internal working model within the child. There are four identified attachment patterns: secure, avoidant, anxious and disorganized

Appendix 1.2: CRL Journal Submission Guidelines

Trauma, Violence and Abuse

Manuscript Preparation

Manuscripts should be prepared using the APA Style Guide, and should be no longer than **40 double-spaced pages, including references, tables, and figures**. Text must be in 12-point Times New Roman font. Block quotes may be single-spaced. Manuscripts must include margins of 1 inch on all sides and pages must be numbered sequentially. All files should be in Word (.docx or .doc).

Sections in a manuscript may include the following (in this order): (1) Title page, (2) Abstract, (3) Keywords, (4) Text, (5) Notes, (6) References, (7) Tables, (8) Figures, (9) Appendices, and (10) Author Biographies.

1. Title page must be uploaded as a separate file. Please include the following:

Full article title

Acknowledgments and credits

Each author's complete name and institutional affiliation(s)

Grant numbers and/or funding information

Conflict of interests, if any

Corresponding author (name, address, phone/fax, e-mail)

2. Abstract. Copy and paste the abstract (150 to 250 words) into the space provided, headed by the full article title. Omit author names. Abstract must describe the topic of the review, method of review, number of research studies meeting the criteria for review, criteria for inclusion, how research studies were identified, and major findings.

3. Keywords. 5-7 keywords must be included in the manuscript.

4. Text. Begin text headed by the full article title. Text must be blinded, with all author names and other identifying information removed, for peer review.

a. Headings and Subheadings. Subheadings should indicate the organization of the content of the manuscript. Generally, three heading levels are sufficient to organize text. Level 1: centered, boldface, upper & lowercase. Level 2: flush left, boldface, upper & lowercase. Level 3: indented, boldface, lowercase paragraph heading ending with a period. Level 4: indented, boldface, italicized, lowercase paragraph heading ending with a period. Level 5: indented, italicized, lowercase paragraph heading ending with a period

b. Citations. For each text citation there must be a corresponding citation in the reference list and for each reference list citation there must be a corresponding text citation. Each corresponding citation must have identical spelling and year. Each text citation must include at least two pieces of information: author(s) and year of publication.

6. References

7. Tables. They should be structured properly. Each table must have a clear and concise title. When appropriate, use the title to explain an abbreviation parenthetically, for example, Comparison of Median Income of Adopted Children (AC) v. Foster Children (FC).

8. Figures. They should be numbered consecutively in the order in which they appear in the text and must include figure captions. Figures will appear in the published article in the order in which they are numbered initially. The figure resolution should be at least 300dpi at the time of submission.

IMPORTANT: PERMISSION - The author(s) are responsible for securing permission to reproduce all copyrighted figures or materials before they are published in TVA. A copy of the written permission must be included with the manuscript submission.

9. Appendices. They should be lettered to distinguish from numbered tables and figures. Include a descriptive title for each appendix (e.g., “Appendix A. Variable Names and Definitions”). Cross-check text for accuracy against appendices.

10. Author Biographies. Author(s) are required to send a 40-60 word biography for publication at the end of the article.

Appendix 2

Appendix 2.1: Ethical Approval

Oxford Health NHS Foundation Trust

Buckinghamshire Project Proposal Form

Project Title	Evaluation of Health Mind Buckinghamshire's Access Project Within the Pakistani Community		
Directorate		**Team / Ward / Unit**	Healthy Minds Buckinghamshire IAPT Service
Name and Title of project lead(s)		Tanya Graham (Trainee Clinical Psychologist) Dr Alasdair Churchard (Clinical Psychologist) Partha Ghosh (Senior Locality Lead, Cognitive Behavioural Therapist)	
Contact email address		Tanya.graham@oxfordhealth.nhs.uk	
Proposed start date		01/06/2023	
Proposed finish date			
This project is relevant to:			
☐ Directorate Quality Priority ☐ CQC Actions ☒ Other (please specify): BPS BAME Positive Practice Guidelines; NICE Guidelines: Common Mental Health Problems: Identification and pathways to care | Guidance and guidelines | NICE. NICE Guidance [CG123], May 2011			
Is this project relevant to staff or service users?	☐ Staff ☒ Service Users/Carers		
Aim of Project			
This project aims to investigate the impact of the Access Project on access and engagement from the local Pakistani community. It will investigate this by auditing the referral and attrition rates from individuals from the local Pakistani community over a 3-year period, explore the experiences of service-users and community leaders through interviews, and identify any unresolved barriers that may be impacting care. The aims of			

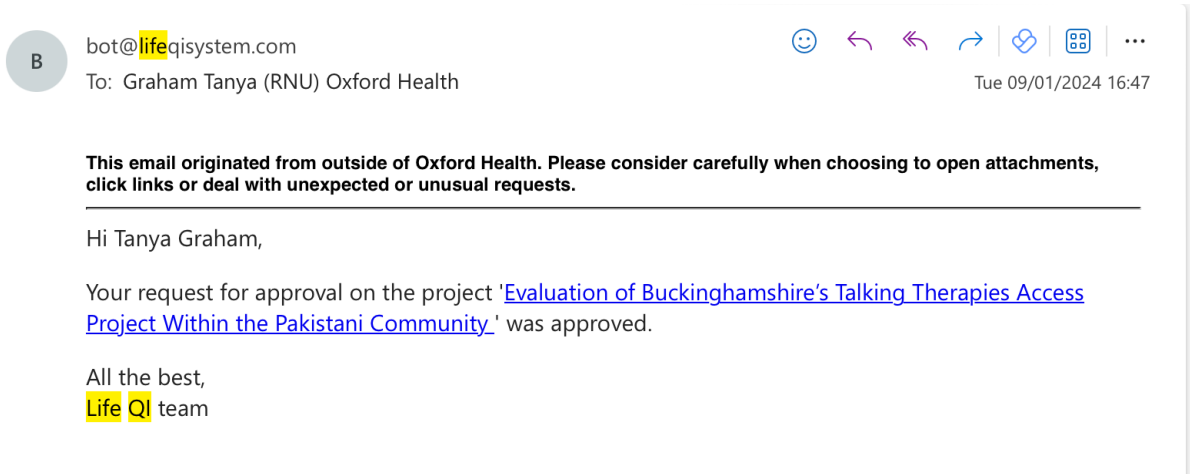
this project are aligned with the IAPT BAME Positive Practice Guidelines, and are highlighted within the guideline's Audit Tool, specifically the *Improving* Access and *Improving Engagement* standards (Beck et al., 2019). Findings will inform recommendations on any areas of improvement or future focus for the Access Project in engaging individuals from the Pakistani community. Dissemination of these findings could influence future outreach events and the expansion of the Access Project with other local BAME communities.

Research questions to be assessed:
1. Has the Access Project improved referrals and attrition from individuals from the Pakistani community?
2. What are the experiences of Pakistani service users and community leaders of the Access Project and HMB?
3. Are there any unresolved barriers this community experiences while trying to access HMB specifically that could be addressed by the Access Project?

A consultation will be held with a service user to provide feedback and input on the proposed project. This expert by experience will be involved at several time points during the course of the project, and will also be asked to provide input on the development of the questions asked during the individual interviews and focus groups.

What support, if any do you need from the directorate?

N/A



B

bot@lifeqisystem.com

To: Graham Tanya (RNU) Oxford Health

Tue 09/01/2024 16:47

This email originated from outside of Oxford Health. Please consider carefully when choosing to open attachments, click links or deal with unexpected or unusual requests.

Hi Tanya Graham,

Your request for approval on the project 'Evaluation of Buckinghamshire's Talking Therapies Access Project Within the Pakistani Community ' was approved.

All the best,
Life QI team

Appendix 2.2: Semi-Structured Interview Schedules

Interview Schedules

All Interviews to have the below introduction:

Introduction

We are gathering some information around understanding how Talking Therapies (formerly Healthy Minds) work to improve access and engagement of different ethnic and cultural groups, specifically those who identify as Pakistani. This research hopes to understand how their outreach work so far has helped and to investigate how the service can continue to improve. During this meeting, I am going to ask you some questions about your experience of the service as well as how your cultural values and religious beliefs were considered. I appreciate that some of these questions might be more sensitive, and it is completely up to you if you would like to answer any of these questions. If you would prefer not to answer a particular question, please just let me know.

Interviewers to provide some background information about their own identity.

Understanding the Experiences of Pakistani Service Users from Buckinghamshire's Talking Therapies - Interview Schedule

About You

We ask these questions so that we have some information about the type of people who have given feedback. If there are any questions you would prefer not to answer, this is okay.

1. How old are you?
2. What gender do you identify as?
3. How would you describe your ethnicity?
4. What is your first language?

About your Referral

To start with, I'd like to know more about your referral to Talking Therapies:

1. Were you referred, or did you refer yourself to Talking Therapies? (If you have had more than one referral, can you please think about the referral where you did not attend the appointment)

    a. Did you refer yourself, or did someone else do this on your behalf?

    b. What was your experience of this?

2. How did you hear about Talking Therapies?

    a. Was it from a GP or other health professional?

    b. Did you hear about it from someone in your local community (friend, religious leader, community centre)?

    c. Did you find out about it online?

3. Did you know what Talking Therapies was before you referred/were referred?

    a. Did you understand what they offered, who they support, what an assessment would involve?

    b. What did you think would be helpful about Talking Therapies?

4. After you made your referral, how did you next hear from Talking Therapies? When?

    a. How did you find this?

    b. Prompt questions may enquire about what was done well in these communications, and anything that was experienced as challenging or a barrier to continuing with the referral.

    c. Enquire about if this process could be improved.

Experience of Service

1. How did you find the assessment?

    a. How was it to speak to someone about what you were experiencing?

        i. Were there any difficulties/barriers (over the phone, having a safe space to disclose information, calls from unknown numbers, length of appointment, modality of appointment, language barriers)

2. How did you find any further support you received?

    a. Was the support tailored to your needs?

3. Was the support you received what you expected?

a. If not, how was it different?

4. Was there anything that made accessing support more difficult?
    a. Enquire about:
        i. Modality of therapy (online, in-person, over the phone, individual vs group).
        ii. Previous experience with therapy, or variations from perceptions/expectations of what Talking Therapies would be
        iii. Worries about attending therapy (what others would think, whether the therapist would be able to understand, what having therapy would be like, or finding it difficult to talk about)

Cultural Considerations

1. *How well was your therapist able to understand your cultural background, values, and beliefs?*
2. Did you feel able to talk about these aspects if you wanted to?
    a. Was there anything that made you feel uncomfortable to talk about these areas?
3. If your therapist was someone of a different background to your own, what was it like to speak with them?
4. Was the support you received tailored to your needs?
    a. Including religious or cultural adaptations.

How could Bucks Talking Therapies Improve?

(Tailor barriers/difficulties raised throughout the interview)

Talking Therapies would like to ask for feedback so they can better understand what might get in the way of people accessing the service or attending appointments. They would really like ideas on how the service can continue to improve.

1. Is there anything Talking Therapies could have done differently to improve your experience?
2. How do you think Talking Therapies could engage people like you *who feel/worry X?*

3. Is there any information that it would have been useful to have to help your experience of Talking Therapies?

Understanding the Experiences of Pakistani Community Leaders who have worked with Buckinghamshire's Talking Therapies - Interview Schedule:

About You

We would like to ask some questions to better understand the type of people who have given feedback. If there are questions you would prefer not to answer, this is okay.

1. What gender do you identify as?
2. How would you describe your ethnicity?
3. What is your first language?
4. What is your role within the community (if have details of your role, ask the following sub-question)
    a. Could you tell me a little bit more about your role/position [insert role]

Involvement with Talking Therapies

1. Had you heard of Talking Therapies before?
    a. Did you understand what they offered, who they support, what an assessment would involve?
    b. What did you think would be helpful about Talking Therapies?
2. What is your understanding of talking therapies?
    a. Is this something you think your community would find beneficial?
3. What has your experience been like working with Talking Therapies?
    a. How did Talking Therapies reach out to you?
    b. How did they present information about the service to you/your community?
4. How have you found working with Talking Therapies?
    a. Is there anything that has been helpful?

b. Anything that could be improved?

5. Have you spoken to members of your community about Talking Therapies?

Cultural Considerations

1. How can Talking Therapies draw upon the strengths of your community to better help support it?
2. Are there any particular *cultural factors, values, or beliefs that you think are important that Talking Therapies and therapists consider when working with members of your community?*
3. What role do you think Talking Therapies should play for members of your community?

How could Bucks' Talking Therapies Improve?

(Tailor barriers/difficulties raised throughout the interview)

Talking Therapies would like to ask for feedback so they can better understand what might get in the way of people accessing the service or attending appointments. They would really like ideas on how the service can continue to improve.

1. Is there anything Talking Therapies has done already that has helped improve the experiences of people accessing their service?
2. Is there anything Talking Therapies could do differently to improve the experiences of people accessing their service?
3. How do you think Talking Therapies could better engage people from your community?
4. Is there any information that it would have been/would be useful to have to help explain what the service provides?
    a. How should this information be circulated? (to consider: language, modality (written/visual), locations (social media, centres, group events etc.)

<u>Understanding the Experiences of Clinicians working with Pakistani Service Users from Buckinghamshire's Talking Therapies - Interview Schedule</u>

About you

1. What gender do you identify as?
2. How would you describe your ethnicity?
3. What is your first language?
4. What is your role within the service?

Cultural Considerations

4. How important do you think it is for your work with service users to ask about individual factors (such as cultural values and beliefs)?
5. How often do you ask about culture or religion when working with service users
    a. During assessment or treatment?
6. How confident do you feel about asking about individual *cultural factors, values, or beliefs when working with service users?*
7. How often do you make cultural or religious adaptations in treatment?
    a. How confident do you feel in making these adaptations?
        i. What would help improve this?
8. What are your experiences working with interpreters?
    a. What works well with this process?
    b. Is there anything that would make this process better for you?

Staff Training and Resources

5. Is there anything the service has done already that has helped your work (including confidence) with working with Pakistani service users/global majority service users?
    a. E.g. trainings, CPD, booklets, other resources
6. Have you had any CPD/training in cultural competence or working with ethnic minorities?

a. How did you find this training?

b. What would you like for future training to cover?

7. Is there anything that would help you support talking about these areas/culture/religion with a client?

Improving Engagement

1. Are you aware of anything Talking Therapies has done already that has helped improve the experiences of people accessing their service?
2. Is there anything Talking Therapies could do differently to improve the experiences of people accessing their service?
3. How do you think Talking Therapies could better engage people from global majorities?

Appendix 2.3: SIP Thematic Analysis Process with Positionality Statement

Phase 1: Data Immersion and Familiarisation

Data familiarisation began through manual transcription of interviews, which allowed for immersion into the data as I read the transcripts several times. During this phase initial thoughts were recorded using the *Memo* feature on NVivo.

Phase 2: Systematic Coding

I then began to code the data. Codes were both descriptive and implicit, with a minority of quotes placed in multiple codes where appropriate.

Phase 3: Generating Themes

Codes were provisionally grouped together through the *Maps* function on NVivo, which allowed for the visualisation of emerging themes. This was initially done by grouping interviews by service-users, staff and community leaders.

Phase 4: Review Themes

Data was re-read with initial themes in mind. Through this, codes were renamed, and codes and themes merged. During this phase, codes and themes were merged across groups of interviews, to allow for a comprehensive view of the data. This process was supported through *Maps* and *Memos.*

Phase 5: Refine, define and name themes

Codes and themes were reviewed and refined through discussion with supervisors, which allowed for definitions and reflections to be shared and developed. This also allowed for the separation of themes and subthemes.

Phase 6: Reporting

It is important to note that phases 3-5 were conducted in a non-linear process.

Positionality Statement

As I am mixed race (British-Asian), and grew up in Asia, my interest in understanding global mental health is driven by my own cultural background. Professionally, I worked in an IAPT service previously, and am aware of the benefits and limitations of this service-model structure. The combination of these factors drew me towards this project, but I was acutely aware that this may have also influenced how I interpreted the data. To try and reduce this bias, I actively acknowledge preconceptions (both through my reflective journal and conversations with my supervisors).

Appendix 2.4: Partial Likelihood ratio χ2 and Loglinear Parameter Estimates

Partial Association for Year, Ethnicity and Area Variables

Effect	Partial Association χ2 (df)	Significance
Year*Ethnicity	67.749 (5)	<.001
Year*Area	9.513 (5)	.090
Ethnicity*Area	1505.555 (1)	<.001
Year	194.040 (5)	<.001
Ethnicity	58595.953 (1)	<.001
Area	16974.450(1)	<.001

Note. Sig. = p-value

Parameter Estimates for the Hierarchal Model (Year*Ethnicity) (Area*Ethnicity)

Parameter	Estimate	Z	Significance
Constant	5.668		
[Ethnicity = WB]	1.965	39.533	<.001
[Area = HW]	-.342	-8.505	<.001
[year = 2018]*[Ethnicity = WB]	.445	5.868	<.001
[year = 2019]*[Ethnicity = WB]	.185	2.691	.007
[year = 2020]*[Ethnicity = WB]	.250	3.480	<.001
[year = 2021]*[Ethnicity = WB]	.049	.748	.454
[year = 2022]*[Ethnicity = WB]	-.076	-1.189	.235
[Ethnicity = WB]*[Area=HW]	1.618	38.907	<.001

Note. Z= Estimate (λ)/Standard Error; Sig. = p-value

Appendix 2.5: Study 2 Participant Demographic Data

Study 2 Participant Demographic Information

Participant	Gender	Age	Ethnicity
Service-User 1	Female	35-45	South Asian: Pakistani
Service-User 2	Male	25-35	South Asian: Pakistani
Service-User 3	Male	35-45	South Asian: Pakistani
Service-User 4	Male	35-45	South Asian: Pakistani
Service-User 5	Female	35-45	South Asian: Pakistani
Service-User 6	Female	55-65	South Asian: Pakistani
Service-User 7	Male	18-25	South Asian: Pakistani
Staff 1	Female	25-35	South Asian
Staff 2	Female	25-35	South Asian: Pakistani
Staff 3	Prefer not to say	Not Stated	Not Stated
Staff 4	Prefer not to say	Not Stated	Not Stated
Staff 5	Prefer not to say	Not Stated	Not Stated
CL	Male	35-45	South Asian Pakistani

Appendix 2.6: Thematic Analysis Illustrative Quotes

Themes	Sub-Themes	Quotes
Cultural Adaptations: Need for Authentic Collaboration	One Size Doesn't Fit All	"in terms of just understanding how important or relevant it is for them, I'm very much then led by them in terms of what we need to adapt and how to do it."
		"No to be honest, this has nothing to do with culture/religion. It needs to be sorted in my body and my mind, but culture and religion has nothing to do with it."
		"…. but that's because how we the of how do we adapt [therapy] is not only on me, it's a shared responsibility…. I need them to share it with me so we can problem solve together…"
		"Um, if someone is telling them about my religion or culture, and they are not from the same background, I would find it disrespectful. Especially if they are saying that its because of the religion, and having a negative view of it."
	Responsive Clinicians	"They were very respectful when cultural family situations were brought up and understood the perspective and beliefs that may have taken part of the situations."
		"but their knowledge isn't trained in religion – but you need to be sympathetic, and encouraging and understanding and linking the coping mechanisms to the religion itself. So the therapist then gets lost when certain techniques don't land, or I told them about how that wouldn't work in my faith – and its because they haven't been taught anything else – so they get stuck. Especially cause it's a different religion from themselves."
Continued Development in Cultural Confidence	Practical and Reflective Skills	"Uh, I don't remember walking away from [the training] feeling much more confident it it was beneficial in what I said earlier in that it brings it back onto your radar and it actually reminds you of actually, yes, this is something that's really important, et cetera, in terms of kind of the usefulness of going away and applying it to my role or applying it to my practice didn't give me very much"
		"Training or resources around specifically asking those questions, e.g. example questions you could ask, maybe prompts on PCMIS of questions to ask, discussion around how these questions might be received (especially as a white non-religious clinician), discussion around how clinicians may respond if asked questions in return about their religion/cultural background."
		"Maybe just more reflective space, because I think a lot of this, like you can always teach necessarily like it's not like a hard and fast rule, you can provide people with the tools, But I think ultimately like having reflected space would be more useful."

	Increasing Awareness and Understanding of the Community	"It's an ongoing process and culture is so big and it's so different for every single person, even those from the same culture that I think it's gonna take years for therapists to feel confident because you don't know who you're going to encounter." "And even if you encounter two people from the same culture, the way that that might come into the therapy, the adaptations you might have to make, or the conversations that you might have to have, could be so different. So I think there is some CPD and there is some training there and I would hope that it does boost people's confidence, but I think it needs to be more of an ongoing conversation and training and opportunity because what happens is you attend it and it's right up on your radar and you really are passionate and then it falls off again and then it just and then that's then unfortunately it's not you know."
	Time Constraints	"And we do, the conversations are not as in depth as I would like them to be, but to be honest, the main barrier to that is time, because there's so there's the the number of clients that that's supervisees might be wanting to discuss. And then the number of things around that case that you need to pay attention to in supervision, there's so much. So in an ideal world, I'd be having more conversations and more in depth conversations about this, because I do think it's really important. But in reality it doesn't really translate because we just don't have time unfortunately, which is a shame because it is so important."
Discrepancy in Expectations of Service Provisions	Awareness of of Service Structure & Therapy	"Mine was more – can you go away and do some booklet thing, and I don't want to! The last thing that's on your mind when you're anxious is doing some booklet, I was so anxious that I couldn't even make a cup of tea, how was I supposed to fill in a booklet." "…and its only natural that you don't want to wait for support, but then after all of that waiting, when you get the 6 weeks of support , its just that I don't feel like half an hour is long enough."
	Nor Feeling Heard	"I understand in CBT it is primarily based around completing activities to improve. But if there could be more of a talking element with support and guidance on the issue and how to handle it in the future before the activity is given I think would help a person feel more heard and understood." And it made me feel like they couldn't be bothered with me and I couldn't be bothered with his. Then I was told that if I couldn't do it, then I couldn't carry on with the service, which was an easy way out for everyone I think.
	Working with Interpreters	"…so I think having a system or a process that allows for that consistency would be really useful. Because then the client is able to build or see that relationship with you as their clinician, but also with their interpreter, who is essentially an extension of their clinician really isn't it?"

		"Sometimes things could be explained incorrectly or just not really capturing what we're we're trying to say. And then that's quite damaging. If service user isn't getting the right end of the stick because of how it's been translated or something like that. So I mean, you know, it's not to say that I think all interpreters need to have clinical training, but I question how much and it actually is there like some sort of CPD type stuff that they could be considering." "…for example, there's no word for anxiety. There's no word for depression. You have word for sadness, for example, but it's not quite the same as depression. So something as simple that depression that we say in English in order to do I have to explain around it? But then, because this person isn't clinically trained, it doesn't always translates properly."
Meet Us Where We're At	Shared Learning	"Well, let's actually hear from the community. What can we do? What could we be doing? So I'd actually want to have some kind of engagement work outreach work with them so that we're not taking steps based on our assumptions or based on just data for example, where actually being we're actually engaging with and being responsive to what the community is saying and actually what we could be doing differently there…… he most valuable information then that we could get to understand what we could be doing differently." "And so [clinican] was really interested to learn how, you know, Muslims in general approach sort of mental health issues and what we do to provide spiritual support sometimes is a spiritual support that we're offering that helps people with low level mental health issues. So he was quite interested from that perspective as well. So it was nice sort of information sharing." "But I mean in that actually it's showcasing that there is that diversity on both sides and that actually if this is something that's really important for you, it's in terms of your culture and your experience of that, it's something that we as a service do work on and we are aware of and we're taking proactive efforts to maybe a bit of transparency for example on some of the work that the access project is done and some of the achievements that we've had, umm."
	Clinicians in the Community	"I know we've spoken to [clinican] about maybe doing some sessions in the mosque or in our Community Centre, and so people where people are comfortable that maybe they may be more likely to to access the service." "The thing is that an Asian women doesn't have time to be 'wobbly' – she's got 6 kids at home and she's just told to get on with it. If she went to a centre where she took her children, and other women were there and they were able to communicate would be great."

		"If the people that was speaking to had had already gone into the communities, and spoken to the community, to get a rough idea of what the community is and the background of the whole system."
	Targeting Hard to Reach Members	"Yeah, but the older generation, who maybe have a challenge understanding mental health, those are the challenge, you know, reading English. And then there's tending the terminology and the medical terminology." "Yeah, yeah, I mean that the, the gender really, really helpful because…you know, when it comes to 1 to 1 interactions, you know, men and women aren't supposed to have one to one interactions face to face in person." "I think the older people do use Facebook because people share information from Pakistan, so they're on there, so that could help and putting things in video format. And so if there's somebody speaking in local Punjabi language or the Urdu language and explaining it to them, they're gonna relate to that a lot more. So having a video about the service in the local language, I think rather than a leaflet is really going to be make it more accessible for them." "But the older generation or the sort of more middle aged group, they don't want people to know that they're suffering. And so I think that's that's a half the issue and the people who don't have mental health issues, we want to raise their awareness, especially people…. That may be highlighting how important it is and what impact it can have on people's lives. Would would be quite impactful, so if there was a way of having snappy information about how the service has really helped people."
Need for Normalizing from Within the Community	Feeling Alone and Different	"And if you have other Asian women who don't know much English and they come to you, I don't know that because to me, I think I'm the only South Asian woman that goes to healthy minds, you know, for all these years, I don't know who else goes and what they're facing. You understand?" "[It] would be really helpful just to know that I am alone." "Because it does feel so isolating, and it is such an isolated issue, especially in the Asian community." "especially when you are going through a hard time, you want to hear that someone else is going through that hard time and that they can get better. Because you feel so alone." "There's still a lot of stigma around [mental health]"
	Hearing Community Voices	"…so the more people you get who are happy to talk about it, who have overcome it, other people will be like who this service has helped, and maybe it'll help me."

	"And I think what's really powerful is just seeing some people that look like you on the other side that are really saying actually look how normal this is, like your human. It happens so seeing that that that seeing that person I think represents that validation, that it's OK to feel what you're feeling and access the service like this."
	"…my experience of doing therapy and or the one just just referencing the fact that I've got so many clients from a Pakistani background or an Asian background, it would almost be like this surprise reaction. Like, really like you have Asian men and you have older Asian women coming to therapy. So I think actually finding a way of demonstrating that this is something that's happening and it's OK that it happens and it's actually perfectly normal. Representation is important."
Community Leader Collaboration	"So I think also actually not just thinking about the community that we're targeting, but also thinking about within that community. Who is it that we can speak to that has that has the the kind of engagement and the contact with the Community that we don't have because that's an indirect way of accessing them. So yeah, I think that kind of influential people like imams, et cetera, that we could also speak with and do piece of work with."
	"The only other way I can sort of think that it would make more of a difference is like really engaging with community leaders that deal with these issues more"

Appendix 2.7: Journal Guidelines

The word count should be between 3000 and 5000 words in length (excluding references, tables and figure legends) and may include up to 40 essential references beyond those describing statistical procedures, psychometric instruments and diagnostic guidelines used in the study.

Tables and Figures - there is no limit for tables and figures unless the number becomes cumbersome and detracts from the paper. We recommend that large tables and figures (exceeding one journal page) should be included as supplementary material.

- Tables - Tables should be numbered (e.g. Table 1, Table 2…) and referenced in the text of the manuscript. Authors must indicate the desired position of the table in the manuscript. Authors must obtain permission from the original publisher if they intend to use tables from other sources, and due acknowledgement should be made in a footnote to the table as follows: Permission to replicate this table has been given to the authors by XXX. Please ensure that tables are a reasonable size. Tables over two typeset pages (around 1,400 words) will be moved to supplementary material.
- Figures - Figures should be numbered (e.g. Fig 1, Fig 2, Fig 3…) and referenced in the text of the manuscript. Authors must indicate the desired position of the figure in the manuscript. Please consult the journal artwork guide for a detailed specification on accepted file formats. Authors must obtain permission from the original publisher if they intend to use figures from other sources, and due acknowledgement should be made in the legend as follows: Permission to replicate this figure has been given to the authors by XXX.
- Supplementary Material – Material related to a paper but not essential to a general understanding of the paper will be published as an online data supplement. Supplementary material is peer reviewed but will not be copyedited or typeset and should be supplied as authors wish to appear online. Supplementary material should be uploaded as a separate file and referenced in the manuscript.

Main Text - The main text should include the following sections: **Introduction, Method, Results and Discussion.**

- Introductions should normally be no more than one paragraph. Longer introductions may be permissible but should be split with subheadings if they exceed two paragraphs.
- Discussion section should always include limitations of the paper to ensure balance, use of subheadings is encouraged in this section.
- A Conclusions section is not required in the main text.

References – References should be numbered in the order that they appear in the text and listed at the end of the manuscript using the Vancouver style. Unpublished doctoral theses may be cited but no other citation of unpublished work, including unpublished conference presentations, is permissible. Authors are responsible for checking all references for accuracy and relevance before submission. Read our guide to Vancouver referencing here.

Appendix 3

Appendix 3.1: Ethical Approval

MEDICAL SCIENCES INTERDIVISIONAL RESEARCH ETHICS COMMITTEE
Research Services, Boundary Brook House, Churchill Drive, Headington, Oxford, OX3 7GB
Tel: +44(0)1865 616575
ethics@medsci.ox.ac.uk

CONFIDENTIAL

Dr Fiona McFarlane & Tanya Graham
Oxford Institute for Clinical Psychology Training
(OXICPT)
Isis Education Centre
Warneford Hospital
Oxford

29 August 2023

Dear Dr McFarlane and Tanya,

Research Ethics Approval - CUREC 2

Ethics Approval Reference: R87565/RE001

Study title: Investigating the relationship between Perceived Stress, Alexithymia and Coping Strategies in the presentation of Sudden Onset Tic-Like Behaviours in Adolescents

Short title: Understanding Stress, Emotions and Coping Strategies in Sudden Onset Tics

The above application has been considered on behalf of the Medical Sciences Interdivisional Research Ethics Committee (MS IDREC) in accordance with the University's procedures for ethical approval of all research involving human participants.

I am pleased to inform you that, on the basis of the information provided to the IDREC, the proposed research has been judged as meeting appropriate ethical standards, and approval has been granted from **17th August 2023** until **16th February 2025.**

Insurance-provided indemnity arrangements are in place for the duration of the approval stated above. It is your responsibility to ensure that you request an extension to the end date for indemnity to remain in place should you continue the research beyond the dates covered.

You will be required to submit an annual progress report on each anniversary of study approval, until the study is completed, and your study may be selected for review during an annual audit.

Amendments

Should there be any subsequent changes to the study, you should submit details to the MS IDREC for consideration and approval. Details of changes must be listed on an amendment form.

Yours Sincerely

DocuSigned by:
Leah Butts
9F14889D2BC549A...

Mrs Leah Butts
Research Ethics Administrator
for
Dr Helen Barnby-Porritt
Research Ethics Manager

Appendix 3.2: Screening Questions

Do you have any personal experience of sudden onset tics? [Yes/No]

If 'Yes' selected:

1. When did this start?
    a. Before January 2020
    b. After January 2020
2. Have you been given a diagnosis regarding your tics? [Yes/No]
3. If yes, what is your diagnosis? [Free text]
4. Have you ever had a diagnosis of psychosis, bipolar disorder or a personality disorder? [Yes/No]
5. Have you ever been kept in hospital overnight for your mental health (not including tics)? [Yes/No]

If 'No' selected:

1. Do you have any of the following**:**
    a. Have you ever had tics or tic-like behaviours? [Yes/No]
    b. A diagnosis of a functional disorder or medically unexplained symptoms? [Yes/No]
    c. Have you ever had a diagnosis of psychosis, bipolar disorder or a personality disorder? [Yes/No]
    d. Have you ever been kept in hospital overnight for your mental health? [Yes/No]

Appendix 3.3: Free-Response Questions

Number	Question
Q1	What thoughts do you have about what started or caused your tics?
Q2	Have you noticed anything that makes your tics better or worse?
Q3	A lot of young people developed sudden onset tics during the COVID-19 pandemic. Some researchers wonder if the pandemic or lockdowns had something to do with this. Do you think anything about the pandemic caused your tics?
Q4	Other researchers are wondering if viewing tics on social media might influence tics. What are your opinions about this?

Appendix 3.4: Thematic Analysis & Positionality Statement

Phase 1: Data Immersion and Familiarisation

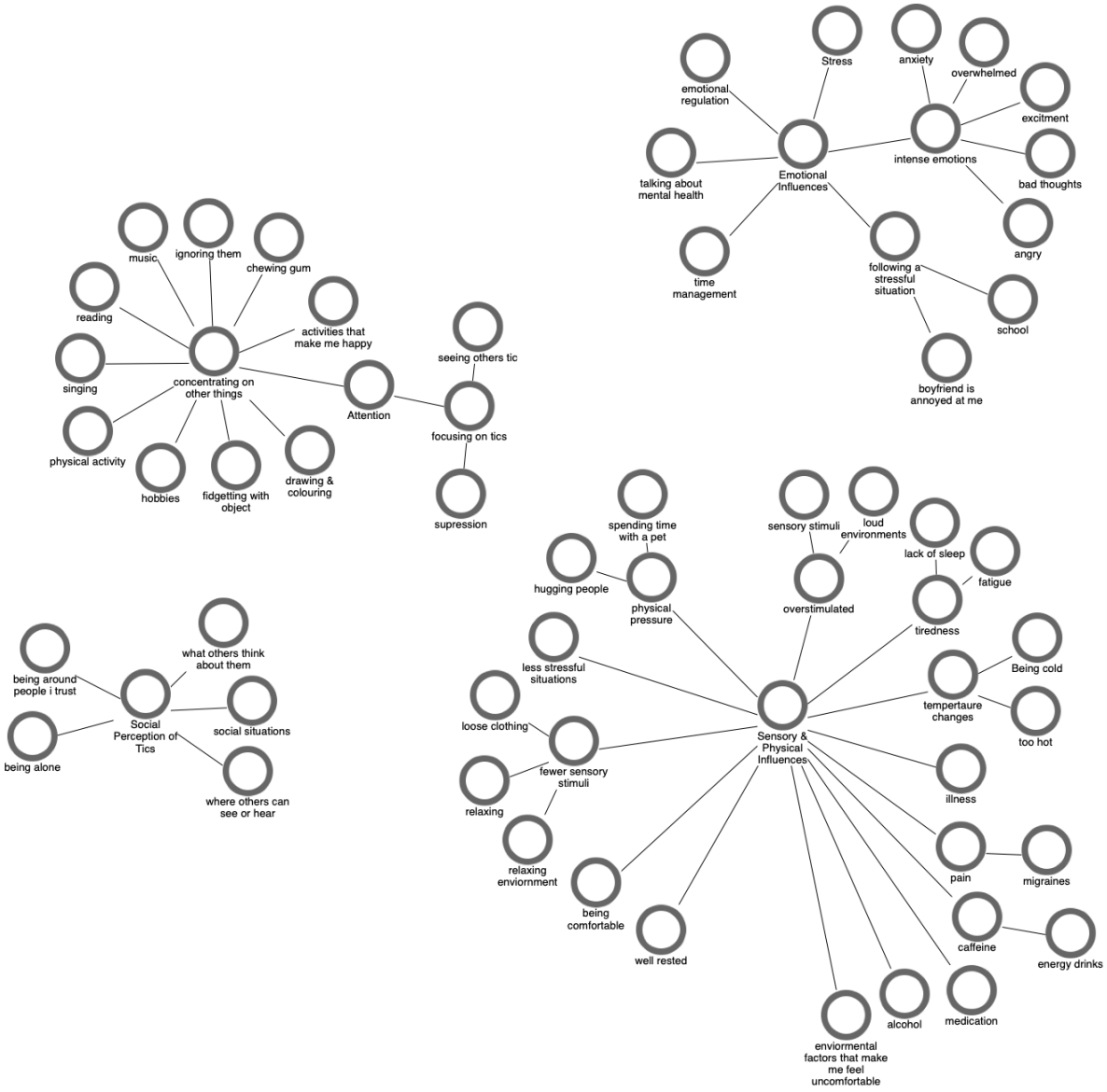
Data familiarisation began through reviewing the data as it was downloaded from Qualtrics, and imported into the relevant software. During this process, I read the responses to the four questions several times to ensure familiarisation and immersion into the data. During this phase initial thoughts were recorded using the *Memo* feature on NVivo and with a reflective journal.

Phase 2: Systematic Coding

I then began to code the data by question. Codes were both descriptive and implicit, with a minority of quotes placed in multiple codes where appropriate.

Phase 3: Generating Themes

Codes were provisionally grouped together through the *Maps* function on NVivo, by question, which allowed for the visualisation of emerging themes. An example of a map for question 2 is presented below:

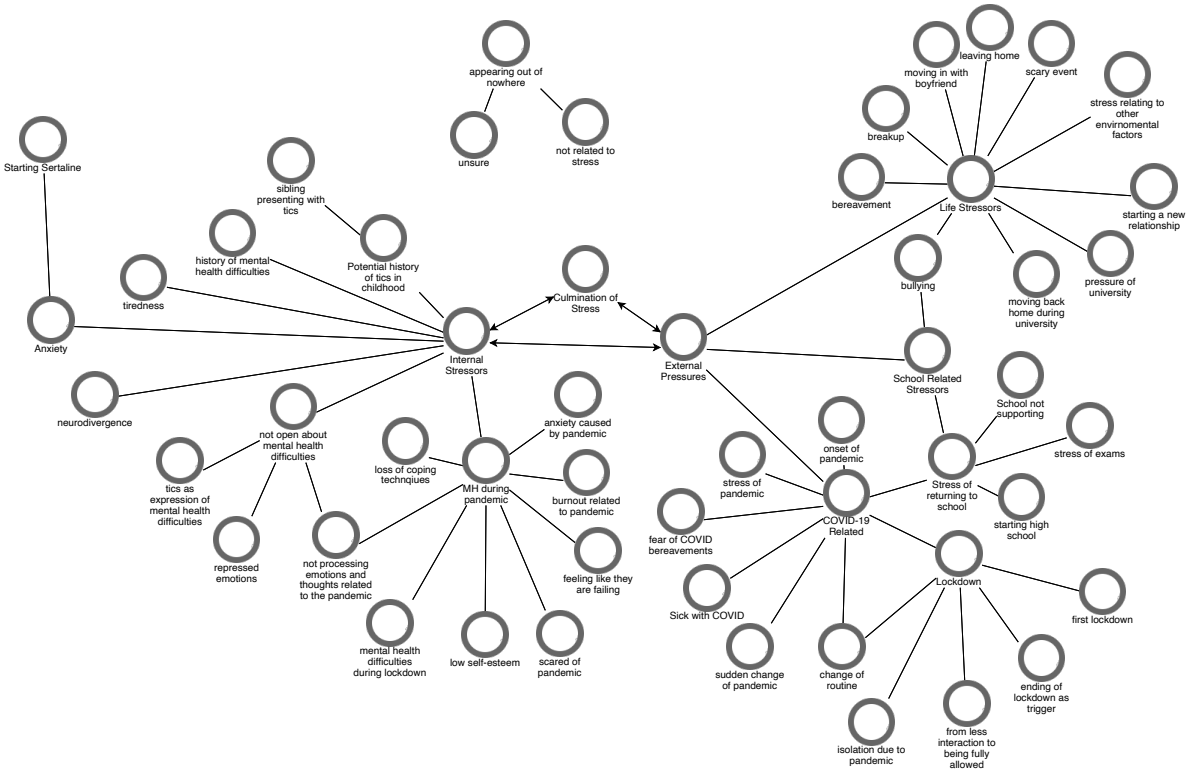


Phase 4: Review Themes

Data was re-read with initial themes in mind. Through this, codes were renamed, and codes and themes merged. This process was supported through *Maps* and *Memos.*

Phase 5: Refine, define and name themes

Codes and themes were reviewed and refined through discussion with supervisors, which allowed for definitions and reflections to be shared and developed. This also allowed for the separation of themes and subthemes. Throughout this process, *Maps* and *memos* were utilized to help visualise and reflect on the data. An example of a mind map is presented below:



Phase 6: Reporting

It is important to note that phases 3-5 were conducted in a non-linear process, and a reflective journal was kept throughout the analysis.

Positionality Statement

As a mixed-race female who grew up outside of the United Kingdom, my understanding of what it is like to be a young person in the UK is limited. However, working from home during the COVID-19 pandemic in the UK as a mental health practitioner in an adult service, made me acutely aware of the impact of the pandemic on mental health and coping in adults. My interest in this area originated from reading a news article on sudden onset tics and social media, and I was curious to understand the impact of the pandemic on this presentation. My cultural identity, prior experiences of working in adult mental health, personal experiences of the pandemic, and interest in the area may have influenced my interpretations; however, I actively acknowledge preconceptions (both through my reflective journal and conversations with my supervisor) to reduce biasing the data.

Appendix 3.5 Measure Subscales Descriptive Statistics

Control Cohort

Variable	Mean	SD	Range
MACS: Stoicism	10.76	4.113	1-23
MACS: Acting Out	3.13	2.676	0-13
MACS: Rumination	11.05	3.767	3-18
MACS: SSS	8.81	4.467	0-19
MACS: Self-Care	8.04	4.742	0-18
TAS-A: DF	20.75	6.312	8-33
TAS-A: IF	16.48	4.209	8-25

FTLBs Cohort

Variable	Mean	SD	Range
MACS: Stoicism	10.07	3.242	3-18
MACS: Acting Out	4.472	3.253	0-13
MACS: Rumination	12.82	3.302	3-18
MACS: SSS	8.10	3.426	1-16
MACS: Self-Care	5.27	2.826	0-13
TAS-A: DF	19.10	3.873	10-25
TAS-A: IF	26.77	4.992	12-35

Appendix 3.6 Thematic Analysis Illustrative Quotes

Thematic Analysis Illustrative Quotes by Question

Question	Quotes
Question 1	“I was constantly stressed and sleep deprived during exam season and it was cold as well, so I didn't actually notice when the tics started, since I usually get a bit shaky when I'm cold and extremely sleep deprived (not necessarily stressed). I only realised it was an issue when I started having tics in the exam hall (can't remember if I was stressed or not, but the tics definitely made me stressed)." “They started when the pandemic ended and I was exposed to more people again. During the pandemic I was extremely isolated, I never came out of my room.” “I think it was more having to stay in with less interaction and then being allowed fully and that's probably what happened”
Question 2	“Anxiety and high stress situations make them worse, as does simply thinking about them. If I'm distracted it's less likely to happen, but if I think about them they can sometimes start up and then if I try to surpress them it gets worse. Situations that are a sensory overload (eg. a noisy crowd waiting for a show to start) or cause a lot of nerves or excitement (in the front row for a famous artist's panel at an event that I was extremely excited about and I could not stop my back and chin jerking) can also make them worse. Seeing other people making similar repetitive movements, whether voluntary like stims or involuntary like motor tics, can also cause my own to start up or worsen. The feelings from when they keep happening and you are worried about drawing attention, or sometimes it would even happen so much my muscles would start to hurt... The frustration of that and of trying to get them to stop and it obviously not working, that also makes them worse or even just makes them feel more pronounced and obvious.”
Question 3	“ I do think the pandemic was influential as it caused all my stress to culminate as it highlighted all my social issues and trapped me with my pre-existing issues and poor stress management. While the pandemic did not cause me new issues it caused a crisis point in my pre-existing problems” “Having life disrupted, everything in your world just stopped I’m not sure I would have had tics without lockdown, I’m not sure what it would have taken for me to have tics without lockdown” “The panicked situation; not knowing just how serious the worldwide situation was/ people undermining its severity worried me immensely. I constantly worried that I wouldn’t live through it, had intrusive thoughts, and my mental health was at its worst.” “I’m not sure, I think it seems to be too much of a coincidence for it not to be” “I think Covid progressed my anxiety as a lot of my social interactions were online and less frequent, leaving space for mixed tones and anxiety around friendships, as well as a lack of order around school work” “I don't remember having any before the COVID-19 pandemic, so I have previously suspected that the stress of the situation might have made some kind of tic disorder surface though I assumed it wouldn't be caused by that alone. I actually hadn't realised that any other young people had experienced this during the pandemic until this study was advertised to me on Instagram. I'd previously thought it was just a "me issue" and it never occurred to me that it was a shared experience, so that's why I'm interested in taking part in this study!”

Question 4	“I feel that there was a rise on people faking tics for views as there was a rise in tourettes but this is now a stereotype and is incredibly unhelpful to people suffering everyday from tics. As previously stated I never cosumed any media to do with tourettes at the time I developed it and still had a sudden on set, to souly blame social media is in my opinion an escape route and easy way out for people to avoid talking and helping this influx of teenagers with these disorders. I also belive that blaming individual creators is cruel.” “No. I think this really damages the concept of functional tics especially and is completely disrespectful to those facing them. My time since being diagnosed has been littered with people telling me ‘I’m faking’ and ‘got them from ‘tiktok’. The same way as with tourettes, those who already tic can pick up tics from other people with tourettes (this doesn’t just relate to social media but also seeing those people in person). You can’t simply develop tics from seeing them online.” “I think they can influence them in the way that someone with tics may have the same tics as people on social media because of tic swapping but I don't believe that social media is the cause of some people's tics. Some people may have faked it because of social media but I don't think that anyone genuinely suddenly developed tics directly because of social media (it could have been a factor but not the sole reason).” “I believe its possible that it can "unlock" tics. But I think you must have a predisposition to tics.” “I never saw anything about tics online, or never paid attention to that topic because i didn't know what it was. I don't really see anything like it on my social media now, most likely because i use social media moreso for interests (eg art and gaming related content rather than mental health or tics). I do think that learning more about it and seeing other people's tics can influence tics happening more often when seeing it happen. My guess is that the more the topic is in my brain, the more my brain is thinking about it, subconsciously or not, and therefore has more of a chance for it to happen?” “I hate it. You can't catch tics. It feels like blaming or accusing anyone with tics of being attention seeking which is already the stigma. Feeling judged or being called attention seeking makes me worse, I just want people to leave me alone. I never learned about or saw people with tourettes/tics until late 2020 because I was researching what was wrong with me.”

Appendix 3.7: Journal Submission Guidelines

Clinical Child Psychology and Psychiatry is interested in advancing theory, practice and clinical research in the realm of child and adolescent psychology and psychiatry and related disciplines. **Articles should not exceed 6,000 words (including abstract, references, tables and all other elements)** and be clearly organized, with a clear hierarchy of headings and subheadings (3 weights maximum). Manuscripts exceeding the word limit cannot be considered for publication by the editor. **Note, plain language summaries (PLS) are not included in the 6,000 word count.**

Preparing your manuscript for submission

Formatting

The preferred format for your manuscript is Word. LaTeX files are also accepted. Word and (La)Tex templates are available on the Manuscript Submission Guidelines page of our Author Gateway

Artwork, figures and other graphics

For guidance on the preparation of illustrations, pictures and graphs in electronic format, please visit Sage's Manuscript Submission Guidelines.

Figures supplied in colour will appear in colour online regardless of whether or not these illustrations are reproduced in colour in the printed version. For specifically requested colour reproduction in print, you will receive information regarding the costs from Sage after receipt of your accepted article.

Supplementary material

This journal is able to host additional materials online (e.g. datasets, podcasts, videos, images etc) alongside the full-text of the article. For more information please refer to our guidelines on submitting supplementary files.

Submitting your manuscript

Clinical Child Psychology and Psychiatry is hosted on Sage Track, a web based online submission and peer review system powered by ScholarOne™ Manuscripts.

Visit http://mc.manuscriptcentral.com/ccpp to login and submit your article online.