Doctoral Thesis

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Measurement and associations of childhood bullying experiences

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Statement of Total Word Count

Section	Main text	Appendices (including Title Pages, References, Tables, and Figures)	Total
Thesis Abstract	299	-	299
Literature Review	7511	11573	19084
Empirical Paper	7430	5796	13226
Critical Appraisal	3998	1807	5805
Ethics Proposal	3759	11614	15373
Total	22997	30790	53787

Thesis Abstract

Childhood bullying has been associated with longstanding deleterious social, physical, and psychological outcomes, and is increasingly being recognised as a global public health concern.

Section one reports a quantitative systematic literature review examining the characteristics and psychometric properties of childhood bullying instruments that measure co-occurring traditional and cyber bullying behaviours. Four databases were searched (PsychInfo, CINAHL, Embase and Ovid) and fifteen studies reporting on fourteen separate instruments met requirements for inclusion. The findings of the review highlighted differences between how each instrument measured childhood bullying. Differences centered around how the instruments scales were constructed, the use of a bullying definition and terminology, referent time frames, and response options. In addition, the instrument's methodological quality and psychometric robustness were also widely inconsistent. The review concluded that no study evaluated all psychometric properties within the three measurement domains: reliability, validity, and responsiveness. Thus, further research is required to comprehensively evaluate the psychometric robustness of the identified instruments.

Section two reports on an empirical study examining whether childhood peer victimisation can predict quality of life (QoL) in individuals with a diagnosis of bipolar disorder (BD), when controlling for sociodemographics and clinical covariates. Participants (n=109) completed an online survey. Multiple regression analysis found neither offline nor online peer victimisation to be significant predictors of QoL in individuals diagnosed with BD. Post-hoc mediation analysis indicated depression and anxiety to have a full mediating effect on the relationship between both offline and online peer victimisation and QoL. The

findings suggest childhood peer victimisation may play an important role in QoL for individuals with a diagnosis of BD through anxiety and depression.

Section three includes a critical appraisal that reflects on the main findings and critically evaluates key decisions made. Considerations for future research are explored and personal reflections of undertaking the work are discussed.

Declaration

This thesis documents research undertaken for the Doctorate in Clinical Psychology at the Division for Health Research, Lancaster University. The work presented here is the author's own, except where due reference is made. The work has not been submitted for the award of a higher degree elsewhere.

Name: Laura Williams

Signature:

Date: 29.04.2022

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Firstly, I would like to take this opportunity to show my gratitude to the study's participants. Thank you for being willing to engage in this research and giving your time to fill out the survey. Without your generosity it would not have been possible to complete this work, especially during a period that has been difficult for so many. I would also like to thank the experts by experience who provided vital insights into the design of the study.

A massive thank you to my supervisors James Kelly and Jasper Palmier-Claus. Completing this work would not have been possible without your words of encouragement, critical insights and expert knowledge of research and bipolar disorder.

I would also like to thank my wonderful cohort of fellow trainees. The camaraderie and shared understanding over the past three years has been invaluable, and it has been a joy and privilege to share this experience with you.

Finally, on a personal level I would like to thank my friends and family for their unconditional support and for keeping me smiling. A special thanks to my husband Jonathan for his unwavering belief in my ability to achieve my goals and always being by my side.

Contents

Section One: Systematic Literature Review

A systematic review of the characteristics and psychometric properties of childhood bullying measures

Word count (excluding references, tables and appendices): 7511 words

Abstract: 235 words

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Prepared in accordance with guidelines for authors for Psychology and Psychotherapy: Theory, Research and Practice[1]

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Declarations of interest: none

[1] See Appendix 1-1 for journal submission guidelines

Abstract

Objectives: Childhood bullying has longstanding consequences for both victim and perpetrator. Measuring the prevalence and experience of childhood bullying presents many challenges due to instruments of bullying being widely inconsistent in characteristics and psychometric robustness. The aims of the present review were to identify and appraise the methodological quality and psychometric properties of instruments that measure co-occurring childhood traditional bullying and cyberbullying.

Method: A systematic review of the literature was conducted using four electronic databases and all identified records were screened following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Data extraction and appraisal of all included instruments were completed using the peer-reviewed and evidence-based COSMIN Risk of Bias Checklist and the criteria for good psychometric properties.

Results: Fifteen studies evaluating fourteen instruments were included in the present review. The review identified disparity between how each instrument measures childhood bullying. Differences centered around how scales were constructed, use of bullying definitions and terminology, referent time frames, and response options. Methodological quality and psychometric property robustness were also widely inconsistent across and within studies, with no study evaluating all domains.

Conclusions: Although there are a number of instruments that measure concurrent traditional and cyber bullying, all instruments require further validation to gather a comprehensive understanding of their psychometric robustness. Strengths and limitations of the review are identified and, from the findings, future research and implications for clinical and research practice are discussed.

Keywords: bullying; cyberbullying; victim: perpetrator; power imbalance; aggression; intention to harm; psychometric properties; instruments; measurement.

Practitioner points:

- Childhood bullying has longstanding deleterious impacts on an individual's social, physical, psychological, and academic outcomes, regardless of perpetration or victim role.
- With greater access to electronic devices and internet, cyberbullying is now as ubiquitous as traditional bullying. However, as cyberbullying appears to not produce as many 'new bully victims' as traditional bullying due to cyberbullying usually being experienced alongside traditional bullying, it is important to investigate the co-occurring nature of this complex phenomenon.
- There is a lack of good methodologically and psychometrically robust instruments that measure co-occurring traditional and cyber bullying.
- Further validation of existing instruments and development of new instruments is paramount to ensure childhood bullying can be reliably measured. This could result in higher quality research being undertaken to inform prevention and intervention strategies.

Introduction

With incidences of childhood bullying rising, it is increasingly being recognised as a global public health concern (Biswas et al., 2020; Dale et al., 2014; Scrabstein & Merrick, 2012; Wang et al., 2019). Childhood bullying has been associated with poorer social, physical, psychological, and academic outcomes for both the victim and perpetrator in childhood and adulthood (Arseneault et al., 2010; Brimblecombe et al., 2018; Card & Hodges, 2008; Klomek et al., 2010; Nansel et al., 2001; Takizawa et al., 2014; Wolke et al., 2001). Traditionally, childhood bullying has consistently been reported to comprise of physical, verbal, and relational/indirect behaviours (Johansson & Englund, 2021; Olweus, 2017; Olweus & Limber, 2018). Although once thought of as a playground behaviour, bullying is no longer isolated to education settings (Seiler & Navarro, 2014). With the proliferation of the internet and electronic devices, bullying is following young people home and is becoming increasingly prevalent in both offline and online communities (Dale et al., 2014; Seiler & Navarro, 2014). Consequently, a fourth type of bullying, cyberbullying, has been identified (Heirman & Walrave, 2008; Smith et al., 2008; Smith, 2014).

Despite a growing amount of literature on bullying, a reliable estimate for the prevalence of bullying in childhood continues to elude the field, with rates of bullying varying considerably across studies (Rivara, 2016). The United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2019) recently examined the global prevalence and found almost one in three (32%) children had been bullied. Measuring the prevalence and experience of childhood bullying presents many challenges due to vast differences in the instruments used (Atik, 2011; Furlong et al., 2010; Vivolo-Kantor et al., 2014). One of the greatest challenges within this area is the lack of a universally accepted definition of childhood bullying.

For the past two decades, many researchers have relied on the definition of bullying developed by Olweus (1993). This definition consists of three key components; aggressive behaviour or intentional harm; repetition; and a power imbalance. Although these components have remained at the heart of bullying research, their use has not been standardised or systematic (Grief & Furlong, 2006). In 2014 the Centre for Disease Control and Prevention (CDC) released an updated and uniform definition of childhood bullying (Gladden et al., 2014). The definition honoured Olweus' three components, but outlined that intentional aggression needed to be unwanted; it could be a single act of aggression if there was a perceived likelihood of being repeated; and excluded teen dating and sibling violence. In addition, Volk et al., (2014, p. 328) have suggested focussing on the goal of the aggressive behaviour, *""bullying is aggressive goal-directed behaviour that harms another individual within the context of a power imbalance".* With reported incidences of childhood bullying via electronic means rising (Chun et al., 2020; Modecki et al., 2014), several definitions of cyberbullying have also been proposed in literature, but consensus about how to conceptualise the pheneoma has been debated (Menesini et al., 2012). Tokunaga (2010, p. 278) defined cyberbullying as "any behaviour performed through electronic or digital media by individuals or groups that repeatedly communicate hostile or aggressive messages intended to inflict harm or discomfort on others". However, some scholars argue that the three components of traditional bullying (Olweus, 1993; Olweus, 2012) are also largely applicable to cyberbullying (Johansson & Englund, 2021).

The lack of consensus around how cyberbullying is conceptualised, has resulted in a divide between researchers on whether cyberbullying is an extension of traditional bullying or a separate phenomenon (Chang, 2021). Olweus (2012) conceptualises cyberbullying as not being fundamentally or qualitatively different from traditional bullying (Olweus, 2017). Exploratory and confirmatory factor analysis, as well as more advanced item response theory

analysis, has also evidenced traditional bullying and cyberbullying items to belong to the same latent factor or dimension (Olweus, 2012). In addition, a cross-cultural study using focus groups (Nocentini et al., 2010), found adolescents spontaneously proposed traditional bullying, but did not view cyberbullying as a separate construct.

Research has begun to explore the association between traditional bullying and cyberbullying. When investigating the overlap between the two phenomena, Ybarra & Mitchell (2004) reported that only 44% of cyberbullying victims also identified as victims of traditional bullying. The study was carried out between 1999-2000 when cyberbullying was in its infancy (Johansson & Englund, 2021), but since then a considerable amount of research has evidenced a distinct overlap between traditional bullying and cyberbullying ranging from 48.7% to 95.1% (Hinduja & Patchin, 2012; Lazuras et al., 2017; Modecki et al., 2014; Olweus, 2012; Smith et al., 2008; Wang et al., 2010; Wang et al., 2019). Scholars (Hinduja & Patchin, 2012; Olweus, 2017) argue that the emergence of cyberbullying has created relatively few new victims or perpetrators and is a low prevalence phenomenon. Analysis of a large data set found that of students who had either been a perpetrator or victim of cyberbullying, only 10% had not experienced traditional bullying concurrently (Olweus, 2017). Similarly, Waasdorp & Bradshaw (2015) found that 4.3% of victimised students had only experienced cyberbullying, with 50% experiencing both traditional and cyber bullying, and Wolke et al., (2017) found of 29.5% of adolescents who had reported being bullied, only 1% were ‘pure’ cyber-victims. Significant correlations have been reported between cyberbullying and traditional bullying (Johansson & Englund, 2021; Williams & Guerra, 2007), but as the prevalence of traditional bullying is greater than that of cyberbullying, the former has been reported to be a statistically significant risk factor for both occasional and severe cyberbullying (Alvarez-Garcia et al., 2015; Kowalski et al., 2012; Slonje & Smith, 2008).

There is now a strong body of research evidencing cyberbullying to have a similar negative impact on an individual's mental health as traditional bullying (Bonanno and Hymel 2013; Dooley et al., 2009; Ortega et al., 2012; Suzuki et al., 2012), such as depression (Ybarra et al., 2006) and suicidal ideation (Hinduja & Patchin, 2010). In addition, research has found that adolescents who are exposed to co-occurrence of both traditional and cyber victimisation are more likely to experience poorer physical and psychological outcomes (Gradinger et al., 2009; Messias et al., 2014; Schneider et al., 2012; Wang et al., 2010). It has also been suggested that victims of traditional bullying may also engage in cyberbullying perpetration (Lazuras et al., 2017), but consequently these individuals exhibit a greater level of psychological adjustment problems as they experience the negative impact of dual roles (Estevez et al., 2020).

Given the available evidence, it is possible to conclude that traditional bullying and cyberbullying are an overlapping and complex phenomenon that are more similar than different, and often co-occur (Lazuras et al., 2017; Thomas et al., 2014; Menesini, 2012). Although assuming a broader definition of bullying may neglect some specifics the cyber-environment provides, such as anonymity and an attack being able to occur anywhere at any time (Estevez et al., 2020; Johannsson & Englund, 2021; Menesini, 2012), in light of the findings reported above, researchers have argued that cyberbullying is not a separate phenomenon and thus does not warrant a separate line of study (Olweus, 2017; Olweus & Limber, 2018; Thomas et al., 2014). As such it has been proposed that both traditional bullying and cyberbullying should be measured simultaneously in multi-item scales (Thomas et al., 2014).

The majority of instruments appear to measure specific types of bullying behaviours such as physical, cyber, relational and property, but a small number of instruments measure the school climate which reflects the physical and psychological aspects of a school such as

safety and relationships (Kartal & Bilgin, 2009; Petrie, 2014). Irrespective of type of bullying measured, all instruments vary widely in their characteristics such as the response scale and use of a definition. The psychometric sophistication of the instruments also vastly differs. Vessey et al. (2014) concluded that many papers lack adequate methodological quality and evidence supporting psychometric soundness. Reporting the psychometric properties of available instruments is important in assessing the accuracy of the bullying instruments.

As research has evidenced both traditional and cyber bullying to occur concurrently, an instrument which can reliably measure this overlapping complex phenomenon is vital. To our knowledge, only two previous systematic reviews have synthesised psychometric properties of childhood bullying instruments, irrespective of type of bullying (Vivolo-Kantor et al., 2014; Vessey et al., 2014). No review has been completed on the psychometric properties of childhood bullying instruments that measure concurrent traditional bullying and cyberbullying. Therefore, the objectives of this review were to: (1) systematically identify published self-report instruments developed to assess childhood bullying; (2) evaluate the methodological qualities of the identified psychometric papers; (3) appraise the characteristics and psychometric properties of measures; (4) explore the feasibility and interpretability of each instrument. By providing all this information in a single summative source, we hope researchers and professionals will be better informed to choose the instruments which best aligns with their use based on scale characteristics and psychometric properties. We hope it will also help advance childhood bullying research and aid the development of preventative strategies to reduce the longstanding negative impact childhood bullying has on individual's lives and public health services.

Method

The study protocol was registered in the international Prospective Register of

Systematic Reviews (PROSPERO) database with the identification number CRD42021249298. The present review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009).

A systematic search of four databases (PsychInfo, CINAHL, Embase and Ovid) that covered a wide range of disciplines, offered extensive access to articles, and provided search options that enable a researcher to narrow results to those that are most relevant, identified articles published between January 1980 and January 2022 (Table 1-1). The search terms were partly adapted from previous reviews (Vessey et al., 2014; Vivolo-Kantor et al., 2014) and where possible were 'exploded' in the field of Bullying. By exploding the search terms into bullying and cyberbullying using the thesaurus function in the databases, it ensured that the search strategy found all articles which were indexed to those terms and the narrower terms relating to them. The first block pertained to childhood bullying and the second block related to outcome measures and psychometric properties. In addition to the database searches, we screened the reference lists of included articles; previous reviews (Chun et al., 2020; Berne et al., 2013; Jenaro et al., 2018; Nelson et al., 2017; Vessey et al., 2014; Vivolo-Kantor et al., 2014); and the Bullying Compendium (Hamburger, Basile, & Vivolo-Kantor, 2011).

[Table 1-1 here]

Eligibility Criteria

Inclusion and exclusion criteria were established prior to conducting the search. Studies were included when: (1) the article and instrument evaluated was presented or reasonably assumed to be in the English language; (2) psychometric properties of the instrument were evaluated and discussed; (3) the instrument was a self-report measure of

concurrent childhood traditional and cyber bullying behaviours. We defined childhood as any age up to 18 years, and the measure had to have an evaluated construct and/or specific questions relating to both types of bullying. Exclusion criteria were as follows: (1) the primary aim of the article did not include the evaluation of the psychometric properties of the instrument; (2) the instrument exclusively measured either traditional bullying or cyberbullying; (3) the measure was a peer-nomination, teacher-rated or parent-rated scale; (4) book chapters, editorials, comments, letters, dissertations, or conference presentation extracts.

Screening and Reliability

Articles were screened in two stages: title and abstract, and full article. To assess the reliability of the systematic review process, twenty percent of titles and abstracts were randomly selected (n = 299) and reviewed by two researchers, with moderate agreement obtained (95%, k = 0.68 , p < .001; McHugh, 2012). Discrepancies were due to the lead rater being cautiously inclusive. If discrepancies between the two raters could not be resolved, further consultation was sought from the research team. Articles were only screened for eligibility at full-text level when agreement was unanimous. Both reviewers screened all 100 articles at full-text level, obtaining moderate agreement (93%, k = 0.76 , p < .001; McHugh, 2012). Differences in inclusion centered around whether the study primarily evaluated the psychometric properties of an instrument; whether the instrument measured childhood bullying; and if the measure was validated in the English language. Discrepancies also highlighted instruments that were evaluated with a mixed age sample. The decision to include instruments that were evaluated in participants over 18 years was made, as long as the sample also included participants below the age of 18. Articles were only included when both reviewers unanimously agreed that the study matched the eligibility criteria.

Data Extraction

Data relating to (1) study characteristics; (2) instrument characteristics; and (3) psychometric properties of the instruments evaluated, were extracted from the identified studies (Mokkink et al., 2018b). The specific research methods used by the studies to investigate each psychometric property were identified for the methodological quality appraisal, and data on the outcome of these investigation were extracted for the quality appraisal of the psychometric properties.

Methodological Quality Appraisal

The Consensus-based Standards for the selection of health Measurement Instruments (COSMIN) methodology was developed to aid the development, selection, and evaluation of patient-reported outcome measures (PROMs; Mokkink et al., 2010a; 2010b). The COSMIN Risk of Bias Checklist (Mokkink et al., 2018a) is a standardised tool for evaluating the methodological quality of studies on the psychometric properties of PROMs. The checklist comprises ten categories, nine of which appraise methodology related to a psychometric property. The properties are from three distinguished domains: reliability, validity, and responsiveness. The domain reliability contains three measurement properties: internal consistency, reliability, and measurement error. Both reliability and measurement error can be measured using test-retest, inter-rater, and intra-rater. The domain validity also contains three measurement properties: content validity (including face validity), criterion validity, and construct validity that comprises structural validity, hypotheses testing and cross-cultural validity. The domain responsiveness contains only one measurement property of the same name (Mokkink et al., 2018b).

The checklist contains between three and twenty-six items for each psychometric property and includes standards on design requirements of the studies and preferred statistical methods, such as an adequate sample size and whether exploratory or confirmatory factor

analysis was used when developing the items in the measure. Each item is ranked on a four-point rating scale: 'very good, adequate, doubtful or inadequate'. A total quality rating for each psychometric property is then determined by a 'worst-score counts' method, that takes the lowest rating of any item in its appraisal box (Mokkink et al., 2018b). To ensure the quality of the ratings, twenty-five percent of the identified papers (n = 4) were reviewed by a second researcher. Differences in rating centered around content validity and criterion validity, as the standards for these criteria were more sensitive to subjective judgement.

Quality Appraisal and Synthesis of Psychometric Properties

To ensure standardised synthesis and to enable meaningful comparison of psychometric properties across identified papers, explicit quality criteria were used (Table 1-2; Terwee et al., 2007; Prisen et al., 2016; Prisen et al., 2018). The criteria were based on the same COSMIN taxonomy as the COSMIN Risk of Bias Checklist, and it is recommended to use the tools simultaneously (Mokkink et al., 2018b). The nine measurement properties were rated as either: sufficient (+) if results were in accordance with the criteria's standard, insufficient (-) if results were not in accordance with the criteria's standard, or indeterminate (?) if reported results were not consistent with the criteria (i.e., a different method was used) or results for that psychometric property were not reported.

Although not considered measurement properties of PROMs, data on the feasibility and interpretability of the instruments identified were also evaluated, as they are assumed to be important aspects for a well-considered PROM (Prisen et al., 2016; Prisen et al., 2018).

[Table 1-2 here]

Results

In accordance with PRISMA guidelines, a flowchart illustrating the article screening process was completed (Figure 1-1). Of the 1894 articles identified by the database search,

398 duplicates were removed, resulting in 1496 articles screened at abstract and title level. Subsequently, 1396 articles were excluded, resulting in 100 articles being screened at full article level. Reasons articles were excluded are outlined in Figure 1. Fourteen articles were identified and upon reviewing their references lists, an additional article met the full inclusion criteria. Fifteen articles were included in the final review.

[Figure 1-1 here]

Study Characteristics

Table 1-3 provides an overview of the characteristics of the fifteen included studies, of which there were fourteen unique self-report instruments evaluated; two papers reported on the CABS (DiFazio et al., 2018; Strout et al., 2018). The majority of studies were undertaken in the United States (*n*=9, 60%), with the remaining studies occurring in Australia (*n*=3, 20%), United Kingdom (*n*=1, 6.7%), Portugal (*n*=1, 6.7%), and Taiwan (*n*=1, 6.7%). Study sample size ranged from 125 to 11,449 participants, with most studies recruiting from school settings (*n*=12, 80%). One study solely recruited from a clinical population (CABS; Strout et al., 2018), whilst another study evaluated their instrument in both a clinical and school setting (BOSS). As one of the instruments was a measure of retrospective childhood bullying, it was evaluated in a university population (CBVS-R). Participants from school or clinical samples ranged in age from nine to twenty years old. Seven of the fifteen studies evaluated their instrument against other childhood bullying measures, with the R-OBVQ (Olweus, 1996) being the most commonly chosen.

[Table 1-3 here]

Instrument Characteristics

Table 1-4 provides an overview of the instrument characteristics from the fifteen included papers. The instruments ranged in length from eight to forty-two items and

measured a variety of bullying behaviours. The most common bullying behaviours measured were physical, verbal, social/relational and cyber/electronic. Of the fourteen instruments under review, eight measured solely victimisation, whilst six measured both victimisation and perpetration. No instrument exclusively measured perpetration. Uniquely, one instrument measured victimisation and perpetration in the context of the school climate (BOSS). Six of the studies endorsed using a definition of bullying in the administration of their instrument. Interestingly, of the eight studies which did not include a definition of bullying in their instrument, one included explicit bullying terminology in their items such as "I get bullied at school" and "there are times that I do not want to go to school because I am being bullied" (CABS). In addition, there were variations in the referent time frame for the instruments. Understandably, the retrospective instrument referred to childhood but did not define the time frame this covered (CBVS-R). For the other thirteen instruments, referent frames ranged from the past month to the past school year. Twelve of the instruments requested participants to respond using likert-type scales, ranging from three to five responses, such as 'never happened, once or twice a school year, two or three times a month, once a week, several times a week'. One instrument used a ratio scale consistent with the frequency an individual experienced a given behaviour (BCS-A) and another instrument used a question stem which consisted of dichotomous yes and no responses and likert scales (CBVS-R).

[Table 1-4 here]

Although all instruments included in this review measured concurrent traditional bullying and cyberbullying, the review highlighted the varying ways instruments are constructed to measure the behaviours. Both the CABS and CBVS-R were singular scales and respectively measured an individual's experience of either retrospective childhood bullying or bullying exposure. Five of the instruments included in the review (BOSS, BullyHARM, MBVS, SBSS, PECK) are singular scales, but comprised between three and six

subscales. The subscales measured specific constructs of bullying such as verbal, social, and school climate. Four of the instruments (BOSS, BullyHARM, SBSS, PECK) had subscales which measured traditional bullying behaviours and a specific subscale for cyberbullying. The MBVS did not have a specific cyberbullying subscale, but of the twenty-four items included in the overall scale, five items measured cyberbullying behaviours. Contrastingly, seven instruments consisted of two scales. Five of these instruments (BCBQ, BCS-A, FBS, HBSC, MPVS-R/MPVS-RB) had perpetration and victimisation scales, and weaved items relating to traditional bullying and cyberbullying throughout both scales. For the BCS-A both the perpetration and victimisation scales had four subscales (physical, verbal, relational, and cyber) and the items relating to offline and online bullying are presented in explicit subscales. Similarly, both scales for the MPVS-R/MPVS-RB had five subscales (physical, social, verbal, attacks on property and electronic). Furthermore, two instruments which were comprised of two scales measured different constructs. The RASEQ had two scales which measured overt victimisation and social victimisation, but only the social victimisation scale was comprised of items that measure cyberbullying, as it is not classed as an overt behaviour. The MOOPVS scale was explicit in separating traditional bullying from cyberbullying by comprising two scales which measured offline and online bullying separately. Both scales consisted of two subscales measuring direct and indirect behaviours.

Methodological Quality Appraisal

The methodological quality of the fifteen included studies was assessed using the COSMIN Risk of Bias Checklist (Mokkink et al., 2018a). The quality appraisal of each paper's methodology for each psychometric property measurement is presented in Table 1-5. Most studies measured multiple psychometric properties. However, appraisal of the methodological quality of all nine properties psychometrics was not possible due to no study reporting them all. One study (CABS; DiFazio et al., 2018) only measured content validity,

but additional psychometric properties of this measure was further analysed by the same authors in a separate paper (Strout et al., 2018). The other thirteen studies measured between three and six psychometric properties. Of the fourteen instruments, the methodological quality of the studies was frequently rated as ‘sufficient’. Among the measurement properties, structural validity (*n*=13) and internal consistency (*n*=11) were the most frequently assessed. Responsiveness (*n*=1) and criterion validity (*n*=3) were the least frequently reported measurement properties. The psychometric property of ‘measurement error’ was not reported in the review due to no studies providing information on parameters such as standard error of measurement, smallest detectable change, or limits of agreement.

[Table 1-5 here]

Content validity was evaluated in six measures, however only one of these demonstrated ‘very good’ construct validity (CABS). Four measures were appraised to have ‘doubtful’ content validity (BOSS, BullyHARM, FBS, MBVS) due to not providing enough information to adequately evaluate if, for example, an appropriate approach was used to analyse the data, and if at least two researchers were involved in the analysis. The PECK received a score of ‘adequate’ for content validity due to using a quantitative method to ask young people about the relevance of each item in the instrument.

All but one measure (CBVS-R) reported data on structural validity. Of the thirteen rated measures, ten were appraised as demonstrating ‘very good’ structural validity, and three were rated as ‘adequate’. The ‘adequate’ quality rating (BOSS, CABS) was due to studies using exploratory factor analysis (EFA) rather than the preferred confirmatory factor analysis (CFA), item response theory (IRT) or Rasch analysis. Despite using CFA, the RASEQ was rated as ‘adequate’ due to an inadequate sample size for the number of items in the factor analysis.

The methodological quality of construct validity was appraised through hypotheses testing. Hypotheses testing was assessed for all but one measure (BullyHARM) due to not assessing convergent or divergent validity. Overall, two measures (BCS-A, CABS) were rated as ‘inadequate’ because the statistical analyses used were judged as not being appropriate to test the hypotheses defined by the review team. Ten measures (BOSS, BCBQ-SF, FBS, HBSC, MBVS, MOOPVS, MPVS-R/MPVS-RB, SBSS, PECK, RASEQ) were rated as ‘very good’. The rating for the CBVS-R was inconsistent, with discriminative validity being appraised as ‘very good’, and convergent validity being ‘inadequate’ due to the reported measurement properties of the comparator instrument not being validated in the study population.

This review only included English language measures. However, as the COSMIN checklist (Mokkink et al., 2018b) has a broad interpretation of culturally different populations, cross-cultural validity was evaluated for measurement invariance of an instrument across different groups such as age and gender. Nine measures were assessed for cross-cultural validity (BCBQ-SF, BCS-A, CBVS-R, FBS, HBSC, MOOPVS, MPVS/MPVS-RB, SBSS, RASEQ) and all were rated as ‘doubtful’ due to lacking adequate information describing whether samples were similar for relevant characteristics except the group variable.

Criterion validity was one of the least frequently evaluated measurement properties. Studies were required to provide evidence of the use of a ‘gold standard’ comparator. As the checklist removed standards defining a ‘gold standard’, they recommended review authors to determine their own. The present review deemed a study to use a ‘gold standard’ comparator if they referenced adequate demonstration of the psychometric properties such as internal consistency and criterion-related validity in a similar population. Only three measures evaluated criterion validity and they were all appraised as ‘very good’ (BOSS, CABS,

MBVS). Four studies purported to using a 'gold standard' comparator but did not demonstrate the quality of the instrument's measurement properties (BCS-A, CBVS-R, FBS, PECK).

Three measures did not report any data on internal consistency (BCS-A, CBVS-R, RASEQ). Of the eleven instruments which did measure internal consistency, ten were appraised as being 'very good' (BOSS, BCBQ-SF, BullyHARM, CABS, FBS, HBSC, MBVS, MOOPVS, MPVS-R/MPV-RB, PECK) and one was rated as 'inadequate' due to not reporting a calculated statistic for each unidimensional subscale (SBSS).

Reliability was only reported for five measures, all of which assessed test-retest reliability. Of these, BOSS was rated the highest with 'adequate' methodology. BCS-A and RASEQ were both rated as 'inadequate', and CBVS-R and PECK were appraised as 'doubtful'. Poor ratings were in relation to information regarding participants stability between time points being only 'assumable' and intraclass correlation coefficient (ICC) not being calculated.

With regard to responsiveness, only two studies had a longitudinal design (Green et al., 2018; Rosen et al., 2013). Green et al., (2018) did not report data on 'change scores' for the CBVS-R, whereas Rosen et al., (2013) did examine differences between social and overt victimisation across a four-year period. Despite this, the methodological quality of the psychometric property was appraised as 'inadequate' due to not carrying out the appropriate statistical analysis for hypotheses testing.

Quality Appraisal and Synthesis of Psychometric Properties

Table 1-6 summarises the ratings for each psychometric property of all studies included in this review. The psychometric properties of each instrument were assessed against the criteria outlined in Table 2 (Prisen et al., 2016; Prisen et al., 2018). No instrument

reported data on all psychometric properties. Of the fourteen instruments the psychometric properties were frequently rated as very good.

[Table 1-6 here]

Validity

Content validity. Content validity was evaluated in six measures (CABS, BOSS, BullyHARM, FBS, MBVS, PECK), of which all were rated as providing 'sufficient' information on the items relevance to the construct measured, target population, and context of use.

Structural validity and internal consistency. Structural validity is a prerequisite for interpreting the evidence on internal consistency. Of the fourteen instruments included in the review, one did not report on structural validity or internal consistency (CBVS-R). Five instruments (BCBQ-SF, BullyHarm, FBS, HBSC, RASEQ) demonstrated 'sufficient' structural validity. Of these five, four were appraised to have 'sufficient' internal consistency due to reporting Cronbach's alpha values ≥0.70 for each identified factor, however, the RASEQ did not report data for internal consistency. Six measures were rated as 'insufficient' for structural validity due to not meeting the criteria outlined regarding comparative fit index (CFI), tucker-lewis index (TLI), and root mean square error of approximation (RMSEA). Five of these instruments demonstrated 'sufficient' internal consistency for all identified factors (BCS-A, MBVS, MOOPVS, MPVS-R/MPVS-RB, PECK), but for the BOSS, only four of its five factors demonstrated Cronbach's alpha values ≥0.70. The CABS reported Cronbach alpha values >0.97, but due to using a principal component analysis it was unable to provide all information required to rate structural validity higher than 'indeterminate'. Similarly, the reported study for the SBSS used Rasch analysis to assess structural validity, but due to not reporting all criteria necessary to assess model fit, it was rated as

‘indeterminate’. Although the SBSS was reported to have a reliability coefficient of 0.97, the criteria that it was assessed against only rated Cronbach alpha values. Thus, this was rated as ‘indeterminate’, as the measure demonstrated low evidence for structural validity.

Hypotheses testing for construct validity. The quality criteria for good psychometric properties (Mokkink et al., 2018b; Prisen et al., 2018) recommends review teams formulate a set of hypotheses about the expected direction and magnitude of correlations between the instrument of interest and comparator, and of mean differences in scores between subgroups. For the purpose of hypotheses testing for this review, the generic hypotheses defined in Prisen et al., (2018) was adopted; (1) correlations with instruments measuring similar constructs should be ≥0.50; (2) correlations with instruments measuring related, but dissimilar constructs should be lower, i.e., 0.30–0.50; (3) correlations with instruments measuring unrelated constructs should be <0.30; (4) no meaningful differences between relevant (sub)groups.

One measure (BullyHARM) did not assess convergent or divergent validity so was not evaluated. Of four measures which reported solely on convergent validity, three (BOSS, MBVS, PECK) were rated as ‘sufficient’ and one (CABS) was ‘indeterminant’ due to the hypotheses being inappropriate for the statistical test used. Five measures reported only on discriminative validity. Of these two (HBSC, RASEQ) were rated as ‘sufficient’ as the results were in accordance with the hypotheses, but three (BCBQ-SF, MOOPVS, SBSS) were rated as ‘insufficient’ as they reported differences between ages and sexes, so were not in accordance with the stated hypotheses. Furthermore, four instruments reported both convergent and discriminative validity. However, only two measures were appraised consistently with the FBS being rated as ‘sufficient’ and the BCS-A being appraised as ‘indeterminate’ due to the statistical method of hierarchical regression not being appropriate to test the hypotheses. The MPVS-R/MPVS-RB demonstrated ‘sufficient’ convergent validity

but was rated as ‘insufficient’ due to reporting differences between groups for divergent validity. Contrastingly, the CBVS-R demonstrated no group differences so was rated as ‘sufficient’, but for convergent validity the related but dissimilar comparator instrument evidenced correlations <0.30, thus was rated as ‘insufficient’.

Cross-cultural validity for measurement invariance. Synonymous to the COSMIN checklist, the quality criteria for good psychometric properties adopts a broad definition of culturally different populations and is not exclusively restricted to race and ethnicity. As this review was limited to English language measures, the majority of the nine instruments which were evaluated in subgroups focussed on age and gender differences. Although two measures (CBVS-R, MOOPVS) analysed two different subgroups they were rated as ‘indeterminate’ due to not performing multiple group factor analysis or DIF analysis. Four measures (BCS-A, HBSC, SBSS, RASEQ) identified no differences between group factors so were rated as ‘sufficient’, whereas three measures (BCBQ-SF, MOOPVS, MPVS-R/MPVS-RB) were found to have differences between group factors so were rated as ‘insufficient’.

Criterion validity. Unfortunately, due to there not being a formally recognised ‘gold standard’ of childhood bullying, and four studies (BCS-A, CBVS-R, FBS, PECK) not being able to demonstrate use of a psychometrically sound comparator instrument, only three instruments were assessed for criterion validity. Although the BOSS subscales correlated significantly with its purported gold standard comparator subscales, the correlation was <0.70 so was rated as ‘insufficient’. Contrastingly, the CABS and MBVS both demonstrated Pearson correlations of ≥0.70 so were rated as ‘sufficient’.

Reliability

Internal consistency. Internal consistency has been summarised alongside structural validity, and it was noted that of the eleven instruments for which internal consistency was

reported, nine reported Cronbach alphas above the desirable ≥0.70, and one reported an alternative statistic of reliability coefficient in the context of Rasch analysis.

Reliability. Of the five measures (BOSS, BCS-A, CBVS-R, PECK, RASEQ) which reported evidence on reliability, the test-retest method chosen varied in time interval from two weeks to four years. Unfortunately, no study reported an intraclass correlation coefficient (ICC) or weighted Kappa for their instrument. The CBVS-R did report a kappa statistic but did not note its weighting. Thus, all five measures were rated as 'indeterminant'.

Responsiveness

Two studies evaluated their instrument longitudinally, but only one reported data on change scores. When appraised the RASEQ did not meet the review teams hypotheses of 'for responsiveness, AUC should be ≥0.70' (Prisen et al., 2018), as the study only examined the changes in the mean values of the factors over the four ages.

Feasibility and Interpretability

Feasibility concerns an instruments ease of application in its intended setting. As such, it considers completion time, cost and availability, administration instructions, patient comprehensibility and ease of scoring. Interpretability concerns the degree to which qualitative meaning can be assigned to quantitative scores (Prisen et al., 2018).

As detailed above under instrument characteristics, all studies reported the number of items in the instrument, but only three instruments reported length of time to complete, with this varying from five minutes (BullyHARM) to eighteen minutes (BOSS), and thirty-five minutes (FBS). Two studies commented on the comprehensibility of their instrument, with the BOSS reporting a reading age of 'middle school', and the BullyHarm indicating sixth grade. Although limited, administration instructions were provided for four instruments (BOSS, MOOPVS, RASEQ, BCBQ-SF). The cost and availability of instruments was not

explicitly reported in any study, and only three studies included copies of the instrument in the appendix (BCS-A, CABS, FBS). Regarding scoring and interpretability, this was only provided for three measures (BCS-A, CABS, CBVS-R).

Discussion

Empirical research on childhood bullying can be traced back to Olweus (Olweus, 1978; Hymel & Swearer, 2015), and since this time, inconsistencies in measurement instruments have frequently been cited as being responsible for disparate prevalence rates in both traditional and cyber bullying (Cook et al., 2010; Ybarra et al., 2012). This is the first systematic review to evaluate characteristics and measurement properties of childhood bullying instruments that concurrently measure traditional bullying and cyberbullying behaviours. A comprehensive systematic search strategy identified fourteen childhood bullying instruments from fifteen studies and based on the review findings, there is a lack of evidence for robust psychometric properties across childhood bullying instruments.

The review highlighted differences between how each instrument measured childhood bullying. Some instruments asked responders to rate bullying behaviours over the ‘past month’ whereas others used ‘past school year’. Disparities in referent time frames and response options have been argued to affect reported prevalence rates (Vivolo-Kantor et al., 2014). Depending on when instruments are administered and the referent time frames used, may impact the levels of bullying reported. For example, a measure administered in September using the ‘past month’ is likely to see lower levels of reported bullying due to school holidays, than a measure using ‘past three months’ administered in December. Detrimentally, an ideal referent time frame has yet to be determined. Short time frames have been accused of not being representative of a young person’s typical experiences, but longer time periods have also been criticised due to hindered memory recall (Hall, 2016).

Similarly, differences were found in the use of a bullying definition and terminology. Amongst scholars there is a debate around the impact this could have. It has been argued that providing a definition ensures a degree of common understanding of the phenomenon (Griffin & Gross, 2004; Solberg & Olweus, 2003), particularly as children's interpretation of bullying has been found to vary across different countries and genders (Boulton et al., 1999; Schafer et al., 2002). Contrastingly, research has also suggested that using bullying terminology may bias responses and result in underreporting of behaviours due to the emotions and stigma related to being bullied (Cornell & Brockenbrough, 2004; Espelage & Swearer, 2003; Kert et al., 2010). Ybarra et al., (2012) reported use of a definition to not impact prevalence rates but did support use of bullying terminology to reduce misclassification rates amongst English speaking youth in the United States.

Of the six measures which endorsed the use of a bullying definition, three used a general definition of bullying, and three explicitly defined differences in bullying behaviours such as physical and verbal, and cyberbullying. The review also highlighted how the bullying instruments are constructed differently. The instruments were comprised of either one or two scales. The instruments comprising two scales were generally focussed on victimisation and perpetration behaviours. Thirteen of the fourteen instruments had a number of subscales to measure the different types of bullying but did not differentiate between items in the questionnaires. Only the MOOPVS explicitly separated traditional and cyber bullying behaviours in different scales.

The use of the COSMIN checklist (Mokkink et al., 2018a) and quality criteria for measurement properties (Prisen et al., 2018) to appraise the methodological quality and psychometric properties of each identified instrument, highlighted inconsistencies across the studies and within studies for different measurement properties. To develop a comprehensive conclusion on the reliability of an instrument, all three elements of the domain should be

assessed: internal consistency; reliability (test-retest, inter-rater, and intra-rater); and measurement error. As no instrument reported data on measurement error, we cannot make conclusions on the reliability of any instrument. Measurement error is clinically relevant as instruments that demonstrate low error can detect clinically important changes and aid clinicians in understanding whether the problem being measured is worsening, or whether an intervention is proving effective (Dvir, 2015).

Similarly, no measure reported all domains of validity; content; criterion; construct (structural, hypotheses testing, and cross-cultural). As there is no 'gold standard' instrument defined for childhood bullying, many measures failed to demonstrate use of a psychometrically sound comparator instrument. In addition, the lack of cross-cultural perspectives undermines the generalisability of the measures, but it should be noted that due to the limits of our search strategy, we cannot rule out this data being evidenced in excluded studies. For example, the psychometric properties of the BCBQ were also validated in a sample of school children in Portugal (Coelho et al., 2016), but due to the study using the Portuguese adaptation of the instrument, the record was excluded from our review. Terwee et al., (2018) identified content validity as the most important psychometric property of an instrument, but only six of the fourteen measures in the present review provided evidence of this property. Of the six instruments, only the CABS was appraised as having 'very good' methodological quality, due to the other studies using inappropriate methods to evaluate the comprehensibility and relevance of the instrument's items with the target population and expert professionals.

We recommend future studies adhere to COSMIN standards (Mokkink et al., 2018a) when developing and validating measurement instruments to mitigate these flaws. As the validity and reliability of all instruments cannot be comprehensively evaluated due to missing measurement properties, conclusions on the instruments included in the review are limited.

Although the BOSS (Saylor et al., 2012) evaluated the greatest number of psychometric properties (*n*=6), it had 'doubtful' content validity and 'insufficient' structural validity and internal consistency. Of all measures in the review, the FBS (Shaw et al., 2013) and CABS (Difazio et al., 2018; Strout et al., 2018) appears to be the most psychometrically robust regarding content validity, internal consistency, and structural validity. It is important to understand the methodological and psychometric property ratings in the context of the strengths and limitations of using standardised appraisal tools and criteria.

Strengths and Limitations

A strength of the review is the comprehensive systematic search of the literature that was undertaken. By using broad search terms, alongside a hand search of references of all included studies, the likelihood of all relevant literature being included in the review was increased. Support for the reliability of the search strategy was evidenced through inter-rater agreement. An additional strength is the use of the COSMIN Risk of Bias checklist (Mokkink et al., 2018a) and quality criteria for measurement properties (Prisen et al., 2018). The appraisal tools are peer-reviewed and evidenced-based, so provide a reliable, systematic, and transparent method to evaluating the methodological quality and psychometric properties of measurement instruments.

There are also some limitations which should be considered alongside the review's findings. Due to available resources, the review only included measures and studies that had been validated in the English language. This may have led to relevant instruments being excluded and prevented the review from evaluating cross-cultural validity in relation to race and ethnicity, limiting the generalisability of the review's findings internationally. In addition, although the robust search strategy and eligibility criteria of the review is a key strength of the present research, when screening studies for instruments that measure

traditional and cyber bullying concurrently, only instruments that had identified constructs or explicit items of both were included in the present review. Some authors argue that instruments typically considered to measure traditional bullying, do not necessarily exclude cyberbullying (Eastman et al., 2018). For example, the Multidimensional Peer Victimization Scale (MPVS; Mynard & Joseph, 2000) prior to its revision to include a fifth cybervictimisation subscale (Betts et al., 2015), includes items on name calling. Eastman et al., (2018) and Felix et al., (2011) outline that this can be through face-to-face behaviours or via electronic means. As such, some excluded instruments may be worthy of evaluation.

Although the use of the COSMIN appraisal tools were a strength of the review, the Risk of Bias Checklist (Mokkink et al., 2018a) uses a 'worst-score counts' appraisal method. This method has been criticised for being too severe and preventing the detection of subtle differences in methodological quality between measures (Speyer et al., 2014). This was demonstrated in the present review when COSMIN placed heavy negative weighting on frequently unreported data. For example, although many studies carried out appropriate statistical analysis to evaluate cross-cultural validity, they were rated as 'doubtful' due to not providing a sufficient description of the relevant characteristics of the groups being compared. Similarly, as the hypotheses for construct validity were set by the review team, some studies did not carry out the appropriate statistical analyses to test the hypotheses. Although it has been argued that global ratings are valuable as they enable cross-comparisons of studies (Gopalakrishnan & Ganeshkumar, 2013), they also pose a limitation as scientifically robust data may be overlooked.

Finally, the present review did not provide an overall quality rating for each instrument. COSMIN (Mokkink et al., 2018a) outlined the use of 'GRADE approach' to do this, but due to not evaluating more than one study for each instrument, we were unable to

collate data on ‘inconsistency’ between studies, which is an important factor in obtaining the final GRADE rating.

Implications for Future Research and Practice

This review highlights the lack of evidence for robust psychometric properties across childhood bullying instruments. If studies do not report data on psychometric properties, or the evidence provided is of poor quality, overall conclusions on the utility of instruments are limited. Further research to assess the validity of instruments is needed to ensure clinicians and researchers use reliable instruments. These studies should establish psychometric robustness of an instrument by using standardised appraisal tools such as the criteria for good psychometric properties (Prisen et al., 2018), as a benchmark for the analyses required. In addition to suggestions for further validation studies, this review highlights support for research on future instrument development. Studies should develop new instruments against the standards set out in COSMIN (Mokkink et al., 2018) to ensure good methodological quality and consistency across psychometric studies. Whilst ensuring any future development of instruments should follow standardised procedures, it is also recommended that future research focuses on validating the integration of traditional bullying and cyberbullying into one psychometrically robust instrument. Brown et al. (1999) highlight that using multiple or lengthy instruments to measure the same or related constructs are less likely to be used by clinicians for screening purposes and may be seen as a burden to service users (Velentgas et al., 2013).

Furthermore, although this review did consider feasibility and interpretability of the instruments as recommended by Prisen et al. (2018), limited evidence was found, and systematic evaluation of the criteria was not possible, due to neither appraisal tool defining quality standards. Future reviews should evaluate the feasibility and interpretability of

childhood bullying instruments in more detail, particularly exploring how instruments classify young people as bullying perpetrators, bullying victims or perpetrator-victim. If instruments have robust psychometric properties but do not outline how a clinician or researcher can qualitatively interpret quantitative scores, it will not be possible to use instruments to screen young people in schools or clinics. Detrimentally, this will impact professionals' ability to implement appropriate interventions in an attempt to mediate the adverse impact childhood bullying has on an individual's social, physical, psychological, and academic outcomes in both childhood and adulthood (Arseneault et al., 2010; Brimblecombe et al., 2018; Card & Hodges, 2008; Klomek et al., 2010; Nansel et al., 2001; Takizawa et al., 2014; Wolke et al., 2001).

Conclusion

This review adds to the current literature by providing a systematic and comprehensive overview of the methodological quality and psychometric properties of childhood bullying instruments that measure traditional and cyber bullying concurrently. The review highlighted inconsistencies in instrument characteristics which most likely explain wide variations in the prevalence of bullying reported by researchers. The included instruments also demonstrate inadequate methodological quality and poor psychometric property robustness, which further questions the ability of the instruments to reliably and validly assess childhood bullying. Future research is needed to ensure researchers and clinicians can choose appropriate instruments to support the reduction of childhood bullying and its deleterious impact on public health.

References

Álvarez-García, D., Núñez, J. C., Dobarro, A., & Rodríguez, C. (2015). Risk factors associated with cybervictimization in adolescence. *International Journal of Clinical Health Psychology, 15,* 226–235. https://doi.org/10.1016/j.ijchp.2015.03.002

Arseneault, L., Bowes, L. & Shakoor, S. (2010). Bullying victimization in youths and mental health problems: 'much ado about nothing'? *Psychological Medicine, 40*(5), 717-729. https://doi.org/10.1017/S0033291709991383

Atik, G. (2011). Assessment of school bullying in Turkey: A critical review of self-report instruments. *Procedia Social and Behavioural Sciences, 15,* 3232–3238. http://doi.org/10.1016/j.sbspro. 2011.04.277

Berne, S., Frisen, A., Schultze-Krumbholz, A., Scheithauer, H., Naruskov, K., Luik, P., Katzer, C., Erentaite, R., & Zukauskiene, R. (2013). Cyberbullying assessment instruments: A systematic review. *Aggression and violent behaviour, 18,* 320-334. http://dx.doi.org/10.1016/j.avb.2012.11.022

Betts, L. R., Houston, J. E. & Steer, O. L. (2015). Development of the Multidimensional Peer Victimization Scale-Revised (MPVS-R) and the Multidimensional Peer Bullying Scale (MPVS-RB). *The Journal of Genetic Psychology, 176*(2), 93-109. https://doi.org/10.1080/00221325.2015.1007915

Biswas, T., Scott, J. G., Munir, K., Thomas, H. J., Mamun Huda, M., Mehedi Hasan, M., David de Vries, T., Baxter, J., & Mamun, A. A. (2020). Global variation in the prevalence of bullying victimisation amongst adolescents: role of peer and parental supports. *The Lancet, 20,* 1-8. https://doi.org/10.1016/j.eclinm.2020.100276

Bonanno, R. A., & Hymel, S. (2013). Cyber bullying and internalizing difficulties: above and beyond the impact of traditional forms of bullying. *Journal of Youth and Adolescence, 42*(5), 685–697. https://doi.org/10.1007/s10964- 013-9937-1

Boulton, M. J., Bucci, E., & Hawker, D. D. (1999). Swedish and English secondary school pupils' attitudes towards, and conceptions of, bullying: Concurrent links with bully/victim involvement. *Scandinavian Journal of Psychology, 40*(4), 277–284. https://doi.org/10.1111/1467-9450.404127

Brimblecombe, N., Evans-Locko, S., Knapp, M., King, D., Takizawa, R., Maughan, B., & Arseneault, L. (2018). Long term economic impact associated with childhood bullying victimisation. *Social Science and Medicine, 208*, 134-141. https://doi.org/10.1016/j.socscimed.2018.05.014

Brown, J., Dreis, S., & Nace, D. K. (1999). What really makes a difference in psychotherapy outcome? Why does managed care want to know? In M. A. Hubble, B. L. Duncan & S. D. Miller (Eds.), *The heart and soul of change: What works in therapy* (pp. 389–406). American Psychological Association.

Card, N. A., & Hodges, E. V. (2008). Peer victimization among schoolchildren: correlations, causes, consequences, and considerations in assessment and intervention. *School Psychology Quarterly, 23*(4), 451–461. https://doi.org/10.1037/a0012769

Chang, V. (2021). Inconsistent definitions of bullying: a need to examine people's judgments and reasoning about bullying and cyberbullying. *Human Development, 65*, 144-159. https://doi.org/10.1159/000516838

Chen, L. M., Liu, K. S., & Cheng, Y. Y (2012). Validation of the perceived school bullying severity scale. *Educational Psychology, 32*(2), 169-182. https://doi.org/10.1080/01443410.2011.633495

Chun, J., Lee, J., Kim, J., & Lee, S.,(2020). An international systematic review of cyberbullying measurements. *Computers in Human Behaviour, 113*. https://doi.org/10.1016/ j.chb.2020.106485

Coelho, V. A. & Sousa, V (2020). Bullying and cyberbullying behaviours questionnaire: validation of a short form. *International Journal of School & Educational Psychology, 8*(1). https://doi.org/10.1080/21683603.2018.1522282

Coelho, V. A., Sousa, V, Marchnate, M, Brás, P., & Romão, A. M. (2016). Bullying and cyberbullying in Portugal: validation of a questionnaire and analysis of prevalence. *School Psychology International, 37*(3), 223-239. https://doi.org/10.1177/0143034315626609

Cook, C. R., Williams, K. R., Guerra, N. G., & Kim, T. E. (2010). Variability in the prevalence of bullying and victimization: A cross-national and methodological analysis. In S. R. Jimerson, S. M. Swearer, & D. L. Espelage (Eds.), *Handbook of bullying in schools: An international perspective* (pp. 347–362). Routledge/Taylor & Francis Group.

Cornell, D. G., & Brockenbrough, K. (2004). Identification of bullies and victims: A comparison of methods. *Journal of School Violence, 3*, 63–87. https://doi.org/10.1399/J202v03n02_05

Dale, J., Russell, R., & Wolke, D. (2014). Intervening in primary care against childhood bullying: an increasingly pressing public health need. Journal of the Royal Society of Medicine, 107(6), 219-223. https://doi.org/10.1177/0141076814525071

Difazio, R. L., Strout, T. D., Vessey, J. A., & Lulloff, A. (2018). Item generation and content validity of the Child-Adolescent Bullying Scale. *Nursing Research*, 67(4), 294-304. https://doi.org/10.1080/21683603.2018.1522282

Dooley, J. J., Pyżalski, J., & Cross, D. (2009). Cyberbullying versus face-to-face bullying. *Journal of Psychology, 217*(4), 182–188. https://doi.org/10.1027/0044-3409.217.4.182

Dvir, Z. (2015). Difference, significant difference and clinically meaningful difference: The meaning of change in rehabilitation. *Journal of Exercise in Rehabilitation, 11*(2), 67-73. https://doi.org/10.12965/jer.150199

Eastman, M. L., Moore, A. A., Cecilione, J., Hettema, J. M., & Roberson-Nay, R. (2018). Confirmatory factor structure and psychometric properties of the Multidimensional Peer Victimization Scale. *Journal of Psychopathology and Behavioural Assessment, 40*(4), 725-738). https://doi.org/10.1007/s10862-018-9678-2

Espelage, D. L., & Swearer, S. M. (2003). Research on school bullying and victimization: What have we learned and where do we go from here? *School Psychology Review, 32*, 365–384. https://doi.org/10.1080/02796015.2003.12086206

Estévez, E, Cañas, E., Estévez , J., & Povedano. A. (2020). Continuity and overlap of roles in victims and aggressors of bullying and cyberbullying in adolescence: A systematic review. *International Journal of Environmental Research and Public Health, 17*(20). https://doi.org/10.3390/ijerph17207452

Felix, E. D., Sharkey, J. D., Green, J. G., Furlong, M. J., & Tanigawa, D. (2011). Getting precise and pragmatic about the assessment of bullying: The development of the California Bullying Victimization Scale. *Aggressive Behaviour, 37*, 234–247. http://dx.doi.org/10.1002/ab.20389

Furlong, M. J., Sharkey, J. D., Felix, E. D., Tanigawa, D., & Green, J. (2010). Bullying assessment: A call for increased precision of self-reporting procedures. *In S. R.*

Jimerson, S. B. Swearer, D. L. Espelage (Eds.), Handbook of bullying in schools: An international perspective (pp. 329-345). New York: Routledge.

Gladden, R. M., Vivolo-Kantor, A. M., Hamburger, M. E., & Lumpkin, C. D. (2014). *Bullying surveillance among youths: uniform definitions for public health and recommended data elements, version 1.0.* Atlanta, GA; National Centre for Injury Prevention and Control, Centre for Disease Control and Prevention and U.S. Department of Education.

Gopalakrishnan, S., & Ganeshkumar, P (2013). Systematic reviews and meta-analysis: understanding the best evidence in primary healthcare. *Journal of Family Medicine and Primary Care, 2*(1), 9-14. https://doi.org/10.4103/2249-4863.109934

Gradinger, P., Strohmeier, D., & Spiel, C. (2009). Traditional bullying and cyberbullying. Identification of risk groups for adjustment problems. Journal of Psychology, 217(4), 205–213. https://doi.org/10.1027/0044-3409.217.4.205

Green, J. G., Oblath, R., Felix, E. D., Furlong, M. J., Holt, M. K., & Sharkey, J. D. (2018). Initial evidence for the validity of the California Bullying Victimization Scale (CBVS-R) as a retrospective measure for adults. *Psychological Assessment, 30*(11), 1444-1453. http://doi.org/10.1037/pas0000592

Grief, J. L., & Furlong, M. J. (2006). The assessment of school bullying: using theory to inform practice. *Journal of School Violence, 5*, 33–50. http://doi.org/10.1300/J202v05n03_04

Griffin, R. S., & Gross, A. M. (2004). Childhood bullying: Current empirical findings and future directions for research. *Aggression and Violent Behaviour, 9*, 379–400. https://doi.org/10.1016/S1359-1789(03)00033-8

Hall, W. J. (2016). Initial development and validation of the BullyHARM: The bullying, harassment, and aggression receipt measure. *Psychology in the Schools, 53*(9), 984-1000. https://doi.org/10.1002/pits.21957

Hamburger, M. E., Basile, K. C. & Vivolo, A. M. (2011). *Measuring bullying victimization, perpetration, and bystander experiences; a compendium of assessment tools.* https://stacks.cdc.gov/view/cdc/5994

Harbin, S. M., Kelley, M. L., Piscitello, J., Walker, S, J. (2019). Multidimensional Bullying Victimization Scale: development and validation. *Journal of School Violence, 18*(1), 146-161. https://doi.org/10.1080/15388220.2017.1423491

Heirman, W., & Walrave, M. (2008). Assessing concerns and issues about the mediation of technology in cyberbullying. *Journal of Psychosocial Research on Cyberspace, 2*(2), 1-12.

Hinduja, S., & Patchin, J. W. (2010). Bullying, cyberbullying, and suicide. *Archives of Suicide Research, 14,*(3) 206–221. https://doi.org/10.1080/13811118.2010.494133

Hinduja, S., & Patchin, J. W. (2012). *Cyberbullying: Neither an epidemic nor a rarity. European Journal of Developmental Psychology, 9(5),* 1-5. https://doi.org/10.1080/17405629.2012.706448

Hunt, C., Peters, L., & Rapee, R. M. (2012). Development of a measure of the experience of being bullied in youth. *Psychological Assessment, 24*(1), 156-165. https://doi.org/1037/a0025178

Hymel, S., & Swearer, S. M. (2015). Four decades of research on school bullying: An introduction. *American Psychologist, 70*(4), 293–299. https://doi.org/10.1037/a0038928

Jenaro, C., Flores, N., & Frias, C. P. (2018). Systematic review of empirical studies on cyberbullying in adults: What we know and what we should investigate. *Aggression and violent behaviour, 38*, 113-122. https://doi.org/10.1016/j.avb.2017.12.003

Johansson, S. & Englund, G. (2021). Cyberbullying and its relationship with physical, verbal, and relational bullying: a structural equation modelling approach. *An International Journal of Experimental Educational Psychology*, *41*(3). https://doi.org/10.1080/01443410.2020.1769033

Kartal, H. & Bilgin, A. (2009). Bullying and school climate from the aspects of the students and teachers. *Journal of Educational Research, 36*, 209-226.

Kert, A. S., Codding, R. S., Tryon, G. S., & Shiyko, M. (2010). Impact of the word "bully" on the reported rate of bullying behaviour. *Psychology in the Schools, 47*, 193–204. https://doi.org/10.1002/pits.20464

Klomek, A. B., Sourander, A., & Gould, M. (2010). The association of suicide and bullying in childhood to young adulthood: a review of cross-sectional and longitudinal research findings. *Canadian Journal of Psychiatry*, *55*(5), 282-288. https://doi.org/10.1177/070674371005500503

Kowalski, R. M., Morgan, C. A., & Limber, S. P. (2012). Traditional bullying as a potential warning sign of cyberbullying. *School Psychology International, 33*, 505–519. https://doi.org/10.1177/0143034312445244

Lazuras, L., Barkoukis, V., & Tsorbatzoudis, H. (2017). Face-to-face bullying and cyberbullying in adolescents: Trans-contextual effects and role overlap. *Technology in Society, 48*, 97-101. https://doi.org/10.1016/j.techsoc.2016.12.001

McHugh, M. L. (2012). Interrater reliability: the kappa statistic. *Biochemia Medica*, *22*(3), 276-282.

Menesini, E. (2012). Cyberbullying: The right value of the phenomenon. Comments on the paper “Cyberbullying: An overrated phenomenon?”. *European Journal of Developmental Psychology, 9*(5), 544-552. https://doi.org/10.1080/17405629.2012.706449

Menesini, E., Nocentini, A., Palladino, B. E., Frisén, A., Berne, S., Ortega-Ruiz, R., Calmaestra, J., Scheithauer, H., Schultze-Krumbholz, A. S., Luik, P., Naruskov, K., Blaya, C., Berthaud, J., & Smith, P. K. (2012). Cyberbullying definition among adolescents: A comparison across six European countries. *Cyberpsychology Behaviour and Social Networking, 15*(9), 455-463. https://doi.org/10.1089/cyber.2012.0040

Messias. E., Kindrick, K., & Castro, J. (2014) School bullying, cyberbullying, or both: correlates of teen suicidality in the 2011 CDC Youth Risk Behaviour Survey. *Comprehensive Psychiatry, 55*(5), 1063-1068. https://doi.org/10.1016/j.comppsych.2014.02.005.

Modecki, K. L., Minchin, J., Harbaugh, A. G., Guerra, N. G., Runions, K. (2014). Bullying prevalence across contexts: a meta-analysis measuring cyber and traditional bullying. *Journal of Adolescent Health, 55*(5), 602-611. https://doi.org/10.1016/j.jadohealth.2014.06.007

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G., & PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine,* 6(7). https://doi.org/10.1371/journal.pmed.1000097

Mokkink, L. B., De Vet, H. C. W., Prinsen, C. A. C, Patrick, D. L., Alonso, J., Bouter, L. M., & Terwee, C. B. (2018a). COSMIN Risk of Bias checklist for systematic reviews of Patient-Reported Outcome Measures. *Quality of Life Research, 27*, 1171-1179. https://doi.org/10.1007/s11136-017-1765-4

Mokkink, L. B., Prinsen, C. A. C, Patrick, D. L., Alonso, J., Bouter, De Vet, H. C. W., & Terwee, C. B. (2018b). *COSMIN methodology for systematic review of Patient-Reported Outcome Measures (PROMS) – user manual*. https://www.cosmin.nl/wp-content/uploads/COSMIN-syst-review-for-PROMs-manual_version-1_feb-2018.pdf

Mokkink, L. B., Terwee, C. B., Patrick, D. L., Alonso, J., Stratford, P. W., Knol, D. L., Bouter, L. M., & de Vet, H. C. (2010a). The COSMIN checklist for assessing the methodological quality of studies on measurement properties of health status measurement instruments: an international Delphi study. *Quality of Life Research, 19*(4), 539–549. https://doi.org/10.1007/s11136-010- 9606-8

Mokkink, L. B., Terwee, C. B., Patrick, D. L., Alonso, J., Stratford, P. W., Knol, D. L., Bouter, L. M., & de Vet, H. W. (2010b). The COSMIN study reached international consensus on taxonomy, terminology, and definitions of measurement properties for health-related patient-reported outcomes. *Journal of Clinical Epidemiology, 63*(7), 737–745. https://doi.org/10.1016/ j.jclinepi.2010.02.006

Mokkink, L., Terwee, C., & de Vet, H. (2021). Key concepts in clinical epidemiology: Responsiveness, the longitudinal aspect of validity. *Journal of Clinical Epidemiology, 140*, 159-162. https://doi.org/10.1016/j.jclinepi.2021.06.002

Mynard, H., & Joseph, S. (2000). Development of the multidimensional peer-victimization scale. *Aggressive Behaviour, 26, 1*69–178. https://doi.org/10.1002/(SICI)1098-2337(2000)26:2<169::AID-AB3>3.0.CO;2-A

Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviours among US youth. *Journal of the American Medical Association, 285*, 2094–2100. https://doi.org/10.1001/jama.285.16.2094

Nelson, J., Kendal, G. E., Burns, S. K., & Schonert-Reichl, K. A (2017). A scoping review of self-report measures of aggression and bullying for use with preadolescent children. *The Journal of School Nursing, 33*(1), 53-63. https://doi.org/10.1177/1059840516679709

Nocentini, A., Calmaestra, J., Schultze-Krumbholz, A., Scheithauer, H., Ortega, R., & Menesini, E. (2010). Cyberbullying: Labels, behaviours, and definitions in three European countries. *Australian Journal of Psychology*, 20(2), 129-142. https://doi.org/10.1375/ajgc.20.1.129

Olweus, D. & Limber, S. (2018). Some problems with cyberbullying research. *Current Opinion in Psychology, 19*, 139-143. https://doi.org/10.1016/j.copsyc.2017.04.012

Olweus, D. (1978). *Aggression in the schools: Bullies and whipping boys*. London, UK: Hemisphere.

Olweus, D. (1993). *Bullying at School: What we know and what we can do.* Malden, USA: Blackwell.

Olweus, D. (1996). *The revised Olweus bully/victim questionnaire.* University of Bergen, Research Center for Health Promotion.

Olweus, D. (2012). Cyberbullying: An overrated phenomenon? *European Journal of Developmental Psychology, 9(*5), 520-538. https://doi.org/10.1080/17405629.2012.682358

Olweus, D. (2017). Cyberbullying: A critical overview. In B. J. Bushman (Ed.), *Aggression and Violence: A Social Psychological Perspective* (pp. 225- 240) New York: Routledge

Ortega, R., Elipe, P., Mora-Merchán, J. A., Genta, M. L., Brighi, A., Guarini, A., Smith, P. K., Thompson, F., & Tippett, N. (2012). The emotional impact of bullying and cyberbullying on victims: A European cross-national study. *Aggressive Behaviour, 38*(5), 342–356. https://doi.org/10.1002/ab.21440

Petrie, K. (2014). The relationship between school climate and student bullying. *Teach, 8*(1), 26-35.

Prisen, C. A., Mokkink, L. B., Bouter, L. M., Alonso, J., Patrick, D. L., de Vet, H. C., & Terwee, C. B. (2018). COSMIN guideline for systematic reviews of patient-reported outcome measures. *Quality of Life Research, 27*(1147-1157). https://doi.org/10.1007/s11136-018-1798-3

Prisen, C. A., Vohra, S., Rose, M. R., Boers, M., Tugwell, P., Clarke, M., Williamson, P. R., & Terwee, C. (2016). How to select outcome measurement instruments for outcomes included in a "Core Outcome Set" – a practical guideline. *Trials, 17*(1). https://doi.org/10.1186/s13063-016-1555-2

Reynolds, W. M. (2003). *Reynolds' Bully-Victimization Scales for Schools: Manual*.: The Psychological Corporation

Rivara, F. (2016). The scope of the problem. In F. Rivara & S. Le Menestrel (Eds.), *Preventing Bullying Through Science, Policy, and Practice.* Academic Press. https://doi.org/10.17226/23482

Roberson, A. J. & Renshaw, T. L. (2018). Structural validity of the HBSC bullying measure: Self-report rating scales of youth victimization and perpetration behaviour. *Journal of Psychoeducational Assessment 36*(6), 628-643. https://doi.org/10.1177/0734282017696932

Rosen, L. H., Beron, K. J., & Underwood, M. K. (2013). Assessing peer victimization across adolescence: measurement invariance and developmental change. *Psychological Assessment, 25*(1), 1-11. https://doi.org/10.1037/a0028985

Saylor, C. F., Nida, S. A., Williams, K. D., Taylor, L. A., Smyth, W., Twyman, K. A., Macias, M. M., & Spratt, E. G. (2012). Bullying and Ostracism Screening Scales (BOSS): development and applications. *Children's Health Care, 41*(4), 322-343. https://doi.org/10.1080/023739615.2012.720962

Schäfer, M., Werner, N., & Crick, N. (2010). A comparison of two approaches to the study of negative peer treatment: General victimization and bully/victim problems among German schoolchildren. *British Journal of Developmental Psychology, 20*, 281-306. https://doi.org/10.1348/026151002166451

Schneider, S. K., O'Donnell, L., Stueve, A., & Coulter, R. W. (2012). Cyberbullying, school bullying, and psychological distress: A regional census of high school students. *American Journal of Public Health, 102(*1), 171-7. https://doi.org/10.2105/AJPH.2011.300308.

Scrabstein, J., & Merrick, J. (2012). Bullying is everywhere: an expanding scope of public health concerns. *International Journal of Adolescent Medicine and Health, 24*(1). https://doi.org/ 10.1515/ijamh.2012.001

Seiler, S. J. & Navarro, J. N. (2014) Bullying on the pixel playground: Investigating risk factors of cyberbullying at the intersection of children's online-offline social lives. *Cyberpsychology, 8*(4), 37-52.

Shaw, T., Dooley, J. J., Cross, D., Zubrick, S. R., & Waters, S. (2013). The forms of bullying scale (FBS): Validity and reliability estimates for a measure of bullying victimization and perpetration in adolescence. *Psychological Assessment, 25*(4), 1045-1057. https://doi.org/10.1037/a0032955

Slonje, R. & Smith, P. (2008). Cyberbullying: another main type of bullying? *Scandinavian Journal of Psychology, 49*(2), 147-154. https://doi.org.uk/10.1111/j.1467-9450.2007.00611.x

Smith, P. K. (2014). *Understanding School Bullying: Its Nature & Prevention Strategies.* Academic Press. https://doi.org/10.4135/978147906853

Smith, P., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S., & Tippett, N. (2008). Cyberbullying: Its nature and impact in secondary school pupils. *Journal of Child Psychology and Psychiatry, 49*(4), 376-385. https://doi.org/10.1111/j.1469-7610.2007.01846.x

Solberg, M. E., & Olweus, D. (2003). Prevalence estimation of school bullying with the Olweus Bully/Victim Questionnaire. *Aggressive Behaviour, 29,* 239–268. https://doi.org/10.1002/ab.10047

Speyer, R., Cordier., Kertscher, B., & Heijnen, B. J. (2014). Psychometric properties of questionnaires on functional health status in oropharyngeal dysphagia: a systematic literature review. *BioMed Research International, 2014*. https://doi.org/10.1155/2014/458678

Strout, T. D., Vessey, J. A., DiFazio, R. L., Ludlow, L. H (2018). The Child Adolescent Bullying Scale (CABS): Psychometric evaluation of a new measure. *Research in Nursing & Health, 41*(3), 52-264. https://doi/org/10.1002/nur.21871

Sumter, S. R., Valkenburg, P. M., Baumgartner, S. E., Peter, J., & van der Holf, S. (2015). Development and validation of the Multidimensional Offline and Online Peer Victimization Scale. *Computers in Human Behaviour, 46*, 114-122. https://doi.org/10.1016/j.chb2014.12.042

Suzuki, K., Asaga, R., Sourander, A., Hoven Christina, W., & Mandell, D. (2012). Cyberbullying and adolescent mental health. *International Journal of Adolescent Medicine and Health, 24*(1). https://doi.org.uk/10.1515/ijamh.2012.005

Swearer, S. M., & Cary, P.T. (2003). Perceptions and attitudes toward bullying in middle school youth. *Journal of Applied School Psychology, 1*9(2), 63–79. http://dx.doi.org/10.1300/J008v19n02_05

Swearer, S. M., Espelage, D. L., Vaillancourt, T., & Hymel, S. (2010). What can be done about school bullying? Linking research to educational practice. *Educational Researcher, 39*, 38–47. http://doi.org/10 .3102/0013189X09357622

Takizawa, R., Maughan, B., & Arseneault, L. (2014). Adult health outcomes of childhood bullying victimisation: Evidence from a five-decade longitudinal British birth cohort. *The American Journal of Psychiatry, 171*, 777-784. https://doi.org/10.1176/appi.ajp.2014.13101401

Terwee, C. B., Bot, S., de Boer, M., & van der Windt, D. A. (2007). Quality criteria were proposed for measurement properties of health status questionnaires. *Journal of Clinical Epidemiology, 60*, 34-42. https://doi.org/10.1016/j.clinepi.2006.03.012

Terwee, C. B., Prinsen, C. A., Chiarotto, A., Westerman, M. J., Patrick, D. L., Alonso, J., Bouter, L. M., de Vet, H. C., & Mokkink, L. B. (2018). COSMIN methodology for evaluating the content validity of patient-reported outcome measures: a Delphi study. *Quality of Life Research, 27*(5),1159-1170. https://doi.org/10.1007/s11136-018-1829-0

Thomas, H. J., Connor, J. P. & Scott, J. G. (2014). Integrating traditional bullying and cyberbullying: challenges of definition and measurement in adolescents – a review. *Educational Psychology Review, 27*, 135-152. https://doi.org/10.1007/s10648-014-9261-7

Thomas, H. J., Scott, J. G., Coates, J. M., Connor, J. P. (2019). Development and validation of the Bullying and Cyberbullying Scale for Adolescents: a multi-dimensional measurement model. *British Journal of Educational Psychology, 89*(1), 75-94. https://doi.org/10.1111/bjep.12223

Tokunaga, R. S. (2010). Following you home from school: A critical review and synthesis of research on cyberbullying victimisation. *Computers in Human Behaviours, 26*(3), 227-287. https://doi.org/10.1016/j.chb.2009.11.014

The United Nations Educational, Scientific and Cultural Organization (UNESCO). (2019). *Behind the numbers: ending school violence and bullying.* https://unesdoc.unesco.org/ark:/48223/pf0000366483

Velentgas, P., Dreyer, N. A., & Wu, A. W. (2013). Outcome definition and measurement. In P. Velentgas, N. A. Dreyer, P. Nourjah, S. R. Smith, & M. M. Torchia (Eds.), *Developing a protocol for observational comparative effectiveness research: a user's guide* (pp. 71-92). Agency for Healthcare Research and Quality

Vessey, J., Strout, T. D., DiFazio, R. L., & Walker, A. (2014). Measuring the youth bullying experience: A systematic review of the psychometric properties of available instruments. *The Journal of School Health, 84*(12), 819-843. https://doi.org/10.1111/josh.12210

Vivolo-Kantor, A. M., Martell, B. N., Holland, K. M., & Westby, R. (2014). A systematic review and content analysis of bullying and cyber-bullying measurement strategies. *Aggressive Violent Behaviour, 19*(4), 423-434. https://doi.org.10.1016/j.avb.2014.06.008

Volk, A. A., Dane, A. V., Marini, Z. A. (2014). What is bullying? A theoretical redefinition. *Developmental Review, 34*, 327-343. https://doi.org/10.1016/j.dr.2014.09.001

Waasdorp, T. E. & Bradshaw, C. P. (2015). The overlap between cyberbullying and traditional bullying. *Journal of Adolescent Health, 56*(5), 483-488. https://doi.org/10.1016/j.jadohealth.2014.12.002

Wang, J., Iannotti, R. J., Luk, J. W., & Nansel, T. R. (2010). Co-occurrence of victimization from five subtypes of bullying: physical, verbal, social exclusion, spreading rumours, and cyber. *Journal of Paediatric Psychology, 35*(10), 1103-1112. https://doi.org/10.1093/jpepsy/jsq048

Wang, J., Musumari, P. M., Techasrivihien, T., Suguimoto, S. P., Tateyama, Y., Chan, C. C., Ono-Kihara, M., & Nakayama, T. (2019). Overlap of traditional bullying and cyberbullying and correlates of bullying among Taiwanese adolescents: A cross-sectional study. *BMC Public Health, 19***,** 1756. https://doi.org/10.1186/s12889-019-8116-z

Williams, K. R. & Guerra, N. G. (2007). Prevalence and predictors of internet bullying. *Journal of Adolescent Health, 41*, 14–21. https://doi.org/10.1191/1478088706qp063oa

Wolke, D., Lee, K., Guy, A. (2017). Cyberbullying: a storm in a teacup? European Child & Adolescent Psychiatry, 26(8), 899-908. https://doi.org/10.1007/s00787-017-0954-6

Wolke, D., Woods, S., Bloomfield, L., & Karstadt, L. (2001). Bullying involvement in primary school and common health problems. *Archives of Disease in Childhood, 85*(3), 197-201. https://doi.org/10.1136/adc.85.3.197

Ybarra, M. L., & Mitchell, K. J. (2004). Youth engaging in online harassment: Associations with caregiver-child relationships, Internet use, and personal characteristics. *Journal of Adolescence, 27*(3), 319–336. https://doi.org/10.1016/j.adolescence.2004.03.007

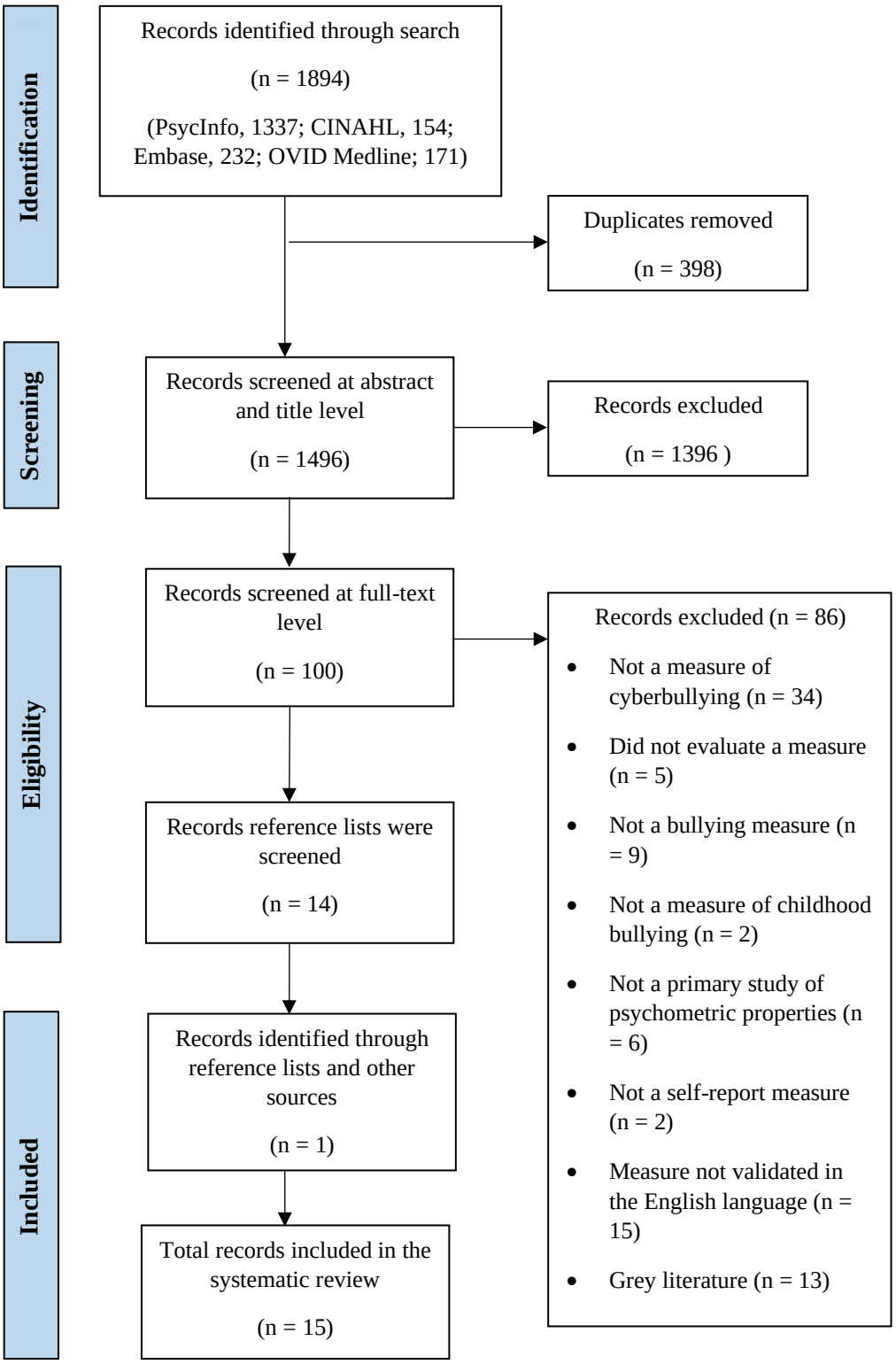
Ybarra, M. L., Boyd, D., Korchmaros, J. D., & Oppenheim, J. K., (2012). Defining and measuring cyberbullying within the larger context of bullying victimization. *The Journal of Adolescent Health, 51*(1), 53-58. https://doi.org/10.1016/j.jadohealth.2011.12.031

Ybarra, M. L., Mitchell, K. J., Wolak, J., & Finkelhor, D. (2006). Examining characteristics and associated distress related to Internet harassment: findings from the Second Youth Internet Safety Survey. *Pediatrics, 118*, 1169-1177. https://doi.org/10.1542/peds.2006-0815

Figures

Figure 1-1

Overview of the systematic screening process



Tables

Table 1-1

Systematic search strategy

Database	Search block	Search terms and limits	Records identified
Psycinfo	1	(DE "Bullying" OR DE "Cyberbullying" OR DE "Relational Aggression" OR DE "Cyberbullying" OR DE "Aggressive Behavior" OR DE "Antisocial Behavior" OR DE "Conflict" OR DE "Dominance" OR DE "Emotional Abuse" OR DE "Harassment" OR DE "Perpetrators" OR DE "Physical Abuse" OR DE "School Violence" OR DE "Teasing" OR DE "Threat" OR DE "Victimization") AND TI (bully* OR violen* OR teas* OR harrass* OR aggressi* OR victim* OR cyberbully* OR abuse OR trauma* OR advers* OR ACE) AND AB (bully* OR violen* OR teas* OR harrass* OR aggressi* OR victim* OR cyberbully* OR abuse OR trauma* OR advers* OR ACE*)	47,039
	2	TI (measure* OR questionnaire OR survey OR scale OR tool OR psychometric*) AND AB (measure* OR questionnaire OR survey OR scale OR tool OR psychometric*)	163,390
	3	S1 AND S2	1516
	4	Limit S3 to 1980 – 2022	1489
	5	Limit S4 to English Language	1337
CINAHL	1	((MH "Bullying+") OR (MH "Cyberbullying")) AND TI (bully* OR violen* OR teas* OR harrass* OR aggressi* OR victim* OR cyberbully* OR abuse OR trauma* OR advers* OR ACE) AND AB (bully* OR violen* OR teas* OR harrass* OR aggressi* OR victim* OR cyberbully* OR abuse OR trauma* OR advers* OR ACE*)	3905

	2	TI (measure* OR questionnaire OR survey OR scale OR tool OR psychometric*) AND AB (measure* OR questionnaire OR survey OR scale OR tool OR psychometric*)	131,917
	3	S1 AND S2	157
	4	Limit S3 to 1980 – 2022	157
	5	Limit S4 to English Language	154
Embase	1	exp bullying/ or exp cyberbullying/ AND (bully* or violen* or teas* or harrass* or aggressi* or victim* or cyberbully* or abuse or trauma* or advers* or ACE*).ti. and (bully* or violen* or teas* or harrass* or aggressi* or victim* or cyberbully* or abuse or trauma* or advers* or ACE*).ab.	4925
	2	(measure* or questionnaire or survey or scale or tool or psychometric*).ti. and (measure* or questionnaire or survey or scale or tool or psychometric*).ab.	526,294
	3	S1 AND S2	240
	4	Limit S3 to 1980 – 2022	240
	5	Limit S4 to English Language	232
Ovid Medline	1	(bully* or violen* or teas* or harrass* or aggressi* or victim* or cyberbully* or abuse or trauma* or advers* or ACE*).ti. and (bully* or violen* or teas* or harrass* or aggressi* or victim* or cyberbully* or abuse or trauma* or advers* or ACE*).ab.	3670

2	(measure* or questionnaire or survey or scale or tool or psychometric*).ti. and (measure* or questionnaire or survey or scale or tool or psychometric*).ab.	39,5391
3	S1 AND S2	176
4	Limit S3 to 1980 – 2022	176
5	Limit S4 to English Language	171

Table 1-2

Psychometric property quality appraisal criteria

Measurement property	Definition	Rating	Quality Criteria
Content validity (including face validity)	The degree to which the content of a measurement instrument is an adequate reflection of the construct to be measured	+	All items refer to relevant aspects of the construct to be measured AND are relevant for the target population AND are relevant for the context of use AND together comprehensively reflect the construct to be measured
		?	Not all information for '+' reported Criteria for '+' not met
		-	
Structural validity	The degree to which the scores of a measurement instrument are an adequate reflection of the dimensionality of the construct to be measured	+	**CTT** CFA: CFI or TLI or comparable measure >0.95 OR RMSEA < 0.06 or SRMR <0.08[a] **IRT/Rasch** No violation of unidimensionality[b]: CFI or TLI or comparable measure > 0.95 OR RMSEA <0.06 OR SRMR <0.08 AND no violation of local independence: residual correlations among the items after controlling for the dominant factor <0.20 OR Q3's <0.37 AND

			no violation of monotonicity: adequate looking graphs OR item scalability > 0.30 AND adequate model fit IRT: $\chi 2>0.001$
		?	Rasch: infit and outfit mean squares ≥ 0.5 and ≤ 1.5 OR Z-standardized values > −2 and < 2
		-	CTT: Not all information for '+' reported IRT: Model fit not reported Criteria for '+' not met
Internal consistency	The degree of interrelatedness among the items	+	At least low evidence[c] for sufficient structural validity[d] AND Cronbach's alpha(s) ≥0.70 for each unidimensional scale or subscale[e]
		?	Criteria for "At least low evidence[c] for sufficient structural validity[d]" not met
		-	At least low evidence[c] for sufficient structural validity[d] AND Cronbach's alpha(s) <0.70 for each unidimensional scale or subscale[e]

Cross-cultural validity	The degree to which the performance of the items on a translated or culturally adapted measurement instrument is an adequate reflection of the performance of the items of the original version of the measurement instrument	+	No important differences found between group factors (such as age, gender, language) in multiple group factor analysis OR no important DIF for group factors (McFadden's $R^2 < 0.02$)
		?	No multiple group factor analysis OR DIF analysis performed
		-	Important differences between group factors OR DIF was found
Reliability	The degree to which the measurement is free from measurement error	+	ICC or weighted Kappa ≥ 0.70
		?	ICC or weighted Kappa not reported
		-	ICC or weighted Kappa <0.70
Measurement error	The systematic and random error of a patient's score that is not attributed to true changes in the construct to be measured	+	SDC or LoA < MIC[d]
		?	MIC not defined
		-	SDC or LoA > MIC[d]
Criterion validity	The degree to which the scores of a measurement instrument are an adequate reflection of a "gold standard"	+	Correlation with gold standard ≥0.70 OR AUC≥0.70
		?	Not all information for '+' reported
		-	Correlation with gold standard <0.70

Hypotheses testing for construct validity	The degree to which the scores of a measurement instrument are consistent with hypotheses based on the assumption that the measurement instrument validly measures the construct to be measured	+	The result is in accordance with the hypothesis[f]
		?	No hypothesis defined (by the review team)
		-	The result is not in accordance with the hypothesis[f]
Responsiveness	The ability of a measurement instrument to detect change over time in the construct to be measured	+	The result is in accordance with the hypothesis[f] OR AUC≥0.70
		?	No hypothesis defined (by the review team)
		-	The result is not in accordance with the hypothesis[f] OR AUC<0.70

Note. Criteria is based on Terwee et al. (2007), Prisen et al. (2016), and Prisen et al. (2018).

AUC = area under the curve, CFA = confirmatory factor analysis, CFI = comparative fit index, CTT = classical test theory, DIF = differential item functioning, ICC = intraclass correlation coefficient, IRT = item response theory, LoA = limits of agreement, MIC = minimal important change, RMSEA = root mean square error of approximation, SEM = standard error of measurement, SDC = smallest detectable change, SRMR = standardized root mean residuals, TLI = Tucker–Lewis index

"+" = sufficient, "-" = insufficient, "?" = indeterminate

[a] To rate the quality of the summary score, the factor structures should be equal across studies

[b] Unidimensionality refers to a factor analysis per subscale, while structural validity refers to a factor analysis of a (multidimensional) patient-reported outcome measure

[c] As defined by grading the evidence according to the GRADE approach

[d] This evidence may come from different studies

[e] The criteria 'Cronbach alpha < 0.95 was deleted, as this is relevant in the development phase of a PROM and not when evaluating an existing PROM

[f] The results of all studies should be taken together and it should then be decided if 75% of the results are in accordance with the hypotheses

Table 1-3

Characteristics of studies addressing the psychometric properties of childhood bullying instruments

Instrument	Study	Population & Country	Sample size	Participant age ranges	Was a comparison bullying instrument used?
BOSS	Saylor et al. (2012)	Study 1: School and Paediatric Clinic; Study 2: School (United States)	Study 1: 426 Study 2: 1076	Study 1: 10 to 14 years (*M* = 12.4, *SD* = 0.93); Study 2: 10 to 14 years (*M* = 12.56, *SD* = 1.02)	BVS (Reynolds, 2003)
BCBQ-SF	Coelho and Sousa (2020)	School; Portugal	1003	6th to 9th Grade; 10 to 16 years (M = 12.78, SD = 1.43)	None
BCS-A	Thomas et al. (2019)	School; Australia	Study 1: 1217 Study 2: 870	Study 1: 12 to 17 years (*M* = 14); Study 2: 12 to 17 years (*M* = 14.36)	R-OBVQ (Olweus, 1996); FBS (Shaw et al., 2013)
BullyHARM	Hall (2016)	School; United States	275	12 to 17 years (*M* = 13.3, *SD* = 0.86)	None
CBVS-R	Green et al. (2018)	University; United States	Study 1: 1209 Study 2: 175	18 years plus	SBS (Swearer & Cary, 2003)
CABS	DiFazio et al. (2018)	School; United States	24 youths; 30 experts	Youths: 12 to 16 years (*M* = 12.23, *SD* = 1.65);	None
CABS	Strout et al. (2018)	Developmental delays medical centres;	352	13 to 18 years (*M* = 13.5, *SD* = 2.05)	R-OBVQ (Olweus, 1996); CBVS (Felix et al., 2011)

		United States			
FBS	Shaw et al. (2013)	School; Australia	Study 1: 3496; Study 2: 783	S1: 8th Grade (*M*=12.9, *SD* = 0.38); S2: 8th to 10th grade (*M* = 13.9, *SD* = 0.88)	Global bullying victimisation and perpetration questions (Solberg & Olweus, 2003)
HBSC - Victimisation and Perpetration items	Roberson and Renshaw (2018)	School; United States	11,449	5th to 10th Grade	None
MBVS	Harbin et al. (2019)	School; United States	Study 1: 600; Study 2: 652	S1: 11 to 18 years (*M* = 15.16, *SD* = 1.72); S2: 11 to 18 years (*M* = 15.5, *SD* = 1.41)	PECK (Hunt et al., 2012)
MOOPVS	Sumter et al. (2015)	School; United States	Study 1: 401; Study 2: 1124	S1: 10 to 17 years (*M* = 13.44, *SD* = 2.31); S2: 9 to 18 years (*M* = 13.28, *SD* = 1.90)	None
MPVS-R and MPVS-RB	Betts et al. (2015)	School; United Kingdom	371	11 to 15 years *(M* = 13 years, 4 months; *SD* = 1 year, 2 months)	None
SBSS	Chen et al. (2012)	School; Taiwan	Study 1: 605; Study 2: 869	S1: 12 to 20 years (*M* = 15.79, *SD* = 1.57); S2: 12 to 20 years (*M* = 16.13, *SD* = 1.42)	None
PECK	Hunt et al. (2012)	School; Australia	Study 1: 647; Study 2: 218; Study 3: 78	S1: 8 to 15 years (*M* = 12.38, *SD* = 1.69); S2: 8 to 15 years *(M* = 11.8, *SD* = 1.64): S3: 10 to 13 years (*M* = 12, *SD* = 0.90)	R-OBVQ (Olweus, 1996)
RASEQ	Rosen et al. (2013)	School; United States	125	7th to 10th Grade	None

Note. M, mean*; SD,* Standard Deviation; BOSS, Bully and Ostracism Screening Scales; BVS, The Bully Victimization Scale; BCBQ-SF, The Bullying and the Cyberbullying Behaviours Questionnaire short form; BCS-A, Bullying and Cyberbullying Scale for Adolescents; R-OBVQ,

Revised Olweus Bully/Victim Questionnaire; FBS, Forms of bullying scale; BullyHARM, Bullying, Harassment, and Aggression Receipt Measure; CBVS-R, California Bullying Victimization Scale Retrospective; SBS, Swearer Bullying Survey; CABS, The Child Adolescent Bullying Scale; CBVS, California Bullying Victimization Scale; HBSC, Health Behaviour in School-Aged Children; MBVS, Multidimensional Bullying Victimization Scale; PECK, Personal Experiences Checklist; MOOPVS, Multidimensional Offline and Online Peer Victimization Scale; MPVS-R, Multidimensional Peer Victimization Scale-Revised; MPVS-RB, Multidimensional Peer Bullying Scale; SBSS, Perceived School Bullying Severity Scale; RASEQ, Revised Adolescent Social Experience Questionnaire

Table 1-4

Characteristics of measures included in the systematic review addressing the psychometric properties of childhood bullying instruments

Instrument	Study	No. of items	Referent time frame	Response option	Definition of bullying provided	Bullying terminology used in measure	Constructs measured	Type of bullying behaviour	Roles measured
BOSS	Saylor et al. (2012)	16	Current/recent school year	5-point likert scale	Yes	Yes	Boys school climate; Girls school climate; Personal victim experiences; Personal bully experiences; Cyberbullying engagement	Verbal/Social; Physical; Cyber; Ostracism	Perpetrator, Victim; School climate
BCBQ-SF	Coelho and Sousa (2020)	20	Previous school year	5-point likert scale	Yes	Yes	Victimisation; Bullying	Bullying (verbal, physical, material, ethnical, of sexual nature, defamation, threats); Cyberbullying behaviours (denigration, flaming, cyberstalking, and outing)	Perpetrator; Victim
BCS-A	Thomas et al. (2019)	26	Past 3 months	Ratio scale	Yes	Yes	Physical; Verbal;	Physical; Verbal;	Perpetrator; Victim

							Relational; Cyber	Relational; Cyber	
BullyHARM	Hall (2016)	22	Past month	4-point likert scale	No	No	Physical bullying; Verbal bullying; Social/relational bullying; Cyberbullying; Property bullying; Sexual bullying	Physical bullying; Verbal bullying; Social/relational bullying; Cyberbullying; Property bullying; Sexual bullying	Victim
CBVS-R	Green et al. (2018)	8	Childhood	Yes and No (8-item question stem); 3 to 5 likert point scales (follow-up questions)	No	No	Teasing; Rumour spreading; Social exclusion; Hitting, Threatening; Sexual jokes/gestures; Stealing; Online aggression.	Teasing; Rumour spreading; Social exclusion; Hitting, Threatening; Sexual jokes/gestures; Stealing; Online aggression.	Victim
CABS	DiFazio et al. (2018)	22	Past month	5-point likert scale	No	Yes	Bulling exposure	Physical; Verbal; Social/relational; Property; Cyber	Victim

CABS	Strout et al. (2018)	22	Past month	5-point likert scale	No	Yes	Bulling exposure	Physical; Verbal; Social/relational; Property; Cyber	Victim
FBS	Shaw et al. (2013)	20	Previous school term (10 weeks)	5-point likert scale	Yes	Yes	Bullying victimisation; Bullying perpetration	Verbal; Threatening; Physical; Relational; Social; Online	Perpetrator; Victim
HBSC - Victimisation and Perpetration items	Roberson and Renshaw (2018)	22	Past couple of months	5-point likert scale	Yes	Yes	Perpetration; Victimisation	Verbal; Exclusion; Physical; Relational; Racial; Religious; Sexual; Cell phone; Computer	Perpetrator; Victim
MBVS	Harbin et al. (2019)	24	NR	4-point likert scale	No	No	Direct bullying; Indirect bullying;	Physical; Relational;	Victim

							Evaluative bullying	Cyber; Cultural	
MOOPVS	Sumter et al. (2015)	20	Past six months	6-point likert scale	No	No	Direct offline; Indirect offline; Direct online; Indirect online	Physical; Verbal; Social/Relational; Cyber	Victim
MPVS-R and MPVS-RB	Betts et al. (2015)	42	Last school year	3-point likert scale	No	No	Physical; Social manipulation; Verbal; Attacks on property; Electronic	Physical; Social; Verbal; Property; Electronic	Perpetrator; Victim
SBSS	Chen et al. (2012)	21	NR	5-point likert scale	Yes	Yes	Physical; Verbal; Relational; Cyber	Physical; Verbal; Relational; Cyber	Victim
PECK	Hunt et al. (2012)	32	NR	5-point likert scale	No	No	Relational verbal bullying; Cyberbullying; Physical bullying; Bullying based on culture	Relational/verbal; Cyber; Physical; Cultural	Victim

RASEQ	Rosen et al. (2013)	22	None referent time set	5-point likert scale	No	No	Overt victimisation; Social victimisation	Verbal; Physical; Social; Cyber	Victim

Note. BOSS, Bully and Ostracism Screening Scales; BCBQ-SF, The Bullying and the Cyberbullying Behaviours Questionnaire short form; BCS-A, Bullying and Cyberbullying Scale for Adolescents; BullyHARM, Bullying, Harassment, and Aggression Receipt Measure; CBVS-R, California Bullying Victimization Scale Retrospective; CABS, The Child Adolescent Bullying Scale; FBS, Forms of bullying scale; HBSC, Health Behaviour in School-Aged Children; MBVS, Multidimensional Bullying Victimization Scale; MOOPVS, Multidimensional Offline and Online Peer Victimization Scale; MPVS-R, Multidimensional Peer Victimization Scale-Revised; MPVS-RB, Multidimensional Peer Bullying Scale; SBSS, Perceived School Bullying Severity Scale; PECK, Personal Experiences Checklist; RASEQ, Revised Adolescent Social Experience Questionnaire

Table 1-5

Quality appraisal for the methodology of each psychometric property measurement per study included in the systematic review

Instrument	Study	Content Validity	Structural Validity	Internal Consistency	Cross-cultural validity/ Measurement invariance	Reliability	Criterion validity	Hypotheses testing for construct validity	Responsiveness
BOSS	Saylor et al. (2012)	Doubtful	Adequate	Very Good	NR	Adequate	Very Good	Very Good	NR
BCBQ-SF	Coelho and Sousa (2020)	NR	Very Good	Very Good	Doubtful	NR	NR	Very Good	NR
BCS-A	Thomas et al. (2019)	NR	Very Good	NR	Doubtful	Inadequate	NR	Inadequate	NR
BullyHARM	Hall (2016)	Doubtful	Very Good	Very Good	NR	NR	NR	NR	NR
CBVS-R	Green et al. (2018)	NR	NR	NR	Doubtful	Doubtful	NR	Inadequate/ Very Good	NR
CABS	DiFazio et al. (2018)	Very Good	NR	NR	NR	NR	NR	NR	NR
CABS	Strout et al. (2018)	NR	Adequate	Very Good	NR	NR	Very Good	Inadequate	NR
FBS	Shaw et al. (2013)	Doubtful	Very Good	Very Good	Doubtful	NR	NR	Very Good	NR
HBSC (Victimisation & Perpetration)	Roberson and Renshaw (2018)	NR	Very Good	Very Good	Very Good	NR	NR	Very Good	NR

MBVS	Harbin et al. (2019)	Doubtful	Very Good	Very Good	NR	NR	Very Good	Very Good	NR
MOOPVS	Sumter et al. (2015)	NR	Very Good	Very Good	Doubtful	NR	NR	Very Good	NR
MPVS-R and MPVS-RB	Betts et al. (2015)	NR	Very Good	Very Good	Doubtful	NR	NR	Very Good	NR
SBSS	Chen et al. (2012)	NR	Very Good	Inadequate	Doubtful	NR	NR	Very Good	NR
PECK	Hunt et al. (2012)	Adequate	Very Good	Very Good	NR	Doubtful	NR	Very Good	NR
RASEQ	Rosen et al. (2013)	NR	Adequate	NR	Doubtful	Inadequate	NR	Very Good	Inadequate

Note. NR, Not rated; BOSS, Bully and Ostracism Screening Scales; BCBQ-SF, The Bullying and the Cyberbullying Behaviours Questionnaire short form; BCS-A, Bullying and Cyberbullying Scale for Adolescents; BullyHARM, Bullying, Harassment, and Aggression Receipt Measure; CBVS-R, California Bullying Victimization Scale Retrospective; CABS, The Child Adolescent Bullying Scale; FBS, Forms of bullying scale; HBSC, Health Behaviour in School-Aged Children; MBVS, Multidimensional Bullying Victimization Scale; MOOPVS, Multidimensional Offline and Online Peer Victimization Scale; MPVS-R, Multidimensional Peer Victimization Scale-Revised; MPVS-RB, Multidimensional Peer Bullying Scale; SBSS, Perceived School Bullying Severity Scale; PECK, Personal Experiences Checklist; RASEQ, Revised Adolescent Social Experience Questionnaire

Table 1-6

Quality appraisal of each psychometric property per study included in the systematic review

Instrument	Study	Content Validity	Structural Validity	Internal Consistency	Cross-cultural validity/ Measurement invariance	Reliability	Criterion validity	Hypotheses testing for construct validity	Responsiveness
BOSS	Saylor et al. (2012)	+	-	-	NE	?	-	+	NE
BCBQ-SF	Coelho and Sousa (2020)	NE	+	+	-	NE	NE	-	NE
BCS-A	Thomas et al. (2019)	NE	-	NE	+	?	NE	?	NE
BullyHARM	Hall (2016)	+	+	+	NE	NE	NE	NE	NE
CBVS-R	Green et al. (2018)	NE	NE	NE	?	?	NE	-/+	NE
CABS	DiFazio et al. (2018)	+	NE	NE	NE	NE	NE	NE	NE
CABS	Strout et al. (2018)	NE	?	+	NE	NE	+	?	NE
FBS	Shaw et al. (2013)	+	+	+	-	NE	NE	+	NE
HBSC (Victimisation & Perpetration)	Roberson and Renshaw (2018)	NE	+	+	+	NE	NE	+	NE
MBVS	Harbin et al. (2019)	+	-	+	NE	NE	+	+	NE

MOOPVS	Sumter et al. (2015)	NE	-	+	?	NE	NE	-	NE
MPVS-R and MPVS-RB	Betts et al. (2015)	NE	-	+	-	NE	NE	+/-	NE
SBSS	Chen et al. (2012)	NE	?	?	+	NE	NE	-	NE
PECK	Hunt et al. (2012)	+	-	+	NE	?	NE	+	NE
RASEQ	Rosen et al. (2013)	NE	+	NE	+	?	NE	+	-

Note. +, sufficient; -, insufficient; ?, indeterminate; NE, Not evaluated in study; BOSS, Bully and Ostracism Screening Scales; BCBQ-SF, The Bullying and the Cyberbullying Behaviours Questionnaire short form; BCS-A, Bullying and Cyberbullying Scale for Adolescents; BullyHARM, Bullying, Harassment, and Aggression Receipt Measure; CBVS-R, California Bullying Victimization Scale Retrospective; CABS, The Child Adolescent Bullying Scale; FBS, Forms of bullying scale; HBSC, Health Behaviour in School-Aged Children; MBVS, Multidimensional Bullying Victimization Scale; MOOPVS, Multidimensional Offline and Online Peer Victimization Scale; MPVS-R, Multidimensional Peer Victimization Scale-Revised; MPVS-RB, Multidimensional Peer Bullying Scale; SBSS, Perceived School Bullying Severity Scale; PECK, Personal Experiences Checklist; RASEQ, Revised Adolescent Social Experience Questionnaire

Appendix

Appendix 1-1

Psychology and Psychotherapy: Theory, Research and Practice author guidelines

PAPTRAP AUTHOR GUIDELINES

Sections

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Authors should kindly note that submission implies that the content has not been published or submitted for publication elsewhere except as a brief abstract in the proceedings of a scientific meeting or symposium.

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Section Two: Empirical Paper

The role of childhood peer victimisation in quality of life in individuals diagnosed with bipolar disorder

Word count (excluding references, tables and appendices): 7430 words

Abstract: 218 words

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[2] See Appendix 1-1 for submission guidelines

Abstract

Objective: The purpose of this study was to explore whether childhood peer victimisation can predict quality of life (QoL), when controlling for multiple clinical covariates in individuals diagnosed with bipolar disorder (BD).

Design: A retrospective study was conducted using quantitative self-report measures of sociodemographics, mood (anxiety, depression, and mania), QoL, and online and offline childhood peer victimisation

Method: Participants were recruited through social media and third sector advertisements. One hundred and nine adults with a self-reported diagnosis of BD were included in the analysis. Data were analysed using correlations, multiple regression, and post-hoc mediation analysis.

Results: Multiple regression analysis found neither offline or online peer victimisation to be significant predictors of QoL in individuals diagnosed with BD. Mediation analysis indicated depression and anxiety to have a full mediating effect on the relationship between both offline and online childhood peer victimisation and QoL.

Conclusion: The present study has investigated a novel field of research and contributes to the dearth of literature in childhood peer victimisation and BD. The findings partially support the study's hypotheses and suggests childhood peer victimisation may play an important role in QoL for individuals with a diagnosis of BD through anxiety and depression. Future research is needed to build on the initial findings within this study by further exploring the relationship and identifying causation.

Keywords: bipolar disorder; quality of life; childhood bullying; peer victimisation; childhood adversity; depression; mania; anxiety.

Practitioner points:

- Childhood bullying has been linked to longstanding effects on an individual's mental health, and in individuals with a diagnosis of bipolar disorder it may negatively impact their quality of life in adulthood.
- For individuals with bipolar disorder the impact of childhood peer victimisation on quality of life is mediated through heightened levels of depression and anxiety.
- It is important for clinicians to use their position to advocate for school-wide bullying prevention programmes so intervention can be preventative and not a reactive response, and to encourage the use of childhood peer victimisation screening measures in everyday practice with both young people and retrospectively in adults, particularly in those presenting with low mood and anxiety.

Introduction

Bipolar disorder (BD) refers to a group of affective disorders characterised by a cyclical pattern of profound periods of mania or hypomania, interspersed with episodes of depression or improved function (Miller & Black, 2020; NICE, 2014; Phillips & Kupfer, 2013). The prevalence of BD in community samples ranges from 0.5% to 5% depending on the study (Clemente et al., 2015). The aetiology of BD is not well understood (Rowland & Marwaha, 2018), but is likely the result of a complex interaction between genetic and environmental vulnerability factors (Pichot et al., 2012; Rowland & Marwaha, 2018). There is a major need to better understand the factors that increase the risk of an individual developing BD.

BD is associated with high levels of premature mortality as a result of suicide and medical comorbidities and is one of the leading causes of disability worldwide (Rowland & Marwaha, 2018). In a global mental health survey by the World Health Organisation (WHO), BD was found to be the illness with the second highest impact on number of days an individual was unable to work or carry out everyday activities (Alonso et al., 2011), and has been ranked as the fifth leading cause of psychiatric disease burden (Ferrari et al., 2016). BD may result in functional and cognitive impairments leading to a significant reduction in an individual's quality of life (QoL; Grande et al., 2013; Grande et al., 2016; Martinez-Aran et al., 2007; Sole et al., 2017).

Despite the concept of QoL first being defined in the 1950s (Zheng et al., 2021) and its prominence in healthcare and research rising considerably over the past two decades, there is continuing debate about what constitutes QoL and how it should be measured. This is further complicated by the understanding that QoL can be fluid and subjective to an individual (Michalak et al., 2005). A commonly cited definition outlined by the World Health

Organisation QoL Group (1995) is, “an individual’s perception of their position in life in the context of the culture in which they live and in relation to their goals, expectations, standards and concerns”. QoL is now an important health outcome in medical and public health fields internationally (Zheng et al., 2021), and there is a wealth of research that demonstrates correlations between QoL and mental health outcomes (Evans et al., 2007; Berghofer et al., 2020; Spitzer et al., 1995). Previous research has evidenced that those individuals who have a diagnosis of BD, but who present with more severe depressive and anxiety symptoms have a lower QoL and higher functional impairment (Kauer-Sant’Anna et al., 2007; Michalak et al., 2005; Sylvia et al., 2017). Given the profound wide-ranging impact BD can have on an individual’s functioning (Bauwens et al., 1991; Granek et al., 2016; Michalak et al., 2006; Michalak et al., 2007), QoL in individuals with BD is distinctly impaired and continues to be compromised even when individuals are clinically euthymic (Anyayo et al., 2021; Michalak et al. 2005; Pascual-Sanchez et al., 2019; Rosa et al., 2009; Sanchez-Moreno et al., 2009; Tohen et al., 2000; Wesley et al., 2018). In addition, research has identified how improving QoL in an individual who experience BD is valued as much, if not more, than a reduction in their mood symptoms (Eiring et al., 2016; Haarig et al., 2016; Maczka et al., 2010; McIntyre, 2009; Morton et al., 2021).

One promising, but understudied area of investigation is the association between childhood adversity and compromised QoL in adulthood (Boccia, 2017; Daines et al., 2021; Hughes et al., 2016), inclusive of individuals with a diagnosis of BD (Jelley et al., 2020). Individuals who have a history of childhood adversity have been found to have poorer mental and physical health and are more likely to use medical and emergency services (Arnow, 2004). Children who have frequent exposure to adversity, are four times as likely to develop a mental disorder by the time they reach adulthood (McLaughlin et al., 2012). Definitions of childhood adversity differ throughout the literature, but typically involve variations of

unwanted physical, emotional and psychological harm or neglect (Stowkowy et al., 2020). McLaughlin (2016, p. 4) argues childhood adversity should be defined by "experiences that are likely to require significant adaptation by an average child and that represent a deviation from the expectable environment". As such, bullying is often included when investigating the impact of childhood adversity (Stowkowy et al., 2020), and there is a substantial field of literature that has investigated the impact of childhood bullying. Research suggests being a victim of childhood bullying is associated with deleterious longstanding effects and can contribute to mental health difficulties in adulthood, such as depression (Copeland et al., 2013; Takizawa et al., 2014), anxiety (Copeland et al., 2013; Takizawa et al., 2014), suicidal ideation (Copeland et al., 2013; Takizawa et al., 2014), binge eating (Sansone et al., 2010), violent behaviour (Sansone et al., 2010) and psychiatric disorders requiring specialised treatment (Dantchev et al., 2018; Sourander et al., 2016).

In contrast to the wealth of research into childhood adversity and bullying, there is a dearth of research into the relationship between childhood adversity inclusive of bullying and specifically BD. A meta-analysis found individuals with BD are 2.6 times more likely to have experienced childhood adversity compared to the general population (Palmier-Claus et al., 2016). Childhood adversity has been found to result in greater functional impairment in BD (Cotter et al., 2015) and has been associated with poorer clinical outcomes of BD, such as early-onset, severity, greater mood occurrence and suicide attempts.

Longitudinal studies have enabled researchers to distinguish psychosocial and behavioural correlates of bullying and victimization patterns, but due to high funding costs (Griffin & Gross, 2004) and high attrition rates (Green et al., 2018), the number of studies is small. There are a substantial number of cross-sectional studies evidencing the negative correlates of being a victim of childhood bullying, but in general these studies are not able to indicate cause and effect. In comparison, retrospective studies are fewer in number and

generally focus on specific populations (Schafer et al., 2004), such as victimisation in gay/lesbian young people (Rivers, 1999), or in individuals who experience depression (Gladstone et al., 2006; Lund et al., 2008) or anxiety (McCabe et al., 2010). To our knowledge, only two studies have investigated the association between childhood bullying and BD. Using a sample of adults with bipolar and unipolar depression, individuals with BD were more likely to have experienced childhood bullying than the unipolar group (Parker et al., 2013). In a more recent study, although using a small sample size, adolescents with a diagnosis of BD who had experienced childhood bullying were found to be more likely to present with psychotic symptoms (Acosta et al., 2020). Both studies focussed solely on traditional (offline) bullying behaviours. Literature argues a definition of bullying should also account for cyberbullying (online) behaviours (Thomas et al., 2015; Olweus & Limber, 2018), as many young people are now likely to have experienced both traditional and cyber bullying (Juvonen & Gross, 2008).

As experiences of childhood peer victimisation are often studied in the context of bullying (Sumter et al., 2015), and given the well-established associations between childhood bullying and poor mental health, and BD and QoL, using a retrospective design this study aimed to investigate whether offline and online childhood peer victimisation predicted QoL in individuals diagnosed with BD, when controlling for multiple clinical covariates. Although retrospective studies rely on self-report of participants and cannot establish a causal relationship, they provide a unique of account of individuals experiences and perceived consequences (Schafer et al., 2004). Reasonable degrees of test–retest reliability for adult recall of the occurrence of specific types of bullying and being able to place the events in a chronologically order has been established (Rivers, 2001). In addition, when recalling events of heightened emotions, such as experiences of victimisation, most adults are accurate and stable in their recollections (Brewin et al., 1993). The study hypothesised that individuals

who have a diagnosis of BD and who have experienced childhood peer victimisation will have a poorer QoL.

Method

Design

The study used an online retrospective survey to examine predictors of QoL in individuals with a diagnosis of BD. Feedback on the study design was sought from a group of service-user representatives at Lancaster University (Lancaster University Public Involvement Network; LUPIN). Consultation on the acceptability of the measures, usability of the online survey platform, and readability of the participant information sheet and consent form was completed.

Participants

Predictive power for a linear multiple regression with three predictors (sociodemographic and clinical variables, mood variables, and peer victimisation variables) was calculated using the G*Power statistical program. To achieve a statistical power of 0.8 with a medium effect size of 0.15 at a probability level of $p = 0.05$, it was calculated that a sample size of 77 would be required. According to Cohen (1988, p.25) a medium effect size is *"visible to the naked eye of a careful observer"* and has become common practice in statistics. Information relating to the study was advertised through the newsletter of a BD specific third sector charity and on the social media platform Twitter. A total of 160 participants consented to take part in the study. Of these, 139 provided complete responses.

Eligibility criteria required participants to: (1) self-report a DSM-5 or ICD-10 diagnosis of bipolar I, II or cyclothymia; (2) self-report age ≥ 18 years; (3) have sufficient understanding of written English; and (4) have an electronic device and internet access. Participants were not eligible if they had a self-reported diagnosed neurological condition.

Ethics

Ethical approval was obtained for this study via the Lancaster University Faculty of Health and Medicine Research Ethics Committee (reference FHMREC20030). All data was stored securely and used only for the advertised purpose. It was not anticipated that this study would result in any undue distress for participants but contact details for agencies who provide emotional support were provided prior to and following the questionnaires. Additional information on ethical approval and data protection is outlined in section four of the thesis.

Procedure

Participants were asked to access the anonymous survey via a web-based platform, Qualtrics. The URL was provided on all advertisement materials. Participants were asked to read the information sheet and complete the consent form before beginning the survey. The survey consisted of six questionnaires taking approximately fifteen to twenty minutes to complete.

Materials

All data were collected using Qualtrics. Participants completed demographic characteristics (age, gender, ethnicity, education level, and employment status), clinical information (bipolar diagnosis, age of onset, number of mental health inpatient admissions, if they have ever accessed talking therapies or been prescribed medication, regularly used alcohol or drugs, and if they had any mental health comorbidities) and five validated questionnaires online.

Probable Bipolar Diagnosis

The Mood Disorder Questionnaire (MDQ; Hirschfeld, 2000) is a simple participant-rated screening instrument for BD and was used to cross-validate participants self-report of

BD. It contains 17 items of which 12 assess symptoms of BD using yes or no responses, and two further questions assess clustering of symptoms and functional impairment (Hirschfeld, 2002). The MDQ has been validated in individuals with a psychiatric diagnosis and has a good sensitivity of 0.73 and a specificity of 0.90 (Hirschfeld, 2000).

Predictor Variable Measures

Anxiety. Childhood bullying has been found to result in elevated levels of anxiety in adults (Takizawa et al., 2014). The Generalised Anxiety Disorder-7 (GAD 7; Spitzer et al., 2006) is a brief self-report questionnaire consisting of seven items to assess current anxiety symptoms. Responses are scored on a four-point likert scale. The GAD-7 has been validated for use in primary care patients and the general population. The questionnaire has a sensitivity of 89% and a specificity of 82%. The GAD-7 has shown to have good test-retest reliability, construct validity, and have strong internal consistency ($\alpha = 0.92$; Löwe et al., 2008; Spitzer et al., 2006).

Mania and depression. The 7 Up 7 Down Inventory (Youngstrom et al., 2013) is a brief self-report measure and has been validated in clinical and non-clinical populations. The scale uses 14 questions on a four-point likert scale to measure manic and depression tendencies. The inventory has good internal consistency on both the mania scale ($\alpha = 0.83$) and depression scale ($\alpha = 0.95$). It has been found to have good psychometric properties across a wide range of ages (Youngstrom et al., 2013).

Peer bullying. The Multidimensional Office and Online Peer Victimisation Scale (MOOPVS; Sumter et al., 2015) was used to measure online and offline direct and indirect peer victimisation. The MOOPVS is a self-report questionnaire consisting of 20 questions using a five-point likert scale (Sumter et al., 2015). The measure has been found to have good construct validity and reliability and Cronbach's alpha estimates above 0.82 for both

subscales (Sumter et al., 2015). The MOOPVS was originally validated using adolescents (Sumter et al., 2015), but was adapted to be used retrospectively in adults reflecting on experiences between 11 and 18 years old (Beduna & Perrone-McGovern, 2019). The adapted version of the MOOPVS was found to have good convergent validity, divergent validity, and reliability.

Outcome Variable

QoL. The Brief Quality of Life in Bipolar Disorder Scale (Brief QoL.BD; Michalak & Murray, 2010) is a self-report questionnaire that provides important information about an individual's wellbeing. It is comprised of twelve questions, that were each derived from one of the twelve basic factors identified in the latent structure of the 56-item full scale. Respondents use a five-point likert scale with an average completion time of one minute. When being used within a BD population, the scale has demonstrated good internal consistency ($\alpha = 0.89$), construct validity, test-retest reliability; and sensitivity to change (Michalak & Murray, 2010).

Statistical Analyses

Statistical analyses were completed using IBM SPSS, version 25. Tests of normality were completed using skewness, kurtosis and Shapiro-Wilk's W (Table 2-1). Both QoL ($W(109) = 0.98$, $p = 0.23$) and offline peer victimisation ($W(109) = 0.99$, $p = 0.76$) were found to be normally distributed. However, due to the majority of variables (age, age of diagnosis, anxiety, mania, depression and online peer victimisation) indicating non-normal distribution through significant p-values ($p = <0.05$), non-parametric and bivariate analyses were used. Descriptive statistics were computed and examined to understand sample characteristics. Mann Whitney U tests assessed differences between complete and partial responses.

[Table 2-1 here]

Correlational analysis used Spearman's rank to measure the strength of the relationship between the core continuous variables. In addition, a sensitivity analysis using Spearman's rank was conducted on the age variable by excluding any participants who were born in 1981 or earlier, thus aged ≥18 in 1998 when household internet access in the United Kingdom first started to be surveyed (Office for National Statistics, 2017).

For the multiple hierarchical regression, categorical variables (ethnicity, education, and inpatient admissions) were recoded into binary variables (white/other, compulsory education/higher education, and inpatient admissions/no inpatient admissions) due to the low response rate in some categories. The gender variable was recoded into a dummy variable to ensure the integrity of three participants who identified as gender non-conforming and non-binary was maintained. As the correlation analysis indicated the presence of multicollinearity between age and age of diagnosis, only age was included in the regression analysis.

The predictor variables were entered into the regression model in three blocks. The first block was demographics, as they are already known to explain variance in the QoL between individuals (Baby et al., 2015; Gobbens & Remmen, 2019). Secondly, mood variables were entered as previous research (Kauer-Sant'Anna et al., 2007; Michalak et al., 2005; Sylvia et al., 2017) has evidenced an association between mood and anxiety, and QoL. The present study hoped to better understand the association between the mood variables and QoL in individuals diagnosed with BD. Finally, as the principal aim of the study was to understand the role of childhood peer victimisation on QoL, peer victimisation variables were entered last to explore whether they explained unique variance beyond that accountable to mood and demographics. Thus, the three blocks were entered as follows:

- Step 1: Sociodemographic and clinical variables: age, gender, ethnicity, education, alcohol reliance, drug reliance, psychological therapy, prescribed medication, and inpatient admission.
- Step 2: Mood variables: anxiety, mania, and depression.
- Step 3: Peer victimisation variables: offline peer victimisation and online peer victimisation

Bootstrapping with 1000 repetitions estimated the standard error and confidence intervals for all analyses, thus accounting for the data being non-normally distributed (Mooney & Duval, 1993).

As the regression model suggested an association between mood states and peer victimisation, a series of post-hoc mediation analyses were conducted using Hayes' Process Tool (Hayes, 2018). The Hayes' Process Tool is a computational macro for statistical programs such as SPSS that conduct observed-variable mediation, moderation, and conditional process analysis. It enabled the current study to estimate total, direct, indirect effects in single mediator models. It is important to note that post-hoc analyses have been criticised for inappropriate use in the hope of finding significant results after initial analyses have been completed, and thereby adversely impacting the validity of any findings (Srinivias et al., 2015). Nevertheless, due to the findings of the regression in the present study, it was felt that post-hoc mediation analysis may provide valuable insights on associations that were not anticipated a priori.

Four mediation models were completed and in each analysis 5000 bootstrap samples were used to estimate the confidence intervals, eliminating any difficulties regarding non-normally distributed data. In all models, either offline or online were the independent variable (IV) and QoL was the dependent variable (DV). As both depression and anxiety have been

associated with a poorer QoL in individuals with BD (Kauer-Sant'Anna et al., 2007; Michalak et al., 2005; Sylvia et al., 2017), the two mood states were inputted as mediators separately. The indirect effect of mood state was deemed significant if the 95% bootstrap confidence interval did not contain zero (Hayes, 2013).

To determine the robustness of the statistical procedures used, a sensitivity analysis was conducted. The main analysis excluded individuals who did not screen positive for BD after completing the MDQ (Hirschfeld, 2000). The sensitivity analysis compared the study's main findings to those from a data set where all individuals who completed the whole survey, regardless of MDQ score, where included (*n*=139).

Results

Not all participants completed the online survey. Of the 160 participants who opened the survey and completed the consent process, 14 only completed the demographics and clinical questionnaire, and a further seven did not complete all measures. These participants were removed (*n*=21) leaving 139 participants. Thirty (21.6%) participants were screened negative when their self-reported diagnosis of BD was cross validated using the MDQ (Hirschfeld, 2000). Subsequently they were excluded from the study, resulting in a final data set of 109 participants. Before their removal the MDQ demonstrated a good Cronbach alpha of 0.74, but this reduced to 0.64 after their removal. Although a $\alpha = .70$ and above is frequently cited as an acceptable range, there is a lack of agreement with some researchers arguing for the acceptability of values as low as 0.50 and 0.60 in exploratory research (Hair et al., 2010; Nunnally, 1967).

The majority of the data set identified as female (77.1%), and the median age was 41 years with ages ranging from 18-70 years. In addition to a BD diagnosis, 73 (67%) participants reported a comorbid mental health diagnosis. Examples of these were post-

traumatic stress disorder, personality disorders, attention deficit hyperactivity disorder, bulimia, schizoaffective disorder, major depression, and generalised anxiety disorder. Further socio-demographic and clinical characteristics of the sample can be found in table 2-2.

[Table 2-2 here]

Measures of Mood, Bullying and QoL

Of the 109 participants, 87 (79.8%) scored in the clinical range (mild, moderate, severe) on the GAD. Although there are no clinical cut offs for the 7 Up 7 Down inventory, MOOPVS, and the Brief QoL.BD scales, higher scores indicate greater psychopathology, peer victimisation and a better QoL respectively. On both the offline and online MOOPVS scales, the lowest score possible was 10 which represented 'never' experiencing any of the peer victimisation behaviours and the highest score was 50. No participants scored 10 for offline peer victimisation (M = 29, SD = 7.56), whereas 55 (50.5%) participants reported 'never' having experienced online peer victimisation (M = 17.22, SD = 9.32). The α coefficients for responses in the present study indicated good internal consistency. Alpha values ranged from 0.85 to 0.97, which are in line with those reported in previous research. Table 2-3 shows the medians, ranges and Cronbach's alpha of the measures for the sample.

[Table 2-3 here]

Completers vs Partial Responders

The completers (*n*=109) and partial responders (*n*=21) were compared on sociodemographic and clinical characteristics. Both groups had similar configuration regarding reported gender, with the majority identifying as female in the completers (*n*=84, 77.1%) and in the partial responders (*n*=16, 76.2%). In addition, the age of completers (Mdn=41) did not differ significantly from partial responders (Mdn=44; $U = 1073.50$, $z = -.45$, $p = 0.65$). Furthermore, both completers and partial responders had similar characteristics

regarding the number of participants in employment (51.3%; 52.3%), but the completers group (59.6%) had a higher percentage of participants who had a degree level education than the partial responders (42.8%).

Correlational Analysis

Table 2-4 illustrates the Spearman's rank correlations between all continuous and ordinal variables. In total there were 18 statistically significant correlations. The strongest significant correlation was between QoL and anxiety (r = -.53, p < .001). QoL was also significantly negatively correlated with depression (r = -.39, p < .001). The analysis indicated statistically significant correlations between both offline and online peer victimisation and QoL, anxiety and depression. The mood variable mania evidenced weak associations and only significantly correlated with the other mood predictor variables, anxiety (r = .38, p < .001) and depression (r = .38, p < .001). The sensitivity analysis indicated that statistically significant correlations were maintained between online peer victimisation and other variables (age, depression, and offline peer victimisation) when access to internet at home was controlled for through age, but differences were identified between online peer victimisation and both anxiety and QoL. When access to internet was not controlled through age, online peer victimisation significantly correlated with anxiety (r = 0.19, p < 0.05), but did not in the sensitivity analysis. Similarly in the main analysis QoL did not significantly correlate with online peer victimisation, but a significant relationship was identified in the sensitivity analysis (r = -0.35, p < .05).

[Table 2-4 here]

Multiple Hierarchical Regression Analysis

As the correlation between age and age of diagnosis indicated the presence of multicollinearity (r =.73, p < .001), age of diagnosis was not included in the regression

analysis. The results of the multiple hierarchical regression analyses are provided in Table 2-5. As the data did not meet the assumptions of normality, bootstrapping (1000 reps) was used.

[Table 2-5 here]

At the first step of the regression analysis no sociodemographic and clinical variables (age, gender, ethnicity, education, alcohol reliance, drug reliance, psychological therapy, prescribed medication, and inpatient admission) were found to be significant predictors for QoL. Sociodemographic and clinical variables accounted for 8% of the variance in outcome ($F(10, 98) = 0.86$, *Adjusted* $R^2 = -0.01$). The second step explained 43.7% of the variance, meaning the addition of mood variables significantly accounted for 35.7% of the variance ($F(3, 95) = 20.06$, $p < .001$, *Adjusted* $R^2 = 0.36$). Two mood variables; anxiety and depression, were significant predictors of QoL. In the final step the same two mood variables (anxiety and depression) continued to be significant predictors, but neither peer victimisation variable (offline and online) were significant. Step 3 increased the explanatory power of the final model by 45%, therefore peer victimisation variables only accounted for 1.3% of the model variance ($F(2, 93) = 1.09$, *Adjusted* $R^2 = -0.36$), and were found to be non-significant.

In summary, sociodemographic and clinical variables and childhood peer victimisation variables were not significant predictors of QoL, and combined could only explain 9.3% of the variance in the QoL of individuals with BD. Whereas even when controlled for within regression analysis, mood states (anxiety and depression) are significant predictors of QoL and can explain 35.7% of the variance in the QoL of individuals with BD

Mediation Analysis

The data analysis thus far identified strong associations between affective states, suggesting a possible mediating pathway between childhood peer victimisation and QoL. Thus, a post-hoc mediation analysis was completed. Mania was not included in the mediation

analysis due to the Spearman's rank highlighting no correlation with QoL (r = -.14, p =.134). Four mediation models (Hayes, 2013) were used to examine the indirect effect of anxiety and depression on the relationship between offline and online peer victimisation and QoL (Figure 1 and 2).

[Figure 2-1 here]

[Figure 2-2 here]

Four mediation models (Hayes, 2013) were used to examine the indirect effect of anxiety and depression on offline and online peer victimisation (see Figure 2-1 and 2-2).

Model 1: anxiety (GAD 7) and offline peer victimisation (MOOPVSOFF)

Results from the mediation analysis indicate that the direct effect between offline peer victimisation and QoL was not significant (β = -0.13, 95% CI, [-0.32, 0.06], p = 0.192), when controlling for the effects of the mediation variable, anxiety. However, the results suggest there was a non-significant negative relationship were when offline peer victimisation increases, QoL declines. The indirect effect confidence interval remained below zero (β = -0.17, 95% CI, [-0.29, -0.07]), indicating anxiety does have a mediating effect on the relationship between offline peer victimisation and QoL. Increased offline peer victimisation was significantly related to a higher level of anxiety (β = 0.20, 95% CI, [0.06, 0.33], p = 0.005), and a higher level of anxiety was significantly related to a lower QoL (β = -0.78, 95% CI, [-1.04, -0.57], p <0.001). Model 1 explained 36% of the variance in QoL. When the presence of the mediator, anxiety, was not controlled for, the total effect of the model was significant (β = -0.28, 95% CI, [-0.49, -0.07], *p = 0.010*).

Model 2: depression (7 Down) and offline peer victimisation (MOOPVSOFF

The analysis indicated that the direct effect between offline peer victimisation and QoL was not significant when controlling for the effect of the mediation variable, depression (β = -0.15, 95% CI, [-0.35 -0.06], p = 0.171). However, the results suggest a non-significant association, where increased levels of offline peer victimisation relate to decreasing levels of QoL and vice versa. At the 95% confidence interval, the indirect effect through depression was entirely below zero (β = -0.14, 95% CI, [-0.24, -0.05]), indicating depression does have a mediating effect on the relationship between offline peer victimisation and QoL. Increased levels of offline peer victimisation were significantly related to higher levels of depression (β = 0.22, 95% CI, [0.09, 0.34], p = 0.008), and higher levels of depression were significantly related to reduced QoL (β = -0.63, 95% CI, [-0.93, -0.32], p = <0.001). Model 2 explained 19% of the variance in QoL in individuals with BD. When the presence of the mediator, depression, was not controlled for the total effect of the model was significant (β = -0.28, 95% CI, [-0.49, -0.07], *p = 0.010*).

Model 3: anxiety (GAD 7) and online peer victimisation (MOOPVSON)

Results from the mediation analysis indicates that the direct effect between online peer victimisation and QoL was not significant (β = -0.09, 95% CI, [-0.25, -0.06], p = 0.234), when controlling for the effects of the mediation variable, anxiety. However, the results suggest there was a non-significant relationship were when online peer victimisation increases, QoL declines. The indirect effect confidence interval remained below zero (β = -0.10, 95% CI, [-0.22, -0.02]), indicating anxiety does have a mediating effect on the relationship between offline peer victimisation and QoL. Increased online peer victimisation was significantly related to a higher level of anxiety (β = 0.13, 95% CI, [0.01, 0.24], p = 0.030), and a higher level of anxiety was significantly related to a lower QoL (β = -0.80, 95% CI, [-1.05, -0.53], p <0.001). Model 3 explained 30% of the variance in QoL. When the

presence of the mediator, anxiety, was not controlled for, the total effect of the model was significant (β = -0.19, 95% CI, [-0.37, -0.02], *p = 0.031*).

Model 4: depression (7 Down) and online peer victimisation (MOOPVSON)

The analysis indicated that the direct effect between online peer victimisation and QoL was not significant when controlling for the effect of the mediation variable, depression (β = -0.10, 95% CI, [-0.27, 0.07], *p* = 0.236). However, the results suggest there was a non-significant relationship were when online peer victimisation increases, QoL declines. The indirect effect confidence interval remained entirely below zero (β = -0.09, 95% CI, [-0.19, -0.02]), indicating depression does have a mediating effect on the relationship between online peer victimisation and QoL. Increased levels of online peer victimisation were significantly related to higher levels of depression (β = 0.14, 95% CI, [0.04, 0.24], *p* = 0.007), and higher levels of depression were significantly related to reduced QoL (β = -0.65, 95% CI, [-0.95, -0.34], *p* = <0.001). Model 4 explained 18% of the variance in QoL in individuals with BD. When the presence of the mediator, depression, was not controlled for, the total effect of the model was significant (β = -0.19, 95% CI, [-0.37, -0.02], *p = 0.031*).

A summary of the mediation analysis results is presented in Table 2-6 and 2-7. All models illustrated offline and online peer victimisation to predict greater anxiety and depression, which in turn predicted poorer QoL. The total effect pathways between both types of peer victimisation and QoL were significant when the mediator was not controlled for, but when both anxiety and depression were controlled for, the direct pathways were not significant.

[Table 2-6 here]

[Table 2-7 here]

As 30 participants were excluded from the data set due to their self-reported diagnosis of BD being screened as negative on the MDQ (Hirschfield, 2000), a sensitivity analysis was conducted on the data set inclusive of the 30 participants, to check the robustness of the study's findings. Model 1, 3, and 4 continued to support a full mediation effect, however model 2 supported a partial mediation effect, illustrating a significant direct effect of offline peer victimisation on QoL, when controlling for the effect of the mediation variable, depression (β = -0.18 [-0.36, -0.00], p = 0.045).

Discussion

The present retrospective study examined the relationship between childhood peer victimisation, mood states and QoL for individuals who have a diagnosis of BD. The findings suggest that childhood peer victimisation may play a role in later life events for individuals with a diagnosis of BD through impacting on clinical covariates. It was hypothesised that individuals who have experienced childhood peer victimisation will have a poorer QoL. This hypothesis was not supported. Although offline peer victimisation evidenced strong and statistically significant correlations with a poorly perceived QoL, similar to what has been observed in a non-clinical population longitudinal study (Takizawa et al., 2014). When the multiple regression analysis tested the hypotheses, both offline and online peer victimisation were not significant predictors of QoL, only accounting for 1.3% of the model variance. Whereas the mood variables anxiety and depression remained significant predictors in the final step, accounting for 43.7% of model variance. Participants current anxiety and depression levels affected the individual's present QoL to a greater extent than peer victimisation they experienced in their childhood.

In line with previous findings (Kauer-Sant'Anna et al., 2007; Keming et al., 2019; Sylvia et al., 2017), both anxiety and depression were associated with poorer QoL. In

addition, there was no association between mania and poorer QoL in individuals diagnosed with BD. This finding was surprising given the impact mania can have on an individual's inhibition and risk taking (Clark & Sahakian, 2008). It is possible that a significant association was not found due to participants in the sample currently being euthymic or experiencing a depressive episode (Tohen et al., 2015). Additionally, insight is known to be impacted in individuals experiencing a manic episode, particularly regarding their symptoms (Silva, et al., 2016; Kumar et al., 2013). Research has suggested impaired insight as a result of mania may adversely affect the validity of self-report measures when used in samples with a diagnosis of BD (Burdick et al., 2005; Dias et al., 2008; Gazalle et al., 2007; Ghaemi and Rosenquist, 2004; Sylvia et al., 2017).

Mania was excluded from the post-hoc mediation analysis, but the analysis illustrated how both anxiety and depression were impacting on the relationship between childhood peer victimisation and QoL. When clinical covariates (anxiety and depression) were controlled for, there were no direct effects found between either offline and online peer victimisation and QoL, and a full mediation was effect was supported. Childhood peer victimisation may lead to greater levels of depression and anxiety, which in turn can increase the risk of suicide (O'Donovan & Alda, 2020), increase the bipolarity between negative and positive symptoms (Dejonckheere et al., 2018), result in poor treatment response, substance abuse, and disability (Vaquez et al., 2014) for individuals who experience BD. Thus, creating a major barrier to maintaining a good QoL. In addition, it is possible that there was no direct affect between online peer victimisation and QoL due to cyberbullying being a newer phenomenon and the median age of our participants being 39 years. A population based cross-sectional study found traditional bullying to be more common than cyberbullying and to have a greater impact on mental wellbeing (Przybylski & Bowes, 2017). The present study supports findings from a non-clinical longitudinal study that found childhood peer victimisation to be

associated with a poorly perceived QoL through increased levels of psychological distress (Takizawa et al., 2014).

Strengths and Limitations

There are a number of strengths and limitations to this research. The present study used an online retrospective survey that limits inferences about causality (Hayes, 2018). Therefore, it cannot be assumed that childhood peer victimisation causes people with BD to have increased levels of depression and anxiety, which in turn causes them to have lower levels of QoL. Rather, it appears there are interactions between the conceptualisations of childhood peer victimisation, mood states, and QoL. It is possible that some of these may be bidirectional or that other, unmeasured variables influenced these relationships.

The study collected data on clinical covariates such as number of inpatient admissions, prescribed medication, psychological therapy, substance misuse, education, and employment. However, the statistical models did not control for any affect these clinical covariates could have possibly had, thus they may have affected the strength of the observed coefficients. In addition, the observed mediation effects may have been the result of an unmeasured variable (Elmsley et al., 2010). For example, cognitive reserve, previous suicide attempts (Cotrena et al., 2020) and premorbid adjustment may predict QoL in BD (Oldis et al., 2016). Furthermore, the use of mediation analysis is usually cautioned against in cross-sectional/retrospective studies as the design undermines an assumption of the statistical model, that temporal ordering of variables in the causal chain of mediation is correct. As this can result in support for mediation effects when there is no true mediation in the data, it is paramount that there is a rationale for the temporal ordering of the examined variables. In the present study, given the chronological nature of the constructs in the mediation model, there is a rationale for the temporal precedence of the variables (Fairchild & McDaniel, 2017).

As the data was collected online, the participants self-reported their diagnosis of BD. The MDQ (Hirschfeld, 2000) was used to cross-validate participants self-report of BD and 30 participants were screened negative for BD and thus were excluded from the main analysis. However, the sensitivity analysis indicated this to have resulted in a partial mediation effect between offline bullying and QoL being undiscovered. The sample was also self-selected; thus, the participants may have had a particular interest in the research question proposed in the study advertisements.

Although vulnerability biases and cultural differences have been outlined, it is important to consider how recoding ethnicity, education, and inpatient admissions into binary variables in the multiple hierarchical regression may have impacted the interpretation of the study's findings. Binary variables were used due to the number of responses for the levels within the categorical variables being significantly different from one another. The decision to combine groups was made to ensure the study maintained adequate statistical power. Unfortunately, this impedes the study's ability to meaningfully evidence the impact of childhood peer victimisation on QoL for individuals of different ethnicities for example. An alternative option would have been to exclude these variables from the regression analysis, but as ethnicity (Raleigh & Holmes, 2021; Watkinson et al., 2021), education (Edgerton et al., 2012), and inpatient admissions (Berghofer et al., 2020) have all previously evidenced an association with QoL, their inclusion felt paramount to understanding any variance childhood peer victimisation has on QoL.

The self-report measures used to collect data on the predictor and outcome variables are vulnerable to bias (Althubaiti, 2016; Bauhoff, 2014) and cultural differences (Roger, 1989; Andres, 2004), further compromising the reliability of the study's findings. Most respondents were white *(n*=85, 78%) and female (*n*=84, 77.1%). Previous research has reported an equal gender ratio in the prevalence of BD (Hendrick et al., 2000; Marwaha et al.,

2014), but a recent literature review of studies with larger samples greater than 1000 participants reported a higher preponderance of females (Dell'Osso et al., 2021), consistent with the present study. Further research should be undertaken with male participants to ensure adequate generalisability across genders. Ethnicity is less frequently reported in studies than gender. Although research suggests that BD affects all ethnicities equally (Marwaha et al., 2014), it is known that black individuals experience higher rates of misdiagnosis (Akinhanmi et al., 2018) and individuals of Asian ancestry with a mood disorder underutilise mental health services so are not adequately represented in epidemiological studies (Lee et al., 2011). Individuals who identified as solely Black and Asian in the present study only comprised 4.6% of the sample, with the majority of the sample identifying as White (78%), providing evidence to support the misdiagnoses and underutilisation of mental health services theory. Furthermore, as the study was advertised and conducted online, individuals who were unable to access or use computer technology may have been excluded. This could have caused a bias towards younger participants as they are known to be more likely to take part in online research (Topolovec-Vranic, 2016). Additionally, the online nature of the survey may have excluded individuals who had low levels of education and were not computer literate, as 59.6% (n=65) of the sample were educated to a degree level.

The retrospective survey method used to collect data also presents limitations regarding measurement error. Retrospective questions have been shown to place high cognitive demands on respondents (Yan & Tourangeau, 2007). As such, although memory bias has been reported to explain little variance in measures of childhood adversity (Fergusson et al., 2011), it is possible that recall bias may have confounded the retrospective measures of childhood bullying. It has also been reported that individuals tend to report past attitudes and feelings that are more consistent with their current situation (Barksy, 2002).

Lastly, biases are thought to occur due to common method variance that arise more frequently in survey research. As a result of all independent and dependent variables being collected using the same method and at the same time point, there is a possibility of associations being artificially inflated or deflated (Jordan & Troth, 2019). However, as many of the outcome scales were not related to the childhood peer victimisation factor, the risk of this bias occurring is weakened (Schafer et al., 2004).

The online data collection commenced in March 2021 during a global pandemic. The significant restrictions on people's freedom and fears of being infected with COVID-19 has been found to significantly impact individual's mental health, resulting in an increase in depression, anxiety (Kumar & Nayar, 2020) and QoL (Geirdal et al., 2021). Early data has illustrated poorer physical and mental health outcomes specifically for individuals with a diagnosis of BD (Hassan et al., 2021; Stefana et al., 2020). Thus, the results of the mood variables may have been impacted if participants mental health was confounded by the effects of the COVID-19 pandemic.

Despite the limitations created by using online technology for the study, online methodology has been identified to be an effective means for expanding the scale and scope of research (Kraut et al., 2004). Advertising online during a global pandemic enabled the study to engage individuals who may not have otherwise been able to be reached due to social distancing and shielding restrictions, and enabled the study to recruit a large sample to ensure the analyses were appropriately powered.

In addition to contributing to the dearth of literature that explores the relationship between childhood peer victimisation and BD, and in particular how it affects individuals' QoL, this study has explored the impact of cyber peer victimisation, which is a novelty to this field of research. The MOOPVS (Beduna & Perrone-McGovern, 2019) was used to measure

both retrospective offline and online childhood peer victimisation and has demonstrated robust psychometric properties. However, the population that the measure was validated in were university students and not a clinical sample. There are a limited number of childhood bullying instruments that are validated for use in a clinical sample, and to our knowledge there are no validated retrospective measures of both traditional and cyber bullying behaviours in a mental health population. Furthermore, as the MOOPVS is a retrospective measure, participants are asked to recall peer victimisation behaviours from childhood. Research suggests that recollections of bullying tend to be stable across time (Rivers, 2001), but they cannot be exempt from risk of bias, confounding memories, or forgetfulness (Hardt & Rutter, 2004).

Clinical and Research Implications

It is becoming increasingly accepted that improving QoL in an individual who experiences BD is valued as much, if not more, than a reduction in their mood symptoms (Eiring et al., 2016; Haarig et al., 2016; Maczka et al., 2010; McIntyre, 2009; Morton et al., 2021). Childhood adversity has been found to be associated with BD (Palmier-Claus et al., 2016), but given the dearth of research into the impact of childhood peer victimisation on QoL for individuals who have a diagnosis of BD, further research is needed to explore the relationship and build on the initial findings within this study. Future research could compare clinical and non-clinical samples to further assess how depression and anxiety mediate the relationship between childhood peer victimisation and QoL. In addition, future research could utilise a longitudinal design to investigate the association between childhood peer victimisation and QoL. As the temporal order of the variables would be less unambiguous, there would be a stronger argument for any statistical associations to be understood in the context of a causal relationship. By further exploring whether childhood peer victimisation

could be a potential determinant of BD in adulthood, future research may be able to aid prediction of individuals at risk of developing BD.

Although the findings cannot determine causation, previous literature and the full mediating pathways found in the current study, suggest policies aimed at preventing childhood peer victimisation, particularly traditional face-to-face victimisation, and the promotion of targeted interventions for bully victims, may reduce anxiety and depression and have a positive impact on perceived QoL. If future research confirms a direct association between experiencing childhood peer victimisation and poorer quality of life in individuals with a diagnosis of BD, it would be prudent for clinicians to include the exploration of peer victimisation experiences in their assessments and consider its association with low mood and anxiety during formulation. If significant childhood peer victimisation experiences were identified, it would be important for clinicians to consider whether targeted interventions to aid an individual to explore these experiences and any possible associated trauma were required. Furthermore, it would be important for clinicians to use their position to advocate for school-wide bullying prevention programmes so intervention can be preventative and not a reactive response, and to encourage the use of childhood bullying screening measures in everyday practice with children and young adolescents.

Conclusion

To our knowledge, this is the first study to investigate an association between childhood peer victimisation and poorer perceived QoL in individuals who have a diagnosis of BD. Further research which examines the role of childhood peer victimisation in individuals with a diagnosis of BD and its effect on QoL is needed, but this study provides an important first step in highlighting the importance of this field of research.

References

Acosta, J. R., Librenza-Garcia, D., Watts, D., Francisco, A. P., Zórtea, F., Raffa, B., Kohmann, A., Mugnol, F. E., Motta, G. L., Tramontina, & S., Passos, I. C. (2020). Bullying and psychotic symptoms in youth with bipolar disorder. *Journal of Affective Disorders, 265,* 603-610. https://doi.org/10.1016/j.jad.2019.11.101

Akinhanmi, M. O., Biernacka, J. M., Strakowski, S. M., McElroy, S. L., Berry, J. E., Merikangas, K. R., Assari, S., McInnis, M. G., Schulze, T. G., LeBoyer, M., Tamminga, C., Patten, C., & Frye, M. A. (2018). Racial disparities in bipolar disorder treatment and research: a call to action. *Bipolar Disorder, 20*(6), 506-514. https://doi.org/10.1111/bdi.12638

Alonso, J., Petukhova, M., Vilagut, G, Chatterji, S., Heeringa, S., *Üstün, T. B, Alhamzawi,* A. O., *Viana,* M. C., *Angermeyer,* M., *Bromet,* E., *Bruffaerts,* R., *de Girolamo,* G., Florescu, S., Gureje, O, Haro, J. M., Hinkov, H., Hu, C-y., Karam, E. G., Kovess, V., Levinson, D., Medina-Mora, M. E., Nakamura, Y., Ormel, J., Posada-Villa, J., Sagar, R., Scott, K. M., Tsang, A., Williams, D. R., & Kessler, R., C. (2011). Days out of role due to common physical and mental conditions: results from the WHO World Mental Health surveys. *Molecular Psychiatry, 16*(12), 1234-1246. https://doi.org/10.1038/mp.2010.101

Althubaiti, A. (2016). Information bias in health research: definition, pitfalls, and adjustment methods. *Journal of Multidisciplinary Healthcare, 9*, 211-217. https://doi.org/10.2147/JMDH.S104807

Andrés, A. R. (2004). Determinants of self-reported mental health using the British Household panel survey. *Journal of Mental Health Policy and Economics, 7*(3), 99-106.

Anyayo, L., Ashaba, S., Kaggwa, M. M., Maling, S., & Nakimuli-Mpungu (2021). Health-related quality of life among patients with bipolar disorder in rural southwestern Uganda: a hospital based cross sectional study. *Health and Quality of Life Outcomes, 19*(84), 1-8. https://doi.org/10.1186/s12955-021-01729-

Arnow, B. A. (2004). Relationships between childhood maltreatment, adult health and psychiatric outcomes, and medical utilization. *Journal of Clinical Psychiatry, 65*(12), 5-10.

Baby, S., Khan, M. I., & Kawa, M. H. (2015). Sociodemographic correlates of quality of life. *International Journal of Current Research, 7*(6), 17012-17016.

Barsky, A. J. (2002). Forgetting, fabricating, and telescoping. *Archives of Internal Medicine, 162*(9), 981–984. https://doi.org/1 0.1001/archinte.162.9.981

Bauhoff, S. (2014). Self-report bias in estimating cross-sectional and treatment effects. In A. C. Michalos (Ed), *Encyclopedia of Quality of Life and Well-Being Research*. Springer. https://doi.org/10.1007/978-94-007-0753-5_4046

Bauwens, F., Tracy, A., Pardoen, D., Vander Elst, M., & Mendlewicz, J. (1991). Social adjustment of remitted bipolar and unipolar out-patients. *The British Journal of Psychiatry, 159*(2), 239-244. https://doi.org/10.1192/bjp.159.2.239

Beduna, K. N., & Perrone-McGovern, K. M. (2019). Recalled childhood bullying victimization and shame in adulthood: The influence of attachment security, self-compassion, and emotion regulation. *Traumatology, 25*(1), 21–32. *https://doi.org/10.1037/trm0000162*

Berghöfer A., Martin, L., Hence, S., Weinmann, S., & Roll, S. (2020). Quality of life in patients with severe mental illness: a cross-sectional survey in an integrated outpatient

health care model. *Quality of Life Research, 29*, 2073-2087. https://doi.org/10.1007/s11136-020-02470-0

Boccia, M. L. (2017). Adverse childhood experiences play a crucial role in adult functioning. *TAFCS Research Journal, 4*(1), 1-20.

Brewin, C. R., Andrews, B. & Gotlib, I. H. (1993). Psychopathology and early experience: a reappraisal of retrospective reports. *Psychological Bulletin, 113*(1), 82–89. https://doi.org/10.1037/0033-2909.113.1.82.

Burdick, K. E., Endick, C. J., Goldberg, J. F. (2005). Assessing cognitive deficits in bipolar disorder: are self-reports valid? *Psychiatry Research, 136*(1), 43–50. https://doi.org/10.1016/j.psychres.2004.12.009

Clark, L., & Sahakian, B. (2008). Cognitive neuroscience and brain imaging in bipolar disorder. *Dialogues of Clinical Neuroscience, 10*(2), 153-165. https://doi.org/10.31887/DCNS.2008.10.2/lclark

Clemente, A. S., Diniz, B. S., Nicolato, R., Kapczinski, F. P., Soares, J. C., Firmo, J. O., Castro-Costa, É. *(2015).* Bipolar disorder prevalence: a systematic review and meta-analysis of the literature. *Brazilian Journal of Psychiatry, 37*(2), 155-161. https://doi.org/10.1590/1516-4446-2012-1693

Cohen, J. (1988). *Statistical Power Analysis for the Behavioural Sciences*, 2nd Edn. New York, NY: Academic Press.

Copeland, W. E, Wolke, D., Angold, A., & Costello, E. J. (2013). Adult psychiatric outcomes of bullying and being bullied by peers in childhood and adolescence. *JAMA Psychiatry, 70*(4), 419-426. https://doi.org/10.1001/jamapsychiatry.2013.504

Cotrena, C., Branco, L. D., Shansis, F. M., Fonseca, R. P. (2020). Predictors of quality of life in bipolar disorder: A path analytical study. *Psychiatry Research, 285*, 1-7. *Bipolar disorder prevalence: a systematic review and meta-analysis of the literature. Brazilian Journal of Psychiatry,* https://doi.org/10.1016/j.psychres.2020.112846

Cotter, J., Kaess, M., & Yung, A. R. (2015). Childhood trauma and functional disability in psychosis, bipolar disorder and borderline personality disorder: a review of the literature. *Irish Journal of Psychological Medicine, 32*(1), 21-30. https://doi.org/10.1017/ipm.2014.74

Daines, C. L., Hanse, D., Lelinneth, M., Novilla, B., & Crandell, A. (2021). Effects of positive and negative childhood experiences on adult family health. *BMC Public Health, 21*(651), 1-8. https://doi.org/10.1186/s12889-021-10732-w

Dantchev, S. Zammit, S., & Wolke, S. (2018). Sibling bullying in middle childhood and psychotic disorder at 18 years: a prospective cohort study. *Psychological Medicine, 48*, 2321-2328. https://doi.org/10.1017/S0033291717003841

Dejonckheere, E., Mestdagh, M., Houben, M., Erbas, Y., Pe, M., Koval, P., Brose, A., Bastian, B., & Kuppens, P. (2018). The bipolarity of affect and depressive symptoms. *Journal of Personality and Social Psychology, 114*(2), 323–341. https://doi.org/10.1037/pspp0000186

Dell'Osso, B., Cafaro, R., & Ketter, T. (2021). Has bipolar disorder become a predominantly female gender related condition? Analysis of recently published large sample studies. *International Journal of Bipolar Disorders, 9*(3), 2-7. https://doi.org/10.1186/s40345-020-00207-z

Dias, V. V., Brissos, S., Frey, B. N., & Kapczinski, F. (2008). Insight, quality of life and cognitive functioning in euthymic patients with bipolar disorder. *Journal of Affective Disorder, 110*(1-2), 75-83. https://doi.org/10.1016/j.jad.2008.01.010

Edgerton, J. D., Roberts, L. W., & von Below, S. (2012). Education and Quality of Life. Handbook of Social Indicators and Quality of Life Research. In Land, K., Michalos, A., & Sirgy, M. (Eds). *Handbook of Social Indicators and Quality of Life Research* (pp.265-296). Springer, Dordrecht. https://doi.org/10.1007/978-94-007-2421-1_12

Eiring, O., Nylenna, M. Nytrøen, K. (2016). Patient-important outcomes in the long-term treatment of bipolar disorder: a mixed-methods approach investigating relative preferences and a proposed taxonomy. *The Patient – Patient-Centered Outcomes Research, 9*, 91-102. https://doi.org/10.1007/s40271-015-0128-x

Elmsley, R., Dunn, G., White, I. R. (2010). Mediation and moderation of treatment effects in randomised controlled trials of complex interventions. Statistical Methods in Medical Research, 19(3), 237-270. https://doi10.1177/0962280209105014

Evans, S., Banerjee, S., Leese, M., & Huxley, P. (2007). The impact of mental illness on quality of life: a comparison of severe mental illness, common mental disorder and healthy population samples. *Quality of Life Research, 16*(1), 17-29. https://doi.org/10.1007/s11136-006-9002-6

Fairchild, A. J., & McDaniel, H. L. (2017). Best (but oft-forgotten) practices: mediation analysis. *The American Journal of Clinical Nutrition, 105*(6), 1259-1271. https://doi.org/10.3945/ajcn.117.152546

Fergusson, D. M., Horwood, L. J., & Boden, J. M. (2011). Structural equation modelling of repeated reports of childhood maltreatment. *International Journal of Methods in Psychiatric Research, 20*(2), 93-104. https://doi.org/10.1002/mpr.337

Ferrari, A., Stockings, E., Khoo, J., Erskine., H. E., Degenhardt, L., Vos, T., & Whiteford, H, A. (2016). The prevalence and burden of bipolar disorder: findings from the global burden of disease study 2013. *Bipolar Disorders, 18(*5), 440-450. https://doi.org/10.1111/bdi.12423

Gazalle, F. K., Frey, B. N., Hallal, P. C., Andreazza, A. C., Cunha, A. B., Santin, A., Kapczinski, F. (2007). Mismatch between self-reported quality of life and functional assessment in acute mania: a matter of unawareness of illness? *Journal of Affective Disorders, 103*(1-3), 247–252. https://doi.org/10.1016/j.jad.2007.01.013

Geirdal, A. O., Ruffolo, M., Leung, J., Thygesen, H., Price, D., Bonsaksen, T., & Schoultz, M. (2021). Mental health, quality of life, wellbeing, loneliness and use of social media in a time of social distancing during the COVID-19 outbreak. A cross-country comparative study. *Journal of Mental Health, 30*(2), 148-155. https://doi.org/10.1080/09638237.2021.1875413

Ghaemi, S. N., & Rosenquist, K. J. (2004). Is insight in mania state-dependent? A meta-analysis. *Journal of Nervous and Mental Disease, 192*(11), 771–775. https://doi.org/10.1097/01.nmd.0000145036.76435.c3

Gladstone, G., Parker, G., Malhi, G. (2006) Do bullied children become depressive and anxious adults? A cross-sectional investigation of the correlates of bullying and anxious depression. *Journal of Nervous Mental Disease, 194*(3), 201–208. https://doi.org/10.1097/01.nmd.0000202491.99719.c3

Gobbens, R. J., & Remmen, R. (2019). The effects of sociodemographic factors on quality of life among people aged 50 years or older are not unequivocal: comparing SF-12, WHOQOL-BREF, and WHOQOL-OLD. *Clinical Interventions in Aging, 14*, 231-239. https://doi.org/10.2147/CIA.S189560

Grande, I., Goikolea, J. M., de Dios, C., González-Pinto, A., Montes, J. M., Saiz-Ruiz, J., Prieto, E., Vieta, E. & PREBIS Group (2013). Occupational disability in bipolar disorder: analysis of predictors of being on severe disablement benefit (PREBIS study data). *Acta Psychiatrica Scandinavica, 127*, 403-411. https://doi.org/10.1111/acps.12003

Grande, I., Berk, M., Birmaher, B., & Vieta, E. (2016). *Bipolar disorder. Lancet, 9*(387), 1561-1572. https://doi.org/10.1016/S0140-6736(15)00241-X

Granek, L., Danan, D., Bersudsky, Y., & Osher, Y. (2016). Living with bipolar disorder: the impact on patients, spouses and their marital relationship. *Bipolar Disorders, 18*(2), 192-199. https://doi.org/10.1111/bdi.12370

Green, J. G., Oblath, R., Felix, E. D., Furlong, M. J., Holt, M. K., & Sharkey, J. D. (2018). Initial evidence for the validity of the California Bullying Victimization Scale (CBVS-R) as a retrospective measure for adults. *Psychological Assessment, 30*(11), 1444-1453. http://doi.org/10.1037/pas0000592

Griffin, R. S., & Gross, A. M. (2004). Childhood bullying: Current empirical findings and future directions for research. *Aggression and Violent Behaviour, 9*, 379–400. https://doi.org/10.1016/S1359-1789(03)00033-8

Haarig, F., Berndt, C., Kuhnert, M., Fuchs, S., Braunig, P., Muhlig, S. (2016). What is important to patients? Determination of patient-centered therapeutic goals in the treatment of bipolar disorders. *Zeitschrift fur Psychiatrie Psychologie und Psychotherapie*, *64*(2), 111-120. https://doi.org/10.1024/1661-4747/a000269

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A Global Perspective (7th Edition)*. Pearson Education.

Hardt, J., and Rutter, M. (2004). Validity of adult retrospective reports of adverse childhood experiences: review of the evidence. *Journal of Child Psychology and Psychiatry, 45*, 260–273. https://doi.org/10.1111/j.1469-7610.2004.00218.x

Hassan, L., Peek, N., Lovell, K., Carvalho, A. F., Solmi, M., Stubbs, B., & Firth, J. (2021). Disparities in COVID-19 infection, hospitalisation and death in people with schizophrenia, bipolar disorder, and major depressive disorder: a cohort study of the UK Biobank. *Molecular Psychiatry*. https://doi.org/10.1038/s41380-021-01344-2

Hayes, A, F. (2013). Model templates for PROCESS for SPSS and SAS. http://www.afhayes.com/

Hayes, A. F. (2018). *Introduction to Mediation, Moderation, and Conditional Process Analysis Second Edition*. Guilford Press.

Hendrick, V., Altshuler, L. L., Gitlin, M. J., Delrahim, S., & Hammen, C. (2000). Gender and bipolar illness. *Journal of Clinical Psychiatry, 61*(5), 393-396. https://doi.org/10.4088/jcp.v61n0514

Hirschfeld, R. M. (2000). Development and validation of a screening instrument for bipolar spectrum disorder: the Mood Disorder Questionnaire. *The American Journal of Psychiatry, 157*(11), 1873-1875. https://doi.org/10.1176/appi.ajp.157.11.1873

Hirschfeld, R. M. (2002). The Mood Disorder Questionnaire: A simple, patient-rated screening instrument for bipolar disorder. *Primary Care Companion Journal of Clinical Psychiatry, 4*(1), 9-11. https://doi.org/10.4088/pcc.v04n0104

Hughes, K., Lowey, H., Quigg, Z., & Bellis, M. A. (2016). Relationships between adverse childhood experiences and adult mental well-being: results from an English national

household survey. *BMC Public Health, 16*(222), 1-11. https://doi.org/10.1186/s12889-016-2906-3

Jelley, M., Wen, F., Miller-Cribbs, J., Coon, K., & Rodriguez, K. (2020). Adverse childhood experiences, other psychosocial sources of adversity, and quality of life in vulnerable primary care patients. *The Permanente Journal, 24*(18), 1-7. https://doi.org/10.7812/TPP/18.277

Jordan, P. J., & Troth, A. C. (2019). Common method bias in applied settings: The dilemma of researching in organizations. *Australian Journal of Management, 45*(1), 3-14. https://doi.org/10.1177/0312896219871976

Juvonen, J., & Gross, E. F. (2008). Extending the school grounds? Bullying experiences in cyberspace. *Journal of School Health, 78*(9), 496-505. https://doi.org/10.1111/j.1746-1561.2008.00335.x

Kauer-Sant'Anna, M., Frey, B. N., Andreazza, A. C., Ceresér, K. M., Gazalle, F. K., Tramontina, J., Costa, S. C., Santin, A., & Kapczinksi, F. (2007). Anxiety comorbidity and quality of life in bipolar disorder patients. *Canadian Journal of Psychiatry, 52*(3), 175-181. https://doi.org/10.1177/070674370705200309

Keming, G., Meilei, S., Sweet, J., Calabrese, J. R. (2019). Correlation between depression/anxiety symptom severity and quality of life in patients with major depressive disorder or bipolar disorder. *Journal of Affective Disorder, 244*, 9-15. https://doi.org/10.1016/j.jad.2018.09.063

Kraut, R., Olson, J., Banaji, M., Bruckman, A., Cohen, J., & Couper, M. (2004). Psychological research online: report of Board of Scientific Affairs' Advisory Group on the conduct of research on the internet. *American Psychologist, 59*(2), 105-117. https://doi.org/10.1037/0003-066X.59.2.105

Kumar, A., Kumar, S., Khan, N. M., Mishra, S. (2013). Course of insight in manic episode. Journal of Postgraduate Medicine, 59(3), 186-189. https://doi.org/10.4103/0022-3859.118035

Kumar, A., & Nayar, K. R. (2020). Covid-19 and its mental health consequences. *Journal of Mental Health, 30*(1), 1-2. https://doi.org/10.1080/09638237.2020.1757052

Lee, S. Y., Martin, S. S., Keys, K. M., & Lee, H. B. (2011). Mental health service use by persons of Asian ancestry with DSM-IV mental disorders in the United States. Psychiatric Services, 67(7), 749-757. https://doi.org/10.1176/appi.ps.62.10.1180

Löwe, B., Decker, O., Müller, S., Brähler, E., Schellberg, D., Herzog, W., & Herzberg, P. Y. (2008). Validation and standardisation of the Generalised Anxiety Disorder screener (GAD-7) in the general population. *Medical Care, 46*(3), 266-274. https://doi.org/10.1097/MLR.0b013e318160d093

Lund, R., Kragelund, N. K., Hjorth, H. D., Kriegbaum, M., Molbo, D., Due, P, Christensen, U. (2008). Exposure to bullying at school and depression in adulthood: a study of Danish men born in 1953. *European Journal of Public Health, 19(*1), 111–116. https://doi.org/10.1093/eurpub/ckn101

Maczka, G., Siwek, M., Skalski, M., Grabski, B., & Dudek, D. (2010). Patients' and doctors' attitudes towards bipolar disorder – do we share our beliefs? *Archives of Psychiatry and Psychotherapy, 2*, 43-50.

Martinez-Aran, A., Vieta, E., Torrent, C., Sanchez-Moreno, J., Goikolea, J. M., Salamero, M., Malhi, G. S., Gonzalex-Pinto, A., Daban, C., Alvarez-Grandi, S., Fountoulakis, K., Kaprinis, G., Tabares-Seisdedos, R., & Ayuso-Mateos, J. L. (2007). Functional outcome in bipolar disorder: the role of clinical and cognitive factors. *Bipolar Disorders, 9*(1-2), 103-113. https://doi.org/10.1111/j.1399-5618.2007.00327.x

Marwaha, S., Sal, N., & Bebbington, P. (2014). *Adult psychiatric morbidity survey: survey of mental health and wellbeing*. https://files.digital.nhs.uk/pdf/2/k/adult_psychiatric_study_ch9_web.pdf

McCabe, R., Miller, J., Laugesen, N., Anthony, M., Young, L. (2010). The relationship between anxiety disorder in adults and recalled childhood teasing. *Journal of Anxiety Disorders, 24*(2), 238–243. https://doi.org/10.1016/j.janxdis.2009.11.002

McIntyre, R. S. (2009). Understanding needs, interactions, treatment, and expectations among individuals affected by bipolar disorder or schizophrenia: the UNITE global survey. *Journal of Clinical Psychiatry, 70*(3), 5-11. https://doi.org/10.4088/JCP.7075su1c.02

McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A., & Kessler, R. C. (2012). Childhood adversities and first onset of psychiatric disorders in a national sample of adolescents. *Archives of General Psychiatry, 69(11)*, 1151-1160. https://doi.org/10.1001/archgenpsychiatry.2011.2277

McLaughlin, K. A. (2016). Future Directions in Childhood Adversity and Psychopathology. *Journal of Clinical Child & Adolescent Psychology*, *45*(3), 361-382. https://doi.org/10.1080/15374416.2015.1110823

Michalak, E. E. & Murray, G. (2010). Development of the QoL.BD: a disorder-specific scale to assess quality of life in bipolar disorder. *Bipolar Disorders*, *12*(7), 727-740. https://doi.org/10.1111/j.1399-5618.2010.00865.x

Michalak, E. E., Yatham, L., N., & Lam, R. W. (2005). Quality of life in bipolar disorder: a review of the literature. *Health and Quality of Life Outcomes, 3*(72), 1-17. https://doi.org/10.1186/1477-7525-3-72

Michalak, E. E., Yatham, L. N., Kolesar, S., & Lam, R. W. (2006). Bipolar disorder and quality of life: a patient-centered perspective. *Quality of Life Research, 15*(1), 25-37. https://doi.org/10.1007/s11136-005-0376-7

Michalak, E. E., Yatham, L. N., Maxwell, V., Hale, S., & Lam, R. W. (2007). The impact of bipolar disorder upon work functioning: a qualitative analysis. *Bipolar Disorders, 9*(1-2), 126-43. https://doi.org/10.1111/j.1399-5618.2007.00436.x

Miller, J. N., & Black, D. W. (2020). Bipolar disorder and suicide: A review. *Current Psychiatry Reports, 22*(6), 1-10. https://doi.org/10.1007/s11920-020-1130-0

Mooney, C., & Duval, R. (1993). Bootstrap statistical inference. *Bootstrapping: A non-parametric approach to statistical inference.* Sage publications.

Morton. E., Murray, G., Yatham, L. N., Lam, R. W., Michalak, E. E. (2021). The Quality of Life in Bipolar Disorder (QoL.BD) questionnaire a decade on: a systematic review of the measurement of condition-specific aspects of quality of life in bipolar-disorder. *Journal of Affective Disorders, 278*, 33-45. https://doi.org/10.1016/j.jad.2020.09.017

National Institute for Health and Care Excellence (NICE) (2014). *Bipolar disorder: assessment and management.* https://www.nice.org.uk/guidance/cg185/resources/bipolar-disorder-assessment-and-management-pdf-35109814379461

Nunnally, J. C. (1967). *Psychometric theory*. McGraw-Hill.

O'Donovan, C., & Alda, M. (2020). Depression preceding diagnosis of bipolar disorder. *Frontiers in Psychiatry, 11*(500), 1-9. https://doi.org/10.3389/fpsyt.2020.00500

Office for National Statistics. (2017). Internet access – households and individuals, Great Britain: 2017.

https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/bulletins/internetaccesshouseholdsandindividuals/2017

Oldis, M., Murray, G., Macneil, C. A., Hasty, M. K., Daglas, R., Berk, M., Conus, P., Cotton, S. M. (2016). Trajectory and predictors of quality of life in first episode psychotic mania. *Journal of Affective Disorders, 195*, 148-55. https://doi.org/10.1016/j.jad.2016.02.018

Olweus, D., & Limber, S. P. (2018). Some problems with cyberbullying research. *Current Opinion in Psychology, 19,* 139–143. https://doi.org/10.1016/j.copsyc.2017.04.012

Palmier-Claus, J. E., Berry, K., Bucci, S., Mansell, W., & Varese, F. (2016). Relationship between childhood adversity and bipolar affective disorder: systematic review and meta-analysis. The British *Journal of Psychiatry, 209*(6), 454-459. https://doi.org/10.1192/bjp.bp.115.179655

Parker, G., Fletcher, K., McGraw, S., Futeran, S., & Hong, M. (2013). Identifying antecedent and illness course variables differentiating bipolar I, bipolar II and unipolar disorders. *Journal of Affective Disorders, 148*(2-3), 202-209. https://doi.org/10.1016/j.jad.2012.11.061

Pascual-Sanchez, A., Jenaro, C., & Montes-Rodriguez, J. M. (2019). Quality of life in euthymic bipolar patients: a systematic review and meta-analysis. *Journal of Affective Disorders, 1(*255), 105-115. https://doi.org/10.1016/j.jad.2019.05.032

Phillips, M. L., & Kupfer, D. J. (2013). Bipolar disorder diagnosis: challenges and future directions. *The Lancet, 381*(9878), 1663-1671. https://doi.org/10.1016/S0140-6736(13)60989-7

Pichot, W., Scantamburlo, G., Ansseau, M., & Souery, D. (2012). Bipolar disorder: a multifactorial disease. *Revue Medicale de Liege, 67*(5-6), 366-73.

Przybylski, A. K., & Bowes, L. (2017). Cyberbullying and adolescent well-being in England: a population-based cross-sectional study. *The Lancet Child and Adolescent Health, 1*(1), 19-26. https://doi.org/10.1016/S2352-4642(17)30011-1

Raleigh, V., & Holmes, J. (2021). *The health of people from ethnic minority groups in England.* The Kings Fund. https://www.kingsfund.org.uk/publications/health-people-ethnic-minority-groups-england

Rivers, I. (1999). The psycho-social correlates and long-term implications of bullying at school for lesbians, gay men and bisexual men and women. *Unpublished PhD thesis*, University of Surrey, Roehampton Institute, London.

Rivers, I. (2001). Retrospective reports of school bullying: Stability of recall and its implications for research. *British Journal of Developmental Psychology, 19*, 129–141. https://doi.org/10.1348/026151001166001

Roger, L. H. (1989). The meaning of culturally sensitive research in mental health. *American Journal of Psychiatry, 146*(3), 296-303. https://doi.org/10.1176/ajp.146.3.296

Rosa, A. R., Reinares, M., Franco, C., Comes, M., Torrent, C., Sánchez-Moreno, J., Martinez-Arán, A., Salamero, M., Kapczinski, F., and Vieta, E. (2009). Clinical predictors of functional outcomes of bipolar patients in remission. *Bipolar Disorders, 11*(4), 401-409. https://doi.org/10.1111/j.1399-5618.2009.00698.x

Rowland, T. A., & Marwaha, S. (2018). Epidemiology and risk factors for bipolar disorder. *Therapeutic Advances in Psychopharmacology, 8*(9), 251-269. https://doi.org/10.1177/2045125318769235

Sanchez-Moreno, J., Martinez-Aran, A., Tabarés-Seisdedos, R., Torrent, C., Vieta, E., & Ayuso-Mateos, J. L. (2009). Functioning and disability in bipolar disorder: an extensive review. *Psychotherapy and Psychosomatics, 78,* 285-297. https://doi.org/10.1159/000228249

Sansone, R. A., Lam, C., & Wiederman, M. W. (2010). Being bullied in childhood: Correlations with borderline personality in adulthood. *Comprehensive Psychiatry, 51*(5), 458-461. https://doi.org/10.1016/j.comppsych.2010.02.002

Schafer, M., Korn, S., Smith, P. K., Hunter, S. C., Mora-Merchan, J. A., Singer, M. M., Meulen, K. (2004). Lonely in the crowd: recollections of bullying. *British Journal of Developmental Psychology, 22*, 379-394. https://doi.org/10.1348/0261510041552756

Silva, R. A., Mograbi, D. C., Bifano, J., Santana, C. M. T. (2016). Insight in bipolar mania: evaluation of its heterogeneity and correlation with clinical symptoms. *Journal of Affective Disorders, 199*, 95-96. https://doi.org/10.1016/j.jad.2016.04.019

Solé, B., Jiménez, E., Torrent, C., Reinares, M., Del Mar Bonnin, C., Torres, I., Varo, C., Grande, I., Valls., Salagre, E., Sanchez-Moreno, J., Martinez-Aran, A., Carvalho, A. F., & Vieta, E. (2017). Cognitive impairment in bipolar disorder: Treatment and prevention strategies. *International Journal of Neuropsychopharmacology, 20*(8), 670-680. https://doi.org/10.1093/ijnp/pyx032

Sourander, A., Gyllenberg, D., Klomek, A. B., Sillanmäki, L., Illola, A. M., & Kumpulainen, K. (2016). Association of bullying behaviour at 8 years of age and use of specialised services for psychiatric disorders by 29 years of age. *JAMA Psychiatry, 73*(2), 159-165. https://doi.org/10.1001/jamapsychiatry.2015.2419

Spitzer, R. L., Kroenke, K., Linzer, M, Hahn, S. R., Williams, J. B., Verlion DeGruy III, F., Brody, D., & Davies, M. (1995). Health-related quality of life in primary care patients

with mental disorders. *JAMA, 274*(19), 1511-1517. https://doi.org/10.1001/jama.1995.03530190025030

Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B (2006). A brief measure for assessing generalised anxiety disorder: the GAD-7. *Archives of Internal Medicine, 161*(10), 1092-1097. https://doi.org/10.1001/archinte.166.10.1092

Srinivas, T. R., Ho, B., Kang, J., & Kaplan, B. (2015). Post-hoc analyses: after the facts. *Transplantation, 99*(1), 17-20. https://doi.org/10.1097/TP.0000000000000581

Stefana, A., Youngstrom, E. A., Chen, J., Hinshaw, S., Maxwell, V., Michalak, E., & Vieta, E. (2020). The COVID-19 pandemic is a crisis and opportunity for bipolar disorder. *Bipolar disorders, 22*(6), 641–643. https://doi.org/10.1111/bdi.12949

Stowkowy, J., Goldstein, B. I., MacQueen, G., Wang, J., Kennedy, S. H., Bray, S., Lebel, C., & Addington, J. (2020). The trauma in youth at-risk for serious mental illness. *Journal of Nervous and Mental Disease, 208*(1), 70-76. https://doi.org/10.1097/NMD.0000000000001069

Sumter, S. R., Valkenburg, P. M., Baumgartner, S. E., Peter, J., & van der Hof, S. (2015). Development and validation of the multidimensional offline and online peer victimisation scale. *Computers in Human Behaviour, 46*, 114-122. https://doi.org/10.1016/j.chb.2014.12.042

Sylvia, L. G., Montana, R. E., Deckersbach, T., Thase, M. E., Tohen, M., Reilly-Harrington, N., McInnis, M. G., Kocsis, J. H., Bowden, C., Calabrese, J., Gao, K., Ketter, T., Shelton, R. C., McElroy, S. L., Friedman, E. S., Rabideau, D. J., & Nierenberg, A. A. (2017). Poor quality of life and functioning in bipolar disorder. *International Journal of Bipolar Disorder, 5*(10), 1-8. https://doi.org/10.1186/s40345-017-0078-4

Takizawa, R., Maughan, B., & Arseneault, L. (2014). Adult health outcomes of childhood bullying victimisation: evidence from a five-decade longitudinal British birth cohort. *The American Journal of Psychiatry, 171*(7), 777-784. https://doi.org/10.1176/appi.ajp.2014.13101401

Thomas, H. J., Connor, J. P., & Scott, J. G. (2015). Integrating traditional bullying and cyberbullying: Challenges of definition and measurement in adolescents – a review. *Educational Psychology Review, 27*(1), 135-152. https://doi.org/10.1007/s10648-014-9261-7

Tohen, M., Hennen, J., Zarate, C. M., Baldessarini, R. J., Strakowski, S. M., Stoll, A. L., Faedda, G. L., Suppes, T., Gebre-Medhin, P., & Cohen, B. M. (2000). Two-year syndromal and functional recovery in 219 cases of first-episode major affective disorder with psychotic features. *American Journal of Psychiatry, 157*(2), 220-228. https://doi.org/10.1176/appi.ajp.157.2.220

Tohen, M., Bowden, C., Nierenberg, A., Geddes, J. (2015). *Clinical trial design challenges in mood disorders*. London.

Topolovec-Vranic, J. & Natarajan, K. (2016). The use of social media in recruitment for medical research studies: A scoping review. *Journal of Medical Internet Research, 18*(11), 29–29. https://doi.org/10.2196/jmir.5698

Vazquez, G. H., Baldessarini, R. J., Tondo, L. (2014). Co-occurrence of anxiety and bipolar disorder: clinical and therapeutic overview. *Depression and anxiety, 31*(3), 196-206. https://doi.org/10.1002/da.22248

Watkinson, R. E., Sutton, M., & Turner, A. J. (2021). Ethnic inequalities in health-related quality of life among older adults in England: secondary analysis of a national cross-

sectional survey. *Lancet Public Health, 6*(3), 1-10. https://doi.org/10.1016/S2468-2667(20)30287-5

Wesley, M. S., Manjula, M., & Thirthalli, J. (2018). Interepisodic functioning in patients with bipolar disorder in remission. *Indian Journal of Psychological Medicine, 40*(1), 52-60. https://doi.org/10.4103/IJPSYM.IJPSYM_211_17

World Health Organisation QOL Group (1995). The World Health Organisation quality of life assessment (WHOQOL): position paper from the World Health Organisation. *Social Science and Medicine, 41*(10), 1403-1409. https://doi.org/10.1016/0277-9536(95)00112-K

Yan, T., & Tourangeau, R. (2007). Fast times and easy questions: The effects of age, experience, and question complexity on web survey response times. *Applied Cognitive Psychology, 22*(1), 51–68. https://doi.org/10.1002/acp.133

Youngstrom, E. A., Murray, G., Johnson, S. L., & Findling, R. L. (2013). The 7 Up 7 Down Inventory: A 14-item measure of manic and depressive tendencies carved from the General Behaviour Inventory. *Psychological Assessment, 25*(4), 1377-1383. https://doi.org/10.1037/a0033975

Zheng, S., He, A., Yu, Y., Jiang, L., Liang, J., & Wang, P. (2021). Research trends and hotspots of health-related quality of life: a bibliometric analysis from 2000 to 2019. *Health and Quality of Life Outcomes, 19(*130), 1-13. https://doi.org/10.1186/s12955-021-01767-z

Tables

Table 2-1

Distribution of core variables

				Shapiro-Wilk		
		Statistic	Std. Error	Statistic	df	Sig.
Age	Skew	.13	.23	.97	109	.010
	Kurtosis	-.98	.46			
Age of diagnosis	Skew	.74	.23	.94	109	.000
	Kurtosis	-.22	.46			
Anxiety	Skew	.15	.23	.97	109	.005
	Kurtosis	-.99	.46			
Mania	Skew	.48	.23	.97	109	.010
	Kurtosis	-.11	.46			
Depression	Skew	-.07	.23	.940	109	.000
	Kurtosis	-1.24	.46			
Offline peer victimisation	Skew	.02	.23	.99	109	.763
	Kurtosis	-.24	.46			
Online peer victimisation	Skew	.1.07	.23	.78	109	.000
	Kurtosis	.25	.46			
Quality of life	Skew	.13	.23	.98	109	.226
	Kurtosis	-.55	.46			

Note. df, Degrees of Freedom.

Table 2-2

Socio-demographic and clinical characteristics

	n = 109	Min.	Max.
Age, median (IQR)	41 (21.5)	18	70
Gender, *n* (%)			
Male	22 (20.2)		
Female	84 (77.1)		
Gender Non-conforming	1 (0.9)		
Non-Binary	2 (1.8)		
Ethnicity, *n* (%)			
White	85 (78)		
Mixed/Multiple	11 (10.1)		
Asian/Asian British	4 (3.7)		
Black/African/Caribbean/Black British	1 (0.9)		
Other	8 (7.3)		
Highest educational level, *n* (%)			
No formal education	1 (0.9)		
High school	15 (13.8)		
College	26 (23.9)		
Undergraduate Education	35 (32.1)		
Postgraduate Education	30 (27.5)		
Other	2 (1.8)		
Employment status, *n* (%)			
Full time employment	36 (33)		
Part time employment	20 (18.3)		
Unemployed	19 (17.4)		
Student	10 (9.2)		
Retired	10 (9.2)		
Other	14 (12.8)		
Historic/present reliance on alcohol, *n* (%)	33 (30.3)		
Historic/present unprescribed drug use, *n* (%)	57 (52.3)		
Diagnosis, *n* (%)			
Bipolar I Disorder	50 (45.9)		
Bipolar II Disorder	51 (46.8)		
Cyclothymia	1 (0.9)		
I don’t know	7 (6.4)		
Age of diagnosis, median (IQR)	28 (15)	13	58
Inpatient admission, *n* (%)	73 (67)		
Historic/present psychological therapy, *n* (%)	98 (89.9)		
Historic/present prescribed medication, *n* (%)	107 (99.2)		
Comorbid diagnoses, *n* (%)	73 (67)		

Note. *n*, number of participants; IQR, Interquartile Range; Min., Minimum; Max., Maximum.

Table 2-3

Medians, ranges and Cronbach's alpha of psychometric measures

	n = 109	Min.	Max.	Cronbach's alpha (α)
GAD 7, median (IQR)	9 (8.5)	0	21	.90
7 up 7 down				
Full score, median (IQR)	24 (10.5)	7	42	.90
Up, median (IQR)	10 (6)	0	21	.87
Down, median (IQR)	13 (9)	3	21	.93
MOOPVS				
Full score, median (IQR)	43 (20)	21	95	.94
Offline, median (IQR)	29 (9.5)	11	46	.91
Online, median (IQR)	10 (14.5)	10	49	.97
BQoL.BD (IQR)	33 (13.5)	12	53	.85
MDQ				.62

Note. n, number of participants; Min., Minimum; Max., Maximum; IQR, Interquartile Range; GAD-7, Generalised Anxiety Disorder; 7 scale 7 Up and 7 Down Inventory; MOOPVS, Multidimensional Offline and Online Peer Victimization Scale (MOOPVS); BQoL.BD, The Brief Quality of Life in Bipolar Disorder Questionnaire.

Table 2-4

Spearman's rank correlation matrix for core variables

	Age	Age of diagnosis	Education	Employment	Quality of life	Anxiety	Mania	Depression	Offline peer victimisation	Online peer victimisation	Online peer victimisation (ACF *n*=51)
Age	1.00										
Age of diagnosis	.73**	1.00									
Education	.18	.12	1.00								
Employment	.28**	.27**	-.04	1.00							
Quality of life	.02	.00	.08	-.23*	1.00						
Anxiety	-.11	.04	-.16	.21*	-.53**	1.00					
Mania	.02	.01	.11	.18	-.14	.38**	1.00				
Depression	-.19	-.07	-.17	.08	-.39**	.34**	.38**	1.00			
Offline peer victimisation	-.10	.05	-.15	.03	-.23*	.30**	.14	.31**	1.00		
Online peer victimisation	-.38**	-.27**	-.18	-.04	-.18	.19*	.13	.22*	.27**	1.00	

Online peer victimisation (ACF, *n*=51)	-.40**	-.41**	-.24	.27	-.35*	.27	.20	.35*	.49**	1.00	1.00

Note. *n*=109; ACF, Age controlled for.

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 2-5

Results of hierarchical multiple regression on sociodemographic and clinical characteristics, mood, and peer victimisation variables.

Step and predictors	*B*	*SE B*	*β*	*t*	*p*	R Square	Adjusted R Square	F Change	Sig F. Change
1. Sociodemographic and clinical variables						0.08	-0.01	0.86	.576
Age	-0.02	0.07	-0.04 (-0.18, 0.11)	-0.34	0.735				
Gender male	-0.69	2.44	-0.03 (-5.49, 4.26)	-0.32	0.754				
Gender other	1.66	8.58	-0.03 (-15.21, 18.55)	0.32	0.754				
Ethnicity	-0.16	1.96	-0.01 (-3.88, 3.98)	-0.08	0.940				
Education	2.90	2.16	0.12 (-1.43, 7.01)	1.16	0.248				
Alcohol reliance	0.87	1.99	0.05 (-2.74, 4.86)	0.45	0.654				
Drug reliance	-0.12	1.80	-0.01 (-3.66, 3.47)	-0.07	0.942				
Psychological therapy	-4.95	3.28	-0.17 (-12.07, 0.89)	0.10	0.100				
Prescribed medication	-9.45	7.45	-0.15 (-21.55, 4.87)	0.15	0.147				
Inpatient admission	2.55	2.07	0.14 (-1.25, 6.85)	1.32	0.191				
2. Mood variables						0.44	0.36	20.06	<0.001**
Age	-0.09	0.06	-0.14	-1.65	0.102				

			(-0.21, 0.03)						
Gender male	0.12	2.19	0.01	0.07	0.947				
			(-4.18, 4.57)						
Gender other	3.72	4.17	0.07	0.88	0.379				
			(-6.43, 11.11)						
Ethnicity	0.07	1.67	0.01	0.04	0.967				
			(-3.36, 3.18)						
Education	-0.10	1.78	-0.01	-0.05	0.963				
			(-3.63, 3.18)						
Alcohol reliance	1.69	1.51	0.09	1.09	0.278				
			(-1.40, 4.66)						
Drug reliance	0.46	1.43	0.03	0.34	0.733				
			(-2.77, 3.32)						
Psychological therapy	-4.13	2.48	-0.15	-1.69	0.094				
			(-9.30, 0.30)						
Prescribed medication	-3.49	4.13	-0.05	-0.67	0.504				
			(-11.60, 4.76)						
Inpatient admission	2.76	1.68	0.15	1.73	0.087				
			(-0.31, 6.27)						
Anxiety	-0.75	0.14	-0.49	-5.57	<.0.001***				
			(-1.00, -0.47)						
Mania	0.26	0.18	0.13	1.49	0.138				
			(-0.17, 0.61)						
Depression	-0.56	0.17	-0.34	-3.56	<0.001***				
			(-0.89, -0.23)						
3. Peer victimisation variables						0.45	0.36	1.09	0.340
Age	-0.11	0.06	-0.18	-1.98	0.051				
			(-0.23, 0.01)						
Gender male	-0.24	2.18	-0.01	-0.14	0.892				
			(-4.45, 4.17)						
Gender other	4.29	4.40	0.08	1.01	0.314				

			(-5.46, 4.17)		
Ethnicity	0.13	1.74	0.01	0.08	0.938
			(-3.18, 3.46)		
Education	-0.51	1.78	-0.02	-0.25	0.803
			(-4.15, 3.02)		
Alcohol reliance	1.66	1.51	0.09	1.07	0.287
			(-1.39, 4.57)		
Drug reliance	0.22	1.46	0.01	0.17	0.869
			(-3.05, 3.01)		
Psychological therapy	-4.15	2.43	-0.15	-1.70	0.093
			(-9.16, 0.22)		
Prescribed medication	-3.60	4.19	-0.06	-0.69	0.490
			(-12.16, 4.57)		
Inpatient admission	3.12	1.75	0.17	1.90	0.061
			(-0.12, 6.51)		
Anxiety	-0.72	0.15	-0.48	-5.29	<0.001***
			(-1.00, -0.42)		
Mania	0.28	0.19	0.15	1.63	0.107
			(-0.10, 0.67)		
Depression	-0.54	0.17	-0.32	-3.31	<0.001***
			(0.89, -0.19)		
Offline bullying	-0.03	0.10	-0.02	-0.25	0.246
			(-0.21, 0.18)		
Online bullying	-0.11	0.08	-0.12	-1.31	0.195
			(-0.28, 0.04)		

Note. B, unstandardised regression coefficient; *SE B,* standard error of Beta; *β,* standardised regression beta coefficient; 95 % confidence intervals and standard errors are based on 1000 bootstrap samples

*** . $p < 0.001$ level (2-tailed); **. $p < 0.01$ level (2-tailed); *. $p < 0.05$ level (2-tailed).

Table 2-6

Mediation analysis

Model	IV	DV	β	BS SE	p	Lower CI	Upper CI	R^2	p
Model 1	Offline peer victimisation	Anxiety	0.20	0.07	0.005	0.06	0.33	0.36	<0.001
	Anxiety	Quality of life	-0.78	0.13	<0.001	-1.04	-0.57		
	Offline peer victimisation	Quality of life	-0.13	0.10	0.192	-0.32	0.06		
Model 2	Offline peer victimisation	Depression	0.22	0.06	0.008	0.09	0.34	0.19	<0.001
	Depression	Quality of life	-0.63	0.15	<0.001	-0.93	-0.32		
	Offline peer victimisation	Quality of life	-0.15	0.11	0.171	-0.35	-0.06		
Model 3	Online peer victimisation	Anxiety	0.13	0.06	0.030	0.01	0.24	0.30	<0.001
	Anxiety	Quality of life	-0.80	0.13	<0.001	-1.05	-0.54		
	Online peer victimisation	Quality of life	-0.09	0.08	0.234	-0.25	-0.06		
Model 4	Online peer victimisation	Depression	0.14	0.05	0.007	0.04	0.24	0.18	<0.001
	Depression	Quality of life	-0.65	0.15	<0.001	-0.95	-0.34		
	Online peer victimisation	Quality of life	-0.10	0.08	0.236	-0.27	0.07		

Note. IV, independent variable; DV, dependent variable; BS SE, Bootstrapped standard error; CI, confidence interval

Table 2-7

Total, direct, and indirect effects of the mediation analysis

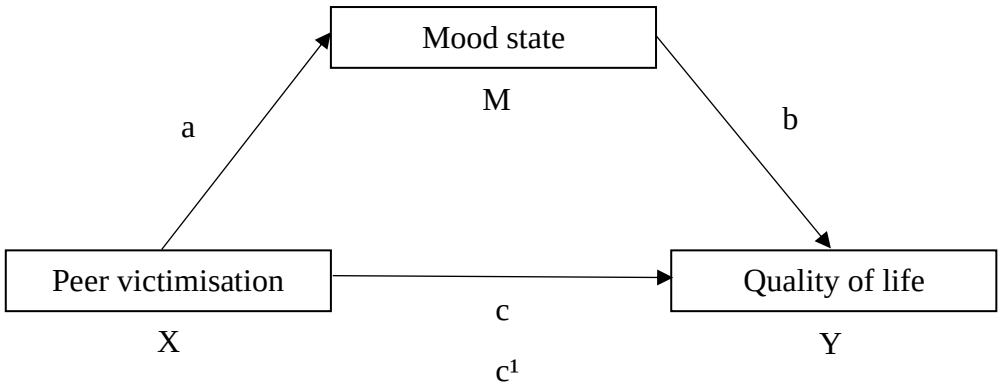
Model	Pathway	Effect	se	t	*p*	Lower CI	Upper CI	BootSE	Boot Lower CI	Boot Upper CI
Model 1	Total	-0.28	0.11	-2.62	0.010	-0.49	-0.07			
	Direct	-0.13	0.96	-1.31	0.192	-0.32	0.06			
	Indirect	-0.15						0.06	-0.29	-0.05
Model 2	Total	-0.28	0.11	-2.62	0.010	-0.49	-0.07			
	Direct	-0.15	0.11	-1.38	0.171	-0.35	0.06			
	Indirect	-0.14						0.05	-0.24	-0.05
Model 3	Total	-0.19	0.09	-2.19	0.031	-0.37	-0.02			
	Direct	-0.09	0.08	-1.20	0.234	-0.24	0.06			
	Indirect	-0.10						0.05	-0.22	-0.02
Model 4	Total	-0.19	0.09	-2.19	0.031	-0.37	-0.02			
	Direct	-0.10	0.08	-1.19	0.24	-0.27	0.07			
	Indirect	-0.09						0.05	-0.19	-0.02

Note. SE/se, standard error; CI, confidence interval

Figures

Figure 2-1

Theoretical mediation model



a = X predicting M

b = M predicting Y, whilst controlling for X

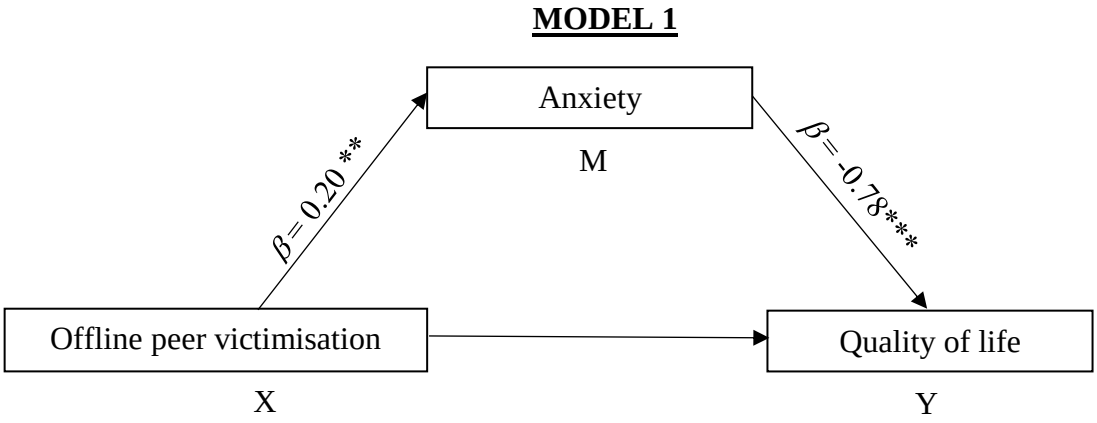
a*b = indirect effect

c¹ = direct effect (X predicting Y, whilst controlling for M)

c = total effect (X predicting Y)

Figure 2-2

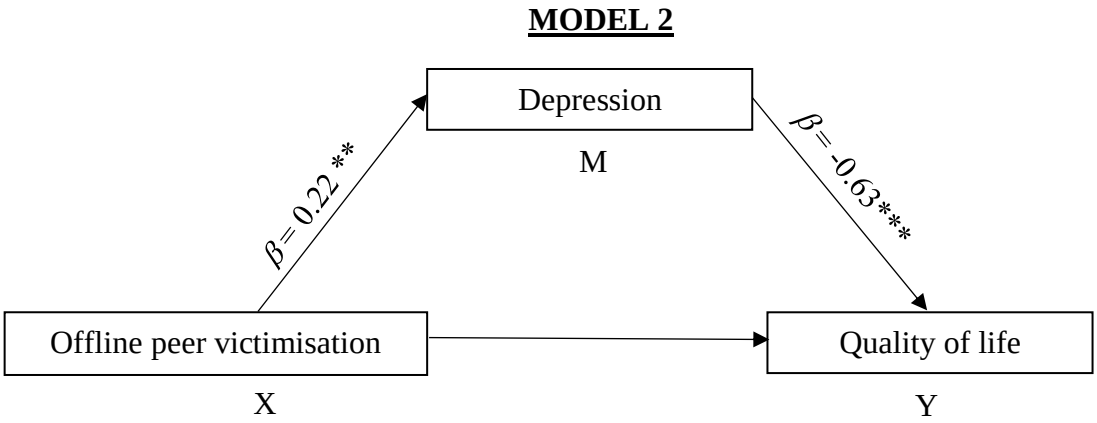
Mediation models



Direct effect, β = -0.13 (full mediation)

Indirect effect, β = -0.15, 95% CI [-0.29, -0.05]

Total effect, (β = -0.28, 95% CI, [-0.49, -0.07]

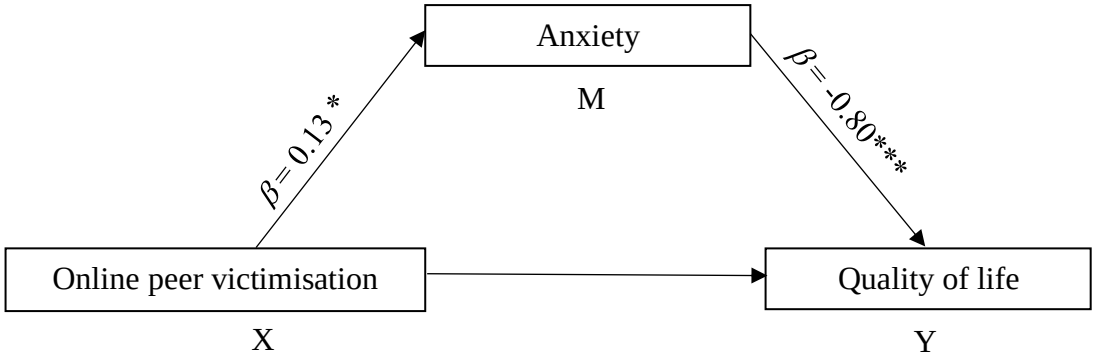


Direct effect, β = -0.15 (full mediation)

Indirect effect, β = -0.14, 95% CI [-0.24, -0.05]

Total effect, (β = -0.28, 95% CI, [-0.49, -0.07]

MODEL 3

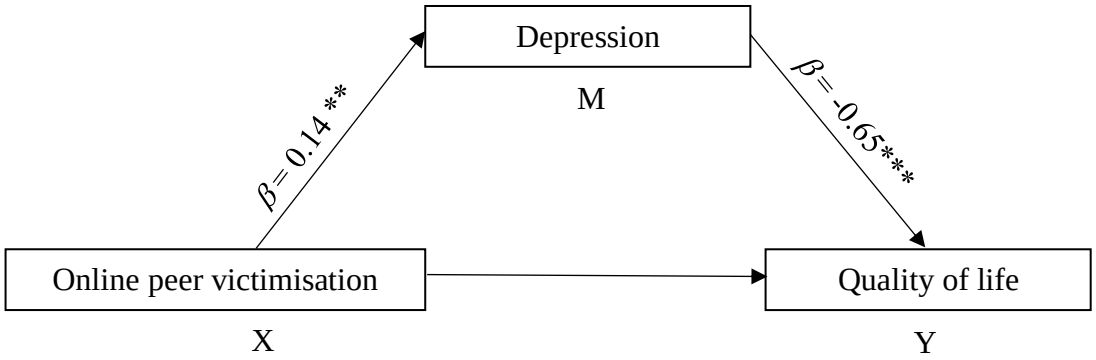


Direct effect, β = -0.09 (full mediation)

Indirect effect, β = -0.10, 95% CI [-0.22, -0.02]

Total effect, (β = -0.19, 95% CI, [-0.37, -0.02]

MODEL 4



Direct effect, β = -0.10 (full mediation)

Indirect effect, β = -0.09, 95% CI [-0.19, -0.02]

Total effect, (β = -0.19, 95% CI, [-0.37, -0.02]

Note. *p < 0.05, **p < 0.01, ***p < 0.001

Section Three: Critical Appraisal

Critical reflection on a research project investigating the measurement and association of childhood bullying experiences

Word count (excluding references): 3998

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Introduction

The purpose of the thesis was to investigate the measurement and impact of childhood bullying. The aim of this critical appraisal is to summarise the main findings of both the literature review and research paper, and to reflect on the rationale for key decisions that were made. Decisions made fundamentally shaped the research aims and processes, and therefore underpin the quality of the research findings. Although strengths and limitations paramount to the research are acknowledged in the main papers, the critical appraisal will reflect on the those specifically related to decisions made and suggestions for future research will be outlined. Furthermore, I will discuss the potential impact of the COVID-19 pandemic on the research undertaken and provide a reflection on how the thesis findings will influence my clinical practice going forward.

Systematic Literature Review

Main Findings

The systematic literature review examined the methodological quality and psychometric properties of instruments that measure both traditional and cyber childhood bullying. Fifteen research papers on the development and validation of childhood bullying instruments were appraised and synthesised using peer-reviewed and evidence-based appraisal tools; the COSMIN Risk of Bias Checklist (Mokkink et al., 2018a) and the criteria for good psychometric properties (Mokkink et al., 2018b; Prisen et al., 2016; Prisen et al., 2018). The review highlighted inconsistencies between how each instrument measured childhood bullying, with salient differences in how scales were constructed, use of bullying definitions and terminology, referent time frames, and response options. In addition, the methodological quality and psychometric robustness of the instruments were also widely inconsistent across and within studies, with no study evaluating all nine psychometric

properties outlined in the checklist. Limited evidence was also found for the feasibility and interpretability of the instruments, further limiting the clinical utility of the instruments. Overall, no instrument could be recommended as the most suitable for clinical or research purposes due to all instruments requiring further validation to gather a comprehensive understanding of their reliability and validity. The review discussed implications of measuring childhood bullying for both research and clinical practice.

Review Research Question

An important consideration early in the thesis was the focus of the systematic literature review. The focus of the empirical paper was decided early on in thesis development. However, when trying to identify a valid and reliable instrument to measure childhood bullying, I noticed there was a vast number of instruments and no recognised gold standard. When scoping the literature on the instruments, I found previous systematic literature reviews on childhood bullying measures. Although two reviews synthesised childhood bullying instruments and evaluated their characteristics and psychometric properties (Vessey et al., 2014; Vivolo-Kantor et al., 2014), the systematic searches were carried out in 2012, so at the time of conducting the present empirical research, the reviews were nearly a decade old. Throughout this time, the methods by which individuals communicate and interact with one another has evolved. For example, the global smartphone penetration rate is estimated to have increased to over 78 percent in 2020 (O'Dea, 2021). With technology advancing and young people having greater access to digital devices, cyberbullying has become ubiquitous (Englander, 2019; Kaluarachchi et al., 2020; Modecki et al., 2014) and so I felt it was a construct that was paramount to measure alongside traditional bullying. However, it was noted that the existing reviews (Vessey et al., 2014; Vivolo-Kantor et al., 2014) only included a limited number of instruments that measured cyberbullying. A more recent systematic literature review that synthesised cyberbullying

instruments (Chun et al., 2020) was identified and highlighted there to be a vast number of cyberbullying instruments available in the literature. Unfortunately, the systematic review did not evaluate traditional bullying instruments alongside cyberbullying.

As such, I initially felt it would be worthwhile to complete a systematic literature review which extended upon the work of Vessey et al., (2014) and Vivolo-Kantor et al., (2014), by synthesising the characteristics and measurement properties of both traditional and cyber bullying instruments. It was felt the appropriate tools to appraise the methodology and measurement properties of the instruments were the peer-reviewed and evidence-based COSMIN Risk of Bias Checklist (Mokkink et al., 2018a) and the criteria for good psychometric properties (Mokkink et al., 2018b; Prisen et al., 2016; Prisen et al., 2018). The decision to review instruments from 1980 to present was made. If the review would have only evaluated instruments from 2012 as an extension of the previous reviews, a clinician or researcher would not be able to reliably compare instruments identified in the current review to those identified in previous years, due to using different appraisal tools. In addition, the date of 1980 was chosen due to this being when the DSM-III (American Psychiatric Association, 1980) was first published. The DSM-III dramatically changed the field of psychology by introducing a five-part multi-axial diagnostic system to ensure that biological, psychological, environmental, and psychosocial factors were all considered when making a mental health diagnosis. The longstanding multi-axial system was used for three decades and was only eliminated when the most recent DSM-V was published (American Psychiatric Association, 2013). Unfortunately, on completing a scoping review of traditional and cyber childhood bullying instruments using the defined eligibility criteria for the systematic review, it was felt the number of studies identified (n = 68) was too high for the time allocated to the research.

Fortunately, the data collection for the empirical research was already underway and enabled me to reflect on how difficult identifying an instrument which concurrently measured traditional and cyber bullying had been. Whilst it is desirable to design a study which will produce a comprehensive data set, enabling meaningful analyses, it is important to balance this with time and demand placed on participants. As a research team, we opted to use one instrument to measure traditional and cyber bullying to ensure the demand on participants when completing the survey was kept to a minimum. It has been argued that lengthy surveys increase burden on patients and research participants, and thus negatively impact completion rates and potentially contribute to poor quality data due to survey fatigue (Harel et al., 2019; Rolstad et al., 2011; Weldring & Smith, 2013). I felt this was an important aspect of an instrument to consider and when further investigating instruments which simultaneously measure traditional and cyber bullying, I took an interest in the debate on whether traditional bullying and cyberbullying are separate pheneoma, or part of the same complex multi-construct phenomenon (Lazuras et al., 2017). On reading the different arguments presented by multiple scholars within the field, I felt given the co-occurring nature of both behaviours and the consequential impact measuring them separately could have on both individuals and the data collected, it would be valuable to the field of childhood bullying research and clinical practice to complete a systematic literature review of instruments that simultaneously measure traditional and cyber childhood bullying. Fortunately, this also reduced the number of articles to be included in the review to a more manageable level given the time restraints of the research.

Empirical Research

Main Findings

The empirical paper was underpinned by previous research evidencing associations between childhood bullying and poor mental health, and bipolar disorder (BD) and poor quality of life (QoL). Using a retrospective quantitative design, the aim of the study was to explore whether childhood peer victimisation can predict QoL when controlling for demographic and multiple clinical covariates, in individuals diagnosed with BD. Although significant correlations were identified between peer victimisation and QoL, regression analysis indicated that childhood offline and online peer victimisation does not predict QoL in individuals with a diagnosis of BD. When exploring the impact clinical covariates had on the relationship, mediation analysis illustrated depression and anxiety to have a full mediating effect on the relationship between peer victimisation and QoL in individuals with BD. The findings suggested that childhood peer victimisation may play an important role in later life events for individuals who have a diagnosis of BD and experience depression and anxiety. One of the strengths of the research was that it contributed to the dearth of literature in childhood peer victimisation and BD. Clinical implications for the prevention and response to the deleterious impact of childhood peer victimisation were identified, and future research to further explore how depression and anxiety mediate the relationship between childhood peer victimisation and QoL was discussed.

Experts-by-Experience Involvement

The National Health Service (NHS) Five Year Forward View (NHS, 2014) outlined a vision for shifting power to the patients and the public, and service user involvement is now endorsed in UK government policy (NHS, 2017). Similarly, service user involvement is now a prerequisite for many public research funding bodies, with the UK National Institute for Health Research (NIHR) substantially investing in infrastructure to encourage and enable involvement (Patterson et al., 2014). Lancaster University have a strong ethos regarding involving community stakeholders, carers, members of the public and people with lived

experiences of accessing services, in all aspects of a trainee's journey, including the research project. As a result, I was very fortunate to be able to request the involvement of a group of experts-by-experience in my research. The Lancaster University Public Involvement Network (LUPIN) have been actively involved with the training programme since 2008 to ensure a public involvement perspective is woven throughout all aspects of training. I consulted them on the acceptability of the measures, usability of the online survey platform, and the readability of the participant information sheet and consent form.

The feedback I received from LUPIN provided me with an invaluable perspective, albeit more difficult to implement than I had foreseen. A member of LUPIN commented on the response scale for the Generalised Anxiety Disorder (GAD-7; Spitzer et al., 2006) measure included in the survey. They felt the response option of 'several days' was a significant leap from the previous response option of 'not at all' and suggested incorporating a response option of 'a few days'. Unfortunately, as the response options were not determined by the current research team and the psychometric properties of the instrument had been validated using this response scale, I was not able to make the changes suggested.

Although not a change to the survey itself, a LUPIN member did highlight how they felt the questions specific to cyber peer victimisation were not applicable to them due to their age of 45 years old. This was not a problem I had yet foreseen and thus helped me to consider what statistical analyses I could complete to overcome this. As a result of this feedback, I ran a sensitivity analysis on the age variable excluding any participants who were born in 1981 or earlier, thus ≥18 in 1998 when internet access to households in the United Kingdom first started to be surveyed (Office for National Statistics, 2017). The sensitivity analysis indicated that statistically significant correlations were maintained between online peer victimisation and other variables (age, depression, and offline bullying) when access to internet at home was controlled for through age, but differences were identified between online peer

victimisation and both anxiety and QoL. Therefore, I was able to successfully incorporate LUPIN's insight into the design and analysis of the study and mitigate this being a confounding variable in the research.

The experience of consulting LUPIN and receiving their feedback was indispensable and enabled me to consider problems before they arose in the data set. Unfortunately, when I was unable to make the changes suggested by a LUPIN member, I felt dissonance between wanting to protect the integrity of the research and valuing the time and effort they spent to provide me with feedback. This highlighted a feeling of power imbalance between myself and them and aided me to reflect on the importance of collaborating with service users in the development and validation of outcome measures, and to identify key priorities for research (Syrett, 2011).

Empirical Statistical Analysis

Before conducting the empirical research, a priori hypotheses were defined and the appropriate statistical analyses to test the hypotheses were considered to ensure the study had an adequate number of participants for an appropriate power level. After completing the multiple hierarchical regression, the analyses identified strong associations between affective states (depression and anxiety), suggesting a possible mediating pathway between childhood peer victimisation and QoL. Although post-hoc analyses have been criticised for inappropriate use when they are used to scour data in the hope of finding interesting and significant results, thereby potentially negatively impacting the validity of any results reported (Srinivas et al., 2015), this was not the purpose of the post-hoc analysis in the present study. By completing the post-hoc mediation analysis, I hoped to add to the clinical dialogue the research provided and gain valuable insights on associations that were not anticipated a priori (Srinivas et al., 2015). The mediation analysis confirmed there were no

significant direct effect between neither offline and online peer victimisation and QoL when anxiety and depression were controlled for, thus illustrating depression and anxiety to have a full mediating effect on the relationship. By failing to test the significance of a mediated effect it could have led to false interpretations of the data (Holmbeck, 2002).

Impact of COVID-19

On 11th March 2020, The World Health Organisation (WHO) declared the COVID-19 outbreak as an international pandemic. In response, between March 2020 to January 2021 the United Kingdom (UK) government decreed three national lockdowns that conveyed a message to only leave your home if essential (Cabinet Office, 2020). Throughout this time the consequences of becoming infected with COVID-19 was heavily reported by global media, and many individuals reported media burnout and needing to withdraw from media consumption to protect their own mental health (Ravenelle et al., 2021). In an attempt to prevent mass infection, strict public health measures such as social isolation, quarantine, lockdowns and curfews that significantly affected individual's social liberties and everyday routines were enforced. The WHO expressed concerns surrounding the mental health and psycho-social consequences of the restrictions (WHO, 2020), and many professionals warned prolonged lockdowns would create a "second pandemic" of severe mental health difficulties and suicide (Ganesan et al., 2021). Although some restrictions related to the pandemic continue to be implemented globally, such as vaccine passports and isolation if infected, research into the impact of the pandemic has begun. Early data has illustrated measures taken to mitigate the spread of COVID-19 to be strongly related to increases in anxiety, traumatic stress, depression, insomnia and substance misuse (Belen, 2022; Ganesan et al., 2021; Şimşir et al., 2022). Individuals with a diagnosis of BD appeared to be at greater risk of poorer physical and mental health clinical outcomes due to for example, having a higher risk of infection and hospitalisation, being cut off from social support networks, loss of routine, not

being able to access their usual coping mechanisms such as alcohol, loss of employment causing financial difficulties, and struggling to access medication (Hassan et al., 2021; Stefana et al., 2020; Xue et al., 2020).

The present study collected data during the lockdowns and asked participants to complete outcome measures relating to their quality of life and mood. As the pandemic and consequential lockdowns were not predictable and the present study was not measuring the impact of the pandemic, the study did not have data on participants quality of life and mood prior to the lockdowns. Therefore, the data we analysed specifically relating to quality of life and mood, may be confounded by the influence of COVID-19 that the study did not account for. Failing to account for confounding variables can influence the findings of a study and cause difficulty for repetition (Piotrowski, 2021). It is important researchers recognise the potential influence of the pandemic as a source of unintentional bias and to not overgeneralise the inferences observed between variables (Alsiri et al., 2021). If the pandemic was ongoing throughout future research, an additional scale to control for the confounding variable should be used. The Fear of Covid-19 scale is a seven-item instrument which measures fear and anxiety regarding COVID-19 (Ahorsu et al., 2020). Unfortunately, at the time of developing the research study, the scale had not been validated in an English population. However, since data collection started, an English version of the scale has been evaluated and was found to be a robust unidimensional scale with robust psychometric properties (Winter et al., 2020).

Future Research

The data collection survey used in the empirical research paper comprised an instrument that measured sibling victimisation (Hoetger et al., 2014). This scale was very short and so did not place a high demand on the participants in relation to other instruments within the survey. The sibling victimisation scale contained four items measuring physical

and verbal bullying from a full, half, step, adopted, or foster sibling, during a one-month period in the participants childhood. The instrument did not collect data on whether a participant had a sibling during childhood, and regrettably this was overlooked when we developed our demographic questionnaire. Therefore, unfortunately the decision was made to omit the data collected from this instrument from the statistical analyses.

When developing the study, the decision was originally made to include a measure of sibling victimisation due to it often being overlooked and it being considered a "forgotten abuse" (Kiselica & Morrill-Richards, 2007). Although the uniform definition of childhood bullying provided by the Centre for Disease Control and Prevention (CDC; Gladden et al., 2014) specifically excludes sibling violence, a longitudinal study found individuals who were bullied by siblings during childhood to be up to three times more likely to develop psychotic disorders such as schizophrenia in early adulthood (Dantchev et al., 2018). In addition, several studies have found sibling bullying to be associated with various social, emotional, and mental health difficulties across the life span (Bowes et al., 2014; Dantchev et al., 2018; Dantchev & Wolke, 2019; Tucker et al., 2013; Tucker et al., 2014), and it has been evidenced individuals who experience sibling bullying are more likely to experience peer victimisation (Dantchev et al., 2019). Behaviours parents or carers may perceive as harmless sibling teasing, may in fact meet the three criteria for traditional bullying: intentional aggression, repetition, and a power imbalance (Olweus, 1993). As the deleterious and longstanding impact of sibling bullying is comparable with traditional and cyber forms of childhood bullying, it is paramount future research does not overlook this type of victimisation. Further developmental and validation studies of measurement instruments for sibling bullying are required so a construct which is not easily identifiable by professionals or caregivers can be reliably measured. Additionally, if the prevalence of sibling bullying can be accurately measured, interest in the field may increase.

Personal Reflection

Influence on Clinical Practice

Whilst completing this research project, I have reflected on my previous experiences working within a Child and Adolescent Mental Health Service (CAMHS), and I have thought about how I can apply what I have learnt from completing this research to my future clinical practice. During my time working in CAMHS, I saw a high number of young people with low mood and anxiety, many whom managed these distressing emotions with self-harm behaviours. The service had strong links with schools in the local area, and psychologists and mental health practitioners offered monthly consultations and reflective practice sessions to the teachers to help manage concerns regarding pupils' mental health before they reached the level of requiring tier three services. Despite having conversations around young people being bullied, little was done to measure the impact or prevalence of bullying for the individual or within the school. As psychologists, we spoke about how it would be unethical for us to provide an intervention to help a young person with for example, anxiety around being bullied, to move towards and accept these emotions. However, not once were school-wide preventative interventions discussed.

The effectiveness of bullying prevention programmes is well documented within childhood bullying literature. The Olweus Bullying Prevention Programme (OBPP; Olweus et al., 1999) is the most prolific and its main goals are to reduce existing bullying problems and prevent new bullying with the aim of achieving better peer relations. The programme is implemented at three levels: school-wide, classroom, and individual (Olweus & Limber, 2010). The OBPP is evidenced-based and has been systematically evaluated in two longitudinal studies in the United States with large student samples (Limber et al., 2018; Olweus et al., 2019). The OBPP has shown strong cross-cultural validity with it being

evaluated in countries around the world, such as Canada, England, Mexico and Croatia (UNESCO, 2017). The OBPP is just one example of a bullying prevention programme which has proven to be successful in reducing all forms of being bullied and bullying others. A meta-analysis of forty-four interventions has shown school-based anti-bullying programmes on average decreased bullying by 20-23% and victimisation by 17-20% (Ttofi & Farrington, 2011). With the Department for Education (Day et al., 2017) recently successfully piloting closer links between mental health services and schools, I feel it is a moral obligation for clinical psychologists working with young people to promote the success of school bullying programmes, and to encourage their use at local policy level so intervention can be preventative and not a reactive response to distress caused by bullying.

Additionally, as childhood bullying has been evidenced to have such a deleterious and longstanding impact, screening for childhood bullying could become part of everyday clinical practice. It is well evidenced that many young people feel unable to report bullying to teachers and parents for fear of negative outcomes from peers and not being believed (Boulton et al., 2017), and with bullying behaviours such as cyberbullying becoming increasingly anonymous (Peebles, 2014), more needs to be done to identify bullies and their victims. If a screening instrument could be used with young people who are accessing mental health services for related difficulties such as low mood and anxiety, support for childhood bullying will gradually be able to become more preventative and not reactive.

A major limitation that needs to be overcome before bullying instruments could be used as a screening tool is the reliability and validity of the instruments available. The systematic literature review did not identify any instruments that evaluated the psychometric property of measurement error. Thus, the review was not able to conclude that any instrument would be able to reliably detect important changes in bullying victimisation or perpetration. This would hinder a clinician's ability to evaluate the effectiveness of any intervention or

school bullying programme implemented (Dvir, 2015). In addition, only two instruments identified in the review were validated in clinical samples; the Bullying and Ostracism Screening Scale (BOSS; Saylor et al., 2012) and the Child Adolescent Bullying Scale (CABS; Strout et al., 2018). These samples were obtained from a paediatric clinic and developmental delay medical centres. Likewise, in the empirical paper, a limitation of the research is that the chosen childhood bullying measure, the Multidimensional Offline and Online Peer Victimisation Scale (MOOPVS; Beduna & Perrone-McGovern, 2019), was not validated in a sample of adults who are diagnosed with bipolar disorder, or any other mental health difficulty. To ensure childhood bullying instruments are suitable to be used as a screening tool in CAMHS settings, further research to evaluate their ability to detect change needs to be undertaken, and the populations that are used to validate the instruments needs to ideally be individuals with mental health difficulties to ensure adequate content and construct validity.

Conclusion

Overall, this thesis was successful in gaining valuable insight into the measurement and impact of childhood bullying, including its association with quality of life in adults with a diagnosis of bipolar disorder. Literature within this unique field is limited, thus further research is needed to help improve quality of life in bipolar disorder and potentially mitigate the deleterious influence of childhood peer victimisation. In conducting this study, I have learned the value of bringing a psychological perspective to research, and hope that the publication of this research will guide clinical practice by highlighting the importance of mental health professionals taking the issues of childhood bullying seriously, and not as a normal rite of passage (Wolke & Lereya, 2015).

References

Ahorsu, D. K., Lin, C. Y., Imani, V., Saffari, M., Griffiths, M. D., & Pakpour, A. H. (2020). The Fear of COVID-19 Scale: development and initial validation. *International Journal of Mental Health and Addiction,* 1–9. https://doi.org/10.1007/s11469- 020-00270-8

Alsiri, N. F., Alhadhoud, M. A., & Palmer, S. (2021). The impact of COVID-19 on research. *Journal of clinical epidemiology, 129,* 124–125. https://doi.org/10.1016/j.jclinepi.2020.09.040

American Psychiatric Association. (2018). *Diagnostic and statistical manual of mental disorders* (3rd ed.). American Psychiatric Association.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org.ezproxy.frederick.edu/10.1176/appi.books.978089042556

Beduna, K. N., & Perrone-McGovern, K. M. (2019). Recalled childhood bullying victimization and shame in adulthood: The influence of attachment security, self-compassion, and emotion regulation. *Traumatology, 25*(1), 21–32. https://doi.org/10.1037/trm0000162

Belen, H. (2022). Fear of COVID-19 and mental health: the role of mindfulness during times of crisis. *International Journal of Mental Health and Addiction, 20*(1), 607-618. https://doi.orh/10.1007/s11469-020-00470-2

Boulton, M. J., Boulton, L., Down, J., Sanders, J., & Craddock, H. (2017). Perceived barriers that prevent high school students seeking help from teachers for bullying and their

effects on disclosure intentions. *Journal of Adolescence, 56*, 40-51. https://doi.org/10.1016/j.adolescence.2016.11.009

Bowes, L., Wolke, D., Joinson, C., Lereya, S. T., & Lewis, G. (2014) Sibling bullying and risk of depression, anxiety, and self-harm: a prospective cohort study. *Paediatrics, 134*, 1032–1039. https://doi.org/10.1542/peds.2014-0832

Cabinet Office. (2020). *Staying at home and away from others (social distancing).* https://www.gov.uk/government/publications/full-guidance-on-staying-at-home-and-away-from-others/full-guidance-on-staying-at-home-and-away-from-others

Chun, J., Lee, J., Kim, J., & Lee, S. (2020). An international systematic review of cyberbullying measurements. *Computers in Human Behaviour, 113*. https://doi.org/10.1016/j.chb.2020.106485

Dantchev. S., & Wolke D. (2019). Sibling bullying at 12 years and high-risk behaviour in early adulthood: a prospective cohort study. *Aggressive Behaviour, 45(*1),18–32. https://doi.org/10.1002/ab.21793

Dantchev, S., Hickman, M., Heron, J., Zammit, S., & Wolke, D. (2019). The independent and cumulative effects of sibling and peer bullying in childhood on depression, anxiety, suicidal ideation, and self-harm in adulthood. *Frontiers in Psychiatry, 10*, 1-12. https://doi.org/10.3389/fpsyt.2019.00651

Dantchev, S., Zammit, S., & Wolke, S. (2018). Sibling bullying in middle childhood and psychotic disorder at 18 years: a prospective cohort study. *Psychological Medicine, 48*, 2321-2328. https://doi.org/10.1017/S0033291717003841

Day, L. D., Blades, R., Spence, C., & Ronicle, J. (2017). *Mental health services and schools link pilots: evaluation reports.* Department for Education.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/590242/Evaluation_of_the_MH_services_and_schools_link_pilots-RR.pdf

Dvir, Z. (2015). Difference, significant difference and clinically meaningful difference: The meaning of change in rehabilitation. *Journal of Exercise in Rehabilitation, 11*(2), 67-73. https://doi.org/10.12965/jer.150199

Englander, E. (2019). Childhood access to technology and cyberbullying. *Journal of Paediatrics and Paediatric Medicine, 3*(2), 1-4. https://doi.org/10.29245/2578-2940/2019/2.1136

Ganesan, B., Al-Jumaily, A., Fong, K., Prasad, P., Meena, S. K., & Tong, R. K. (2021). Impact of Coronavirus disease 2019 (COVID-19) outbreak quarantine, isolation, and lockdown policies on mental health and suicide. *Frontiers in psychiatry, 12*. https://doi.org/10.3389/fpsyt.2021.565190

Gladden, R. M., Vivolo-Kantor, A. M., Hamburger, M. E., & Lumpkin, C. D. (2014). *Bullying surveillance among youths: uniform definitions for public health and recommended data elements, version 1.0.* Atlanta, GA; National Centre for Injury Prevention and Control, Centre for Disease Control and Prevention and U.S. Department of Education.

Harel, D., Mills, S. D., Kwakkenbos, L., Carrier, M. E., Nielsen, K., Portales, A., Bartlett, S. J., Malcarne, V. L., Thombs, B. D., & the SPIN Investigators. (2019). Shortening patient-reported outcome measures through optimal test assembly: application to the social appearance anxiety scale in the Scleroderma Patient-centered intervention network cohort. *BMJ Open, 9*(2). https://doi.org/10.1136/bmjopen-2018-024010

Hassan, L., Peek, N., Lovell, K., Carvalho, A. F., Solmi, M., Stubbs, B., & Firth, J. (2021). Disparities in COVID-19 infection, hospitalisation and death in people with schizophrenia, bipolar disorder, and major depressive disorder: a cohort study of the UK Biobank. *Molecular Psychiatry*. https://doi.org/10.1038/s41380-021-01344-2

Hoetger, L. A., Hazen, K., & Brank, E. M. (2014). All in the Family: A Retrospective Study Comparing Sibling Bullying and Peer Bullying. *Journal of Family Violence*, *30*(1), 103-111. https://doi.org/10.1007/s10896-014-9651-0

Holmbeck, G. N. (2002). Post-hoc probing of significant moderational and mediational effects in studies of paediatric populations. *Journal of Paediatric Psychology*, *27*(1), 87-96. https://doi.org/10.1093/jpepsy/27.1.87

Kaluarachchi, C., Sedera, D., & Warren, M. (2020). *An intervention model for cyberbullying based on the general theory of crime and routine activity theory*. Australasian Conference on Information Systems (ACIS), New Zealand.

Kiselica, M., & Morrill-Richards, M. (2007). Sibling maltreatment: the forgotten abuse. *Journal of Counselling & Development*, *85*(2), 148-160. https://doi.org/10.1002/j.1556-6678.2007.tb00457.x

Lazuras, L., Barkoukis, V., & Tsorbatzoudis, H. (2017). Face-to-face bullying and cyberbullying in adolescents: Trans-contextual effects and role overlap. *Technology in Society, 48,* 97-101. https://doi.org/10.1016/j.techsoc.2016.12.001

Limber, S., Olweus, D., Wang., W., Masiello, M., & Kyrre, B. (2018). Evaluation of the Olweus Bullying Prevention Program: a large-scale study of U.S. students in grades 3–11. *Journal of School Psychology, 69,* 56-72. https://doi.org/10.1016/j.jsp.2018.04.004

Modecki, K. L., Minchin, J., Harbaugh, A. G., Guerra, N. G., Runions, K. (2014). Bullying prevalence across contexts: a meta-analysis measuring cyber and traditional bullying. *Journal of Adolescent Health, 55*(5), 602-611. https://doi.org/10.1016/j.jadohealth.2014.06.007

Mokkink, L. B., De Vet, H. C. W., Prinsen, C. A. C, Patrick, D. L., Alonso, J., Bouter, L. M., & Terwee, C. B. (2018a). COSMIN Risk of Bias checklist for systematic reviews of Patient-Reported Outcome Measures. *Quality of Life Research, 27*, 1171-1179. https://doi.org/10.1007/s11136-017-1765-4

Mokkink, L. B., Prinsen, C. A. C, Patrick, D. L., Alonso, J., Bouter, De Vet, H. C. W., & Terwee, C. B. (2018b). *COSMIN methodology for systematic review of Patient-Reported Outcome Measures (PROMS) – user manual*. https://www.cosmin.nl/wp-content/uploads/COSMIN-syst-review-for-PROMs-manual_version-1_feb-2018.pdf

National Health Service (2014). *Five Year Forward View.* https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf

National Health Service (2017). *Patient and Public Participation Policy.* https://www.england.nhs.uk/wp-content/uploads/2017/04/ppp-policy.pdf

O'Dea, S. (2021). *Smartphone penetration worldwide 2020.* Statista. https://www.statista.com/statistics/203734/global-smartphone-penetration-per-capita-since-2005/

Office for National Statistics. (2017). Internet access – households and individuals, Great Britain: 2017. https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/ho

meinternetandsocialmediausage/bulletins/internetaccesshouseholdsandindividuals/2017

Olweus, D. (1993). *Bullying at School: What we know and what we can do.* Malden, USA: Blackwell.

Olweus, D., & Limber, S. P. (2010). The Olweus Bullying Prevention Programme: implementation and evaluation over two decades. In S. R. Jimerson, S. M. Swearer, & D. L. Espelage (Eds.), *Handbook of bullying in schools: An international perspective* (pp. 377- 402). Routledge

Olweus, D., Limber, S. P. & Breivik, K. (2019). Addressing specific forms of bullying: a large-scale evaluation of the Olweus Bullying Prevention Program. *International Journal of Bullying Prevention, 1***,** 70–84. https://doi.org/10.1007/s42380-019-00009-7

Olweus, D., Limber, S. P., & Mihalic, S. (1999). *Bullying prevention program: blueprints for violence prevention*. Centre for the Study and Prevention of Violence.

Patterson, S., Trite, J., & Weaver, T. (2014). Activity and views of service users involved in mental health research: UK survey. *British Journal of Psychiatry, 205*(1), 68-75. https://doi.org/10.1192/bjp.bp.113.128637

Peebles, E. (2014). Cyberbullying: hiding behind the screen. *Paediatrics & child health*, *19*(10), 527–528. https://doi.org/10.1093/pch/19.10.527

Piotrowski, C. (2021). The case for the covid-19 pandemic as a confounding/independent variable: implications for psychological research. *Journal of Projective Psychology & Mental Health*, *28*(1), 1-5.

Prisen, C. A., Mokkink, L. B., Bouter, L. M., Alonso, J., Patrick, D. L., de Vet, H. C., & Terwee, C. B. (2018). COSMIN guideline for systematic reviews of patient-reported outcome measures. *Quality of Life Research, 27*(1147-1157). https://doi.org/10.1007/s11136-018-1798-3

Prisen, C. A., Vohra, S., Rose, M. R., Boers, M., Tugwell, P., Clarke, M., Williamson, P. R., & Terwee, C. (2016). How to select outcome measurement instruments for outcomes included in a "Core Outcome Set" – a practical guideline. *Trials, 17*(1). https://doi.org/10.1186/s13063-016-1555-2

Ravenelle, A. J., Newell, A., & Kowalski, K. C. (2021). "The looming, crazy stalker Coronavirus": fear mongering, fake news and the diffusion of distrust. *Socius: Sociological Research for a Dynamic World, 7.* https://doi.org/10.1177/23780231211024776

Rolstad, S., Adler, J., & Rydén, A. (2011). Response burden and questionnaire length: is shorter better? A review and meta-analysis. *Value Health, 14*(8), 1101-1108. https://doi.org/10.1016/j.jval.2011.06.003

Saylor, C. F., Nida, S. A., Williams, K. D., Taylor, L. A., Smyth, W., Twyman, K. A., Macias, M. M., & Spratt, E. G. (2012). Bullying and Ostracism Screening Scales (BOSS): development and applications. *Children's Health Care, 41*(4), 322-343. https://doi.org/10.1080/023739615.2012.720962

Şimşir, Z., Koç, H., Seki, T., & Griffiths, M. D. (2022). The relationship between fear of COVID-19 and mental health problems: A meta-analysis. *Death Studies, 46(*3), 515-523. https://doi.org/10.1080/07481187.2021.1889097

Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B (2006). A brief measure for assessing generalised anxiety disorder: the GAD-7. *Archives of Internal Medicine, 161*(10), 1092-1097. https://doi.org/10.1001/archinte.166.10.1092

Srinivas, T. R., Ho, B., Kang, J., & Kaplan, B. (2015). Post-hoc analyses: after the facts. *Transplantation, 99*(1), 17-20. https://doi.org/10.1097/TP.0000000000000581

Stefana, A., Youngstrom, E. A., Chen, J., Hinshaw, S., Maxwell, V., Michalak, E., & Vieta, E. (2020). The COVID-19 pandemic is a crisis and opportunity for bipolar disorder. *Bipolar disorders, 22*(6), 641–643. https://doi.org/10.1111/bdi.12949

Strout, T. D., Vessey, J. A., DiFazio, R. L., Ludlow, L. H (2018). The Child Adolescent Bullying Scale (CABS): Psychometric evaluation of a new measure. *Research in Nursing & Health, 41*(3), 252-264. https://doi/org/10.1002/nur.21871

Syrett, M. (2011). Service user involvement in mental health research: a user's perspective. *Advances in Psychiatric Treatment, 17*(3), 201-205. https://doi.org/10.1192/apt.bp.110.008003

Ttofi, M. M., & Farrington, D. P. (2011). Effectiveness of school-based programs to reduce bullying: a systematic and meta-analytic review. *Journal of Experimental Criminology, 7*, 27–56. https://doi.org/10.1007/s11292-010-9109-1

Tucker, C. J., Finkelhor, D., Shattuck, A., & Turner, H. (2013). Association of sibling aggression with child and adolescent mental health. *Paediatrics, 132*(1), 79–84. https://doi.org/10.1542/peds.2012-3801

Tucker, C. J., Finkelhor, D., Turner, H., & Shattuck, A. M. (2014). Sibling and peer victimization in childhood and adolescence. *Child Abuse Neglect, 38*(10), 1599–1606. https://doi.org/10.1016/j.chiabu.2014.05.007

United Nations Educational, Scientific and Cultural Organisation (UNESCO; 2017). *School violence and bullying: global status report.* https://unesdoc.unesco.org/ark:/48223/pf0000246970_eng

Vessey, J., Strout, T. D., DiFazio, R. L., & Walker, A. (2014). Measuring the youth bullying experience: a systematic review of the psychometric properties of available instruments. *The Journal of School Health, 84*(12), 819-843. https://doi.org/10.1111/josh.12210

Vivolo-Kantor, A. M., Martell, B. N., Holland, K. M., & Westby, R. (2014). A systematic review and content analysis of bullying and cyber-bullying measurement strategies. *Aggressive Violent Behaviour, 19*(4), 423-434. https://doi.org.10.1016/j.avb.2014.06.008

Weldring, T., & Smith, S. M. (2013). Patient-Reported Outcomes (PROs) and Patient-Reported Outcome Measures (PROMs). *Health services insights*, *6*, 61–68. https://doi.org/10.4137/HSI.S11093

Winter, T., Riordan, B. C., Pakpour, A. H., Griffiths, M. D., Mason, A., Poulgrain, J. W., & Scarf, D. (2020). Evaluation of the English version of the fear of covid-19 scale and its relationship with behaviour change and political beliefs. *International Journal of Mental Health Addiction*. https://doi.org/10.1007/s11469-020-00342-9

Wolke, D., & Lereya, S. T. (2015). Long-term effects of bullying. *Archives of disease in childhood*, *100*(9), 879–885. https://doi.org/10.1136/archdischild-2014-306667

World Health Organization (2020). *Mental health and psychosocial considerations during the COVID-19 outbreak*. https://www.who.int/docs/default-source/coronaviruse/mental-health-considerations.pdf

Xue, S., Husain, M. I., Ortiz, A., Husain, M. O., Daskalakis, Z. J., & Mulsant, B. H. (2020) COVID-19: Implications for bipolar disorder clinical care and research. *SAGE Open Medicine*. https://doi.org/10.1177/2050312120981178

Section Four: Ethics Proposal

Word count (excluding references and appendices): 3759

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Faculty of Health and Medicine Research Ethics Committee (FHMREC)

Lancaster University

Application for Ethical Approval for Research

for additional advice on completing this form, hover cursor over 'guidance'.

Guidance on completing this form is also available as a word document

Title of Project: The Role of Childhood Bullying in Bipolar Disorder

Name of applicant/researcher: Laura Williams

ACP ID number (if applicable)*: N/A **Funding source (if applicable)** N/A

Grant code (if applicable): N/A

***If your project has *not* been costed on ACP, you will also need to complete the Governance Checklist [link].**

Type of study

☐ Involves existing documents/data only, or the evaluation of an existing project with no direct contact with human participants. **Complete sections one, *two* and four of this form**

☒ Includes *direct* involvement by human subjects. **Complete sections one, *three* and four of this form**

SECTION ONE

1. Appointment/position held by applicant and Division within FHM: Trainee Clinical Psychologist, Lancaster University Doctorate in Clinical Psychology, Division of Health Research

2. Contact information for applicant:

E-mail: l.williams19@lancaster.ac.uk **Telephone**: 07921140694 (please give a number on which you can be contacted at short notice)

Address: Doctorate in Clinical Psychology, Division of Health Research, Faculty of Health and Medicine, Furness College, Lancaster University, Lancaster, LA1 4YG

3. **Names and appointments of all members of the research team (including degree where applicable)**

Laura Williams, Trainee Clinical Psychologist, Lancaster University Doctorate in Clinical Psychology (Principal Investigator)

Dr Jasper Palmier-Claus, Senior Lecturer, Principal Clinical Psychologist (Research Supervisor)

Dr James Kelly, Lecturer in Research Methods, Principal Clinical Psychologist (Research Supervisor)

3. If this is a student project, please indicate what type of project by marking the relevant box/deleting as appropriate: (please note that UG and taught masters projects should complete **FHMREC form UG-tPG**, following the procedures set out on the FHMREC website

PG Diploma ☐ Masters by research ☐ PhD Thesis ☐ PhD Pall. Care ☐

PhD Pub. Health ☐ PhD Org. Health & Well Being ☐ PhD Mental Health ☐ MD ☐

DClinPsy SRP ☐ [if SRP Service Evaluation, please also indicate here: ☐ DClinPsy Thesis ☒

4. Project supervisor(s), if different from applicant: Dr Jasper Palmier-Claus and Dr James Kelly

5. Appointment held by supervisor(s) and institution(s) where based (if applicable):

Dr Jasper Palmier-Claus, Senior Lecturer, Principal Clinical Psychologist (Research Supervisor)

Dr James Kelly, Lecturer in Research Methods, Principal Clinical Psychologist (Research Supervisor)

SECTION TWO

Complete this section if your project involves existing documents/data only, or the evaluation of an existing project with no direct contact with human participants

1. Anticipated project dates (month and year)
Start date: End date:

2. Please state the aims and objectives of the project (no more than 150 words, in lay-person's language):

Data Management

For additional guidance on data management, please go to Research Data Management *webpage, or email the RDM support email:* rdm@lancaster.ac.uk

3. Please describe briefly the data or records to be studied, or the evaluation to be undertaken.

4a. How will any data or records be obtained?

4b. Will you be gathering data from websites, discussion forums and on-line 'chat-rooms'

4c. If yes, where relevant has permission / agreement been secured from the website moderator?

4d. If you are only using those sites that are open access and do not require registration, have you made your intentions clear to other site users?

4e. If no, please give your reasons

5. What plans are in place for the storage, back-up, security and documentation of data (electronic, digital, paper, etc)? Note who will be responsible for deleting the data at the end of the storage period. Please ensure that your plans comply with General Data Protection Regulation (GDPR) and the (UK) Data Protection Act 2018.

6a. Is the secondary data you will be using in the public domain?

6b. If NO, please indicate the original purpose for which the data was collected, and comment on whether consent was gathered for additional later use of the data.

Please answer the following question *only* if you have not completed a Data Management Plan for an external funder

7a. How will you share and preserve the data underpinning your publications for at least 10 years e.g. PURE?

7b. Are there any restrictions on sharing your data?

8. Confidentiality and Anonymity

a. Will you take the necessary steps to assure the anonymity of subjects, including in subsequent publications?

b. How will the confidentiality and anonymity of participants who provided the original data be maintained?

9. What are the plans for dissemination of findings from the research?

10. What other ethical considerations (if any), not previously noted on this application, do you think there are in the proposed study? How will these issues be addressed?

SECTION THREE

Complete this section if your project includes *direct* involvement by human subjects

1. Summary of research protocol in lay terms (indicative maximum length 150 words):

The study will explore the relationship between childhood bullying (CB) and bipolar disorder (BD). Literature suggests CB can contribute to adult mental health difficulties, such as depression, self-harm, and psychotic disorders. There is a dearth of research into the relationship between CB and BD. Existing studies have focussed on traditional bullying, we propose to include measures of online and sibling bullying. Literature argues sibling bullying is a "forgotten abuse", whilst cyberbullying is increasingly prevalent. We will utilise retrospective measures of childhood bullying with an adult population. Current research using these is scarce and use small participant numbers. Using online questionnaires on CB, quality of life and mood, we will explore whether there is an association between CB and quality of life for BD.

2. Anticipated project dates (month and year only)

Start date: January 2021 End date: March 2022

Data Collection and Management

For additional guidance on data management, please go to Research Data Management *webpage, or email the RDM support email:* rdm@lancaster.ac.uk

3. Please describe the sample of participants to be studied (including maximum & minimum number, age, gender):

The study will recruit a sample of individual's with bipolar disorder.

Inclusion criteria for all participants:

- ≥18 years old.

- Self-reported DSM or ICD diagnosis of bipolar disorder (bipolar I, II or cyclothymia).

- Sufficient written & spoken English in order to provide informed consent.

- Able to access and complete the online survey.

Exclusion criteria for all participants:

-Self-reported diagnosed neurological condition, for example, Parkinson's disease, Alzheimer's disease, or an Acquired Brain Injury.

The study will complete a multiple regression analysis on the data collected. To achieve a medium effect size when using multiple regression analysis with three predictors, we will aim to recruit a minimum of 77 participants with a diagnosis of bipolar disorder. There will be no upper limit to the number of participants recruited.

Once data collection is completed, the findings from the Mood Disorder Questionnaire (MDQ) will be cross validated with participants self-report of bipolar disorder and a sensitivity analysis will be completed.

4. How will participants be recruited and from where? Be as specific as possible. Ensure that you provide the *full versions* of all recruitment materials you intend to use with this application (eg adverts, flyers, posters).

Participants will be recruited via purposive convenience sampling. Study information will be made available online in arenas relevant to the research question. In order to gain a variety of participants, the study will aim to recruit from several sources. This includes:

- The Lancaster University 'Participate in Research' webpage (https://www.lancaster.ac.uk/research/participate-in-research/). This is open to the public, and the contact details of all individuals who are interested in participating in research are stored on a database. Researchers can request their study advert to be sent to all individuals on the database when recruiting for new projects. In addition, we will also request our study to be advertised to all Lancaster students on the 'Psychology Research Participation System'.

- 'Spectrum Connect' is a database held by a local research centre, containing details of people with bipolar disorder interested in participating in research. If access to the database is approved, I will contact individuals on the database via letter or email, using a copy of the Participant Information Sheet.

- Advertising the study on social media websites such as, Facebook and Twitter and making any posts public and sharable. To maximise recruitment through social media, the Principal Investigator will contact any groups for individuals with bipolar disorder, asking if they could feature a post containing details of the study. The post will contain the title of the study and a link to Qualtrics, where details of the study and the Participant Information Sheet will be available. The Principal Investigator will also contact popular mental health bloggers specific to bipolar disorder to request they post a link to endorse the study.

- Mental health charities such as Mind and Bipolar UK will also be approached regarding advertising on their websites, forums and social medias.

- Local organisations and charities that support people with bipolar disorder will be contacted to ask if they could distribute the study advert to individuals they support.

- The National Survivor User Network's (NSUN) will be approached regarding advertising in their e-mail newsletter. The advert will be a brief paragraph outlining the study's aims, inclusion criteria, and a link to the Participant Information Sheet.

- Internet forums will be used to post an advert for research participants. The post will contain a brief summary of the study, as included in the NSUN email newsletter, and a link to the survey which will

contain the participant information sheet. Depending on the forum identified, the Principal Investigator will either post publicly, or contact the forum in order to request permission to post details of the study. Forums identified are:

- https://healthyfamilies.beyondblue.org.au/

- https://www.mentalhealthforum.net/

- https://www.bphope.com/community/

- https://www.healthfulchat.org/bipolar-chat-room.html

- https://www.dbsalliance.org/

- https://psychcentralforums.com/bipolar/

- https://mdsc.ca/forum/forum/mood-disorders/bipolar-disorder

- https://www.sane.org

- https://americanbrainsociety.org/forums/forum/bipolar-disorder/

- https://www.bipolarsupport.org/forum/

- https://www.uncommonforum.com/viewforum.php?f=19

- https://www.mumsnet.com/Talk/feeling_depressed/1452637-BIPOLAR-Advice-please

- https://www.talkhealthpartnership.com/talkmentalhealth/forums

Whether the participants become aware of the study through an online advert, or a flyer handed to them by an organisation, all marketing resources for the study will include a URL which they will be able to click on, to be automatically directed to the Qualtrics survey and it's relevant information, or they will be able to manually type in the URL into their electronic device.

5. Briefly describe your data collection and analysis methods, and the rationale for their use.

All data will be collected through an online survey platform called Qualtrics. All participants will be directed to a participant information sheet which will outline the what the study is about, who can take part, what taking part will involve, how personal information will be collected and used, any benefits and risk to participation and the results. Once the participant has reached the end of the participation information sheet, they will be directed to a consent form. If the participant does not agree and consent to participating in the study, the survey will end, if they choose to consent, they will automatically be directed to the primary survey which will host the following:

- *Demographic questionnaire:* age, gender, ethnicity, highest qualification, and employment status. Further questions will relate to bipolar diagnosis, age of onset, number of mental health inpatient admissions, if they have ever accessed talking therapies, or are currently being prescribed antipsychotics/antidepressants/mood stabilisers, if they regularly use alcohol or drugs, and if they have any other mental health difficulties.

- Multi*dimensional Office and Online Peer Victimisation Scale (MOOPVS;* Sumter, Valkenburg, Baumgartner, Peter & van der Hof, 2015)*:* The MOOPVS measures direct and indirect adolescent peer victimisation online and offline. It is a self-report questionnaire consisting of twenty questions which use a six-point likert scale for responses (Sumter et al., 2015). Individuals are asked to reflect on experiences between the ages of 11 and 18 years old (Beduna & Perrone-McGovern, 2019). The

measure was found to have good construct validity and reliability in both adolescents and adults retrospectively.

- Sibling *Victimisation Scale: The University of Illinois Victimisation Scale (UIVS*; Espelage & Holt, 2011) was adapted to measure victimisation among siblings. The questions were adapted to ask about bullying behaviours from "my siblings" rather than "other students". Individuals are asked to retrospectively concentrate on a one-month period in their childhood (Hoetger, Hazen & Brank, 2014), and responses are on a seven-point likert scale. The measure is short with four self-report questions. The scale was found to have strong reliability.

- *Brief Quality of Life Bipolar Disorder Scale (QoLBD;* Michalak, Murray, CREST.BD, 2010*):* QoL in individuals with bipolar disorder has been found to be markedly impaired, even when they are considered clinically euthymic (Michalak, Yatham, & Lam, 2005). The Brief QoLBD scale is a self-report questionnaire consisting of twelve questions using a five-point likert scale, which can provide important additional information about an individual's wellbeing. It has good reliability and validity to be used with the BD population (Michalak, Murray, CREST.BD, 2010).

- 7 up *7 down Inventory (*Youngstrom, Murray, Johnson & Findling, 2013)*:* It is a brief self-report measure and has been validated in clinical and non-clinical populations. This scale uses fourteen questions on a four-point likert scale to measure manic and depression tendencies. The inventory has good internal reliability and construct validity. It has been found to have good psychometric properties across a wide range of ages (Youngstrom et al., 2013).

- Generalised *Anxiety Disorder-7 (GAD 7;* Spitzer, Kroenke, Williams & Löwe, 2006*):* Childhood bullying has been found to result in elevated levels of anxiety in adults (Takizawa, Maughan, & Arseneault, 2014). The GAD-7 is a brief self-report questionnaire consisting of seven items to assess current anxiety symptoms. Responses are scored on a four-point likert scale. The GAD-7 has been validated for use in primary care patients and the general population and has good test-retest reliability and construct validity (Spitzer, Kroenke, Williams & Löwe, 2006; Löwe et al., 2008).

- Mood *Disorder Questionnaire (MDQ;* Hirschfield, 2000)*:* This scale will be used to cross-validate participants self-report of bipolar disorder. The MDQ is a simple participant-rated screening instrument for bipolar disorder. It contains seventeen items of which twelve assess symptoms of bipolar disorder using yes or no responses, and two further questions assess clustering of symptoms and functional impairment (Hirschfield, 2002). The MDQ has good sensitivity and specificity (Hirschfield, 2000) and has been used in psychiatric and community samples (Hirschfield, 2003).

Once the participant has completed all questionnaires, taking approximately twenty minutes, they will be presented with a debrief sheet which will be open and transparent about why the study is investigating childhood bullying and quality of life in individuals with bipolar disorder. The debrief sheet will contain the details of agencies participants can contact if they require any support for their mental health in the present or future, as a result of their participation.

After the debrief sheet has been read, participants will be asked if they would like to opt-in to receive a summary of the study's results. If they do, they will be directed to a second survey, detached from the first, which will be used to collect email addresses for individuals who would like to receive a summary of the study's findings, whilst maintaining the anonymity of the survey results.

Analysis and reporting of the data will take place once the online survey has closed and will include, reporting data summarising recruitment and attrition rates, missing data, and the results. All analysis will be completed using Statistical software.

Data Analysis:

- Univariate analysis: A Pearson's correlation (or non-parametric equivalent) will be used to explore associations between key clinical variables (univariate analysis).

- Multivariate analysis: Following this a block design multiple regression (enter method) will be employed to explore key predictors of bipolar disorder quality of life (block 1: demographics; block 2: demographics & clinical covariates; block 3: demographics, clinical covariates & bullying measures). We will explore the variance in bipolar disorder quality of life explained by bullying. In the case of non-normally distributed data, we will use bootstrapping (1000 reps). Multiple regression allows us to predict values of a continuous dependent variable (response variable – quality of life) from 2 or more independent variables (predictor variables – bullying measure, demographics, anxiety, mood, functioning, recovery) of any type (i.e. categorical or continuous). Multiple regression enables us to investigate how changes in one predictor relate to changes in the response variable, while automatically controlling for all other predictors in the model.

6. What plan is in place for the storage, back-up, security and documentation of data (electronic, digital, paper, etc.)? Note who will be responsible for deleting the data at the end of the storage period. Please ensure that your plans comply with General Data Protection Regulation (GDPR) and the (UK) Data Protection Act 2018.

All researchers involved in the study must comply with the General Data Protection Regulation (GDPR) and the (UK) Data Protection Act (2018) with regards to the collection, storage, processing and disclosure of personal information and will uphold their core principles. All study data will be collected, securely stored and maintained in accordance with legislative frameworks governing data protection, research ethics and research governance.

For this study, it will not be necessary to collect participants personal identifiable information, such as name, date of birth, and address. An exception to this will be if the participants choose to opt-in to receive a summary of the study's findings. In this instance, the participant will be asked to provide an email address as a method of contact. Due to this personal information not being collected on the primary survey, email addresses will not be able to be linked with any data collected from the survey, and so anonymity can be maintained. After results are disseminated, the Principal Investigator (LW) will permanently delete any records pertaining to such email correspondence. All participants will be made aware of how their data will be stored throughout the project and destroyed upon completion. It will be made explicit on the participant information sheet, that all data will not be identifiable, and so researchers will not be able to contact them at any point. To ensure the wellbeing of all participants, they will be provided with a list of national support agencies they can contact if they are concerned about their mental health.

All primary survey data collected will be stored within Qualtrics and transferred directly onto Lancaster University's secure server at the time of the survey closing. When the project is complete, and all written work has been produced, Lancaster Doctorate in Clinical Psychology programme will securely store data electronically for a period of 10 years in accordance with their data retention policy. The data will also be deposited in Lancaster University's institutional data repository, where it will be made available to researchers with relevant access and licences. Lancaster University uses Pure as the data repository which will hold, manage, preserve and provide access to datasets produced by Lancaster University research. If the research is submitted for publication purposes, supporting data will be provided in an electronic format on the journal website, with unrestricted access post-publication. The study will withhold any data which could risk the participant being identified. However, any such data, such as participant email addresses will have already been destroyed pre-publication and repository processes.

7. Will audio or video recording take place? ☒ no ☐ audio ☐ video

a. Please confirm that portable devices (laptop, USB drive etc) will be encrypted where they are used for identifiable data. If it is not possible to encrypt your portable devices, please comment on the steps you will take to protect the data.

N/A

b. What arrangements have been made for audio/video data storage? At what point in the research will tapes/digital recordings/files be destroyed?

N/A

Please answer the following questions *only* if you have not completed a Data Management Plan for an external funder

8a. How will you share and preserve the data underpinning your publications for at least 10 years e.g. PURE?

When the project is complete, and all written work has been produced, the Lancaster Doctorate in Clinical Psychology programme will securely store data electronically for a period of 10 years in accordance with their data retention policy. The data will also be deposited in Lancaster University's institutional data repository, where it will be made available to researchers with relevant access and licences. Lancaster University uses Pure as the data repository which will hold, manage, preserve and provide access to datasets produced by Lancaster University research. If the research is submitted for publication purposes, supporting data will be provided in an electronic format on the journal website, with unrestricted access post-publication. The study will not share any data which could risk the participant being identified, any such data, such as participant email addresses will have already been destroyed pre-publication and repository processes.

8b. Are there any restrictions on sharing your data?

Yes, data will only be shared with researchers with genuine interests in the research area and with appropriate access and licences to PURE. Data can only be shared upon request, and access will be granted on a case by case basis. In addition, due to the small sample size, any data which risks individuals being identified will be withheld from sharing.

9. Consent
a. Will you take all necessary steps to obtain the voluntary and informed consent of the prospective participant(s) or, in the case of individual(s) not capable of giving informed consent, the permission of a legally authorised representative in accordance with applicable law?

Yes

b. Detail the procedure you will use for obtaining consent?

The study's consent procedure is embedded into the online survey. All participants will be provided with an electronic participant information sheet and consent form. Participants will be shown the participant information sheet on the second page of the survey along with text explaining the importance

of reading through the information in full. The contact details of all researchers involved will be provided for participants who may wish to make contact to ask questions prior to taking part. The third page of the survey will contain the consent form, where the participant will have indicated they have read and understood the information provided and are happy to consent. Only when the participant clicks on the red arrow will they be presented with the primary survey. If the participant does not want to consent by clicking on the red arrow, they will be directed to close the survey.

10. What discomfort (including psychological eg distressing or sensitive topics), inconvenience or danger could be caused by participation in the project? Please indicate plans to address these potential risks. State the timescales within which participants may withdraw from the study, noting your reasons.

The research sample consists of individuals all whom will have a diagnosis of bipolar disorder, so there is a presumption that they will be currently using mental health services or have done so in the past. Due to the nature of the bullying questions, there is a risk that this may retrigger painful past experiences for all participants. In addition, the survey will also include questions on their current mood and quality of life. Due to prompting self-reflection, there is the possibility they could cause emotional distress and additional concerns about their mental wellbeing. To mitigate risk, the presence of these question will be made explicit in the participant information sheet in order to make participants aware before providing consent, and the survey will make it explicit that all questionnaires are not diagnostic in an effort to limit distress caused by participants responses.

We will make it clear that people can withdraw at any time. Information on where all participants can seek support will be provided in the participant Information Sheet and debrief sheet. Participants will be able to access this information regardless of whether they complete the survey. Any concerns regarding mood will be brought to and discussed in supervision with a clinical psychologist to consider the effects of the research but contacting participants to signpost to further support would not be possible due to the anonymity of the survey.

11. What potential risks may exist for the researcher(s)? Please indicate plans to address such risks (for example, noting the support available to you; counselling considerations arising from the sensitive or distressing nature of the research/topic; details of the lone worker plan you will follow, and the steps you will take).

Due to the study having an online survey design, the risk to the principal investigator is limited. As participants will be provided with the researchers contact details, there is a risk they may be contacted if the participant is experiencing difficulties. If this occurs, the researcher will seek supervision and will signpost the participant to relevant support. However, the risk of this occurring will be reduced due to participants only being provided with a university email address as a point of contact.

12. Whilst we do not generally expect direct benefits to participants as a result of this research, please state here any that result from completion of the study.

There are no expected directs benefits to individuals participating in the study. The study hopes to provide useful findings to academic and clinical forums, which may help to develop and enhance support for individuals with a diagnosis of bipolar disorder. Individual's may view their participation as a positive contribution to society.

13. Details of any incentives/payments (including out-of-pocket expenses) made to participants:

N/A

14. Confidentiality and Anonymity

a. Will you take the necessary steps to assure the anonymity of subjects, including in subsequent publications?

Yes

b. Please include details of how the confidentiality and anonymity of participants will be ensured, and the limits to confidentiality.

Completion of the primary online survey is anonymous as consent for involvement is recorded by the participant selecting they have read and understood the participant information sheet before they are directed to the questionnaires. No personal identifiable information will be requested. If a participant chooses to opt-in to receive a summary of the results, they will be asked to complete a second, unlinked survey, in which they will be requested to provide their email address. The Principal Investigator will not be able to link the email to any data collected as part of the primary survey. After the results of the study have been disseminated to participants, the Principal Investigator will permanently delete all email addresses collected from the second survey. This will be made known to all participants on the participant information sheet.

15. If relevant, describe the involvement of your target participant group in the *design and conduct* of your research.

As all measures will be self-administered online using survey software Qualtrics, we hope to run a pilot of the study with up to five people with lived experience of bipolar disorder. We hope to recruit volunteers from either the Spectrum service user group or Lancaster University Public Involvement Network (LUPIN). We aim to consult the volunteers on the feasibility and acceptability of the measures and to receive feedback on Qualtrics online procedures and usability. We will also ask for their feedback on the readability of the participant information sheet and consent forms, and if any changes are suggested, they will be submitted to ethics as an amendment.

Potential questions which could be used during the pilot study consultation could be:

1. Do you feel the title of the study is appropriate?

2. Was the Participant Information Sheet and Consent Form easy to understand?

3. What was your experience of completing the survey?

4. Is there anything you would like to change?

5. Any other comments?

16. What are the plans for dissemination of findings from the research? If you are a student, include here your thesis.

On completion of the study, data will be analysed, and a thesis will be compiled by the Principal Investigator for submission to the Doctorate in Clinical Psychology programme for examination. A presentation on the results of the study will be made to colleagues on the DClinPsy programme at

Lancaster University and results may be used for similar purposes e.g. conferences. It is hoped the study will meet criteria for publication purposes. If this is achieved, a separate report will be prepared for publication and submitted to academic journals. In addition, participants, forums, charities etc. who were involved in the study and opted-in to receiving results, will be provided with a brief summary.

17. What particular ethical considerations, not previously noted on this application, do you think there are in the proposed study? Are there any matters about which you wish to seek guidance from the FHMREC?

The primary ethical consideration for this study is the potential risk of emotional distress to participants, as a result of completing the online survey, particularly the questionnaires related to childhood bullying and current mood, as they promote a lot of self-reflection. As detailed in above sections, these concerns have been considered carefully, and procedures have been put in place to mitigate their risk.

SECTION FOUR: signature

Applicant electronic signature: Date 20.10.20

Student applicants: please tick to confirm that your supervisor has reviewed your application, and that they are happy for the application to proceed to ethical review ☒

Project Supervisor name (if applicable): Dr Jasper Palmier-Claus and Dr James Kelly
Date application discussed 16/10/20

Applicant: Laura Williams

Supervisor: Dr Jasper Palmier-Claus & Dr James Kelly

Department: Division of Health Research

FHMREC Reference: FHMREC20030

18 December 2020

Re: FHMREC20030

The Role of Childhood Bullying in Bipolar Disorder

Dear Laura,

Thank you for submitting your research ethics application for the above project for review by the **Faculty of Health and Medicine Research Ethics Committee (FHMREC).** The application was recommended for approval by FHMREC, and on behalf of the Chair of the Committee, I can confirm that approval has been granted for this research project.

As principal investigator your responsibilities include:

- ensuring that (where applicable) all the necessary legal and regulatory requirements in order to conduct the research are met, and the necessary licenses and approvals have been obtained;
- reporting any ethics-related issues that occur during the course of the research or arising from the research to the Research Ethics Officer at the email address below (e.g. unforeseen ethical issues, complaints about the conduct of the research, adverse reactions such as extreme distress);
- submitting details of proposed substantive amendments to the protocol to the Research Ethics Officer for approval.

Please contact me if you have any queries or require further information.

Email: fhmresearchsupport@lancaster.ac.uk

Yours sincerely,

Annie Beauchamp,

Research Ethics Officer, Secretary to FHMREC.

Appendices

Appendix 4-1: Email confirming ethics proposal amendments

From: Fletcher, Ian <i.j.fletcher@lancaster.ac.uk>
Sent: 28 September 2020 12:03
To: Williams, Laura (Student) <l.williams19@lancaster.ac.uk>; Murray, Craig <c.murray@lancaster.ac.uk>; Heard, Sarah <s.heard@lancaster.ac.uk>
Subject: ian fetcher re revised thesis proposal

Hello Laura

I've reviewed the changes and have no further comments re your revised thesis proposal.

Good luck with your research.
regards Ian

Ian Fletcher PhD
Senior Lecturer
Division of Health Research, Faculty of Health & Medicine
Room D20, Health Innovation One, Sir John Fisher Drive
Lancaster University
Lancaster LA1 4AT E: i.j.fletcher@lancs.ac.uk

Appendix 4-2: Research Protocol

RESEARCH PROTOCOL

The Role of Childhood Bullying in Bipolar Disorder

Research Protocol Version 2.0 (20/10/20)

Laura Williams, Doctorate in Clinical Psychology, Division of Health Research, Lancaster University

Dr Jasper Palmier-Claus, Doctorate in Clinical Psychology, Division of Health Research, Lancaster University

Dr James Kelly, Doctorate in Clinical Psychology, Division of Health Research, Lancaster University

CONTENTS

1. KEY CONTACTS

Principal Investigator	**Laura Williams, Trainee Clinical Psychologist** **Address:** Doctorate in Clinical Psychology Furness College Lancaster University Bailrigg Lancaster LA1 4YG **Telephone:** 01524 592 691 **Email:** l.williams@lancaster.ac.uk
Research Supervisor	**Jasper Palmier-Claus, Senior Lecturer in Clinical Psychology** **Address:** Doctorate in Clinical Psychology Furness College Lancaster University Bailrigg Lancaster LA1 4YG **Telephone: 01524 592 691** **Email:** j.palmier-claus@lancaster.ac.uk
Research Supervisor	**James Kelly, Lecturer in Research Methods** **Address:** Doctorate in Clinical Psychology Furness College Lancaster University Bailrigg Lancaster LA1 4YG **Telephone:** 01524 593535 **Email:** j.a.kelly@lancaster.ac.uk

2. INTRODUCTION

2.1 Background

Due to the lifelong nature of bipolar disorder, it is known to be associated with functional and cognitive impairment leading to a significant reduction in an individual's quality of life (Grande et al., 2013; Sole et al., 2017). Bipolar disorder is often associated with high levels of premature mortality as a result of both suicide and medical comorbidities and is one of the leading causes of disability worldwide (Rowland & Marwaha, 2018). In a world mental health survey by World Health Organisation (WHO), bipolar disorder was found to be the illness with the second highest impact on number of days an individual was unable to work or carry out normal activities (Alonso et al., 2011).

Childhood adversity has been associated with a variety of poor outcomes in adulthood. Individuals who have a history of childhood adversity have been found to have poorer mental and physical health and are more likely to use medical care and emergency services (Arnow, 2004). Children who have frequent exposure to adversity, are four times as likely to develop a mental disorder by the time they reach adulthood (McLaughlin et al., 2012). Multiple studies have evidenced approximately one third of all mental disorders worldwide are associated with exposure to childhood adversities (Green, et al., 2010; Kessler, et al., 2010; McLaughlin, et al., 2012). Definitions of childhood adversity differ throughout the literature, but typically involve variations of unwanted physical, emotional and psychological harm or neglect (Stowkowy et al., 2020). McLaughlin (2016) argues childhood adversity should be defined by "experiences that are likely to require significant adaptation by an average child and that represent a deviation from the expectable environment". As such, bullying is often included when investigating the impact of childhood adversity (Stowkowy et al., 2020).

Increasing amounts of literature suggests being a victim of childhood bullying is associated with longstanding effects and can contribute to mental health difficulties in adulthood, such as depression, anxiety, self-harm, suicidal ideation, binge eating and violent behaviour (Frizzo, 2012; Sourander et al., 2016; Takizawa, Maughan & Arseneault, 2014). Four large scale longitudinal prospective studies found frequent exposure to childhood bullying was associated with later adult psychiatric disorders requiring specialised treatment, even in the absence of childhood psychiatric symptoms (Copeland, Wolke, Angold, Costello, 2013; Takizawa et al., 2014; Stapinksi et al.; Sourander et al. 2016).

Evidence for the impact of bullying on severe mental illness has slowly begun to emerge. Research has illustrated associations between individuals who experienced childhood bullying and a diagnosis of borderline personality disorder (Ransone, Lam & Wiederman, 2010; Wolke, Schreier, Zanarini & Winsper, 2012). In addition, two meta-analyses and a research study, have found evidence to suggest that childhood bullying can predict the development of psychotic symptoms and psychotic disorders in adulthood (van Dam et al., 2012; Cunningham, Hoy & Shannon, 2016; Valmaggia et al., 2015; Trotta et al., 2016). Furthermore, a longitudinal study found individuals who were bullied by siblings during childhood were up to three times more likely to develop psychotic disorders such as schizophrenia in early adulthood (Dantchev, Zammit & Wolke, 2013).

2.2 Present Study

There is a dearth of research into the relationship between childhood adversity, inclusive of bullying and bipolar disorder. A meta-analysis (Palmier-Claus, Berry, Bucci, Mansell & Varese, 2016) found individuals with bipolar disorder are 2.6 times more likely to have experienced childhood adversity compared to the general population. A further meta-analysis (Agnew-Blais & Danese, 2016) found childhood adversity to be associated with

clinical outcomes of bipolar disorder, such as early-onset, severity, greater mood occurrence and suicide attempts. Childhood adversity has been found to result in greater functional impairment in bipolar disorder (Cotter, Kaess & Yung, 2015). Palmier-Claus et al. (2016) found rates of childhood adversity in bipolar disorder to be similar to those in psychosis and major depression. We hypothesise that the impact of childhood bullying on bipolar disorder may also mirror that of its effect in individuals with psychosis. To our knowledge, only two studies have investigated the association between childhood bullying and bipolar disorder. Using a sample of adults with bipolar I and II and unipolar, individuals with bipolar disorder were more likely to have experienced childhood bullying than the unipolar group (Parker, Fletcher, McGraw, Futeran & Hong, 2013). In a recent study, although using a small sample size, adolescents with bipolar disorder who had experienced childhood bullying were found to be more likely to present with psychotic symptoms (Acosta et al. 2020).

The few studies that have explored an association between bipolar disorder and bullying, have focussed solely on traditional bullying. In our study, we propose to include measures of online and sibling bullying. Literature argues cyberbullying should be covered by a more general definition of bullying (Thomas, Connor, & Scott, 2015), as many young people are now likely to have experienced both traditional and cyberbullying (Juvonen & Gross, 2008). In a large study, adolescents who reported both traditional and cyberbullying experienced greater negative emotional outcomes (Gradinger, Strohmeier, & Spiel, 2009; Beduna & Perrone-McGovern, 2019). At present, research focus on cyberbullying is increasing, but research on sibling bullying is overlooked, with it being considered a "forgotten abuse" (Kiselica & Morrill-Richards, 2007). Hoetger et al., (2014) found sibling bullying to occur more often than peer bullying but is either overlooked as a form of bullying or is not reported outside of the family home. Although scarce, research has consistently found sibling bullying to be associated with mental health difficulties such as, anxiety,

depression, self-harm and suicidal ideation (Dantchev, Hickman, Heron, Zammit & Wolke, 2019).

Although research into the longstanding effects of childhood bullying is increasing, few studies have evaluated the association between bullying and the development of bipolar in adulthood. Individuals with a history of childhood adversity are at a greater risk of developing mental health difficulties and for individuals with bipolar disorder, it is linked to more severe clinical outcomes. Future research should look to explore the potential impact of bullying in bipolar disorder to support the promotion of early interventions for childhood bullying, aid prediction of those at risk of developing bipolar disorder, and to aid the development of interventions available for individuals with bipolar disorder. This study therefore poses the following research question:

"Does an individual's level of anxiety, mood, and childhood bullying influence their quality of life when diagnosed with bipolar disorder?"

The present study hypothesises that individuals with bipolar disorder who have experienced childhood bullying, will have a poorer quality of life. The study will investigate our research question using a quantitative cross-sectional correlational design using demographic questionnaires and measures of bullying and clinical outcomes. There will be one dependent variable and three independent variables.

3. METHOD

3.1 Participants

Participants will be asked to self-report their diagnosis of bipolar I, II, or cyclothymia to participate. Participants will be asked to complete the Mood Disorder Questionnaire (MDQ; Hirschfield, 2000). The MDQ is a simple, brief, participant-rated screening instrument for bipolar disorder. The MDQ will not be used as a gateway for participants to

complete the survey. Once data collection is completed, the findings from the MDQ will be cross validated with participants self-report of bipolar disorder and a sensitivity analysis will be completed.

Inclusion Criteria

- Aged 18 years or over.
- Self-reported DSM or ICD diagnosis of bipolar disorder (bipolar I, II or cyclothymia).
- Sufficient understanding of written & spoken English in order to provide informed consent.
- Able to access and complete the online survey.

Exclusion Criteria

- Self-reported diagnosed neurological condition, for example, Parkinson's, Alzheimer's, Acquired Brain Injury.

3.2 Sample Size

For the multiple regression analysis, there are rules of 10 or 15 cases per predictor variable which are generally used. With three predictor variables in the study, this would be either 30 or 45 participants. However, some argue these figures are oversimplified, and for six or fewer predictors, state a sample size of 98 will provide a medium effect size. Three predictors would require 77. To achieve a medium effect size when using multiple regression analysis with three predictors, we will aim to recruit a minimum of 77 participants with a diagnosis of bipolar disorder. There will be no maximum number of participants.

2.3 Recruitment

Participants will be recruited via purposive convenience sampling. Study information will be made available online in arenas relevant to the research question. In order to gain a variety of participants, the study will aim to recruit from several sources. This includes:

- The Lancaster University 'Participate in Research' webpage (https://www.lancaster.ac.uk/research/participate-in-research/). This is open to the public, and the contact details of all individuals who are interested in participating in research are stored on a database. Researchers can request their study advert to be sent to all individuals on the database when recruiting for new projects. In addition, we will also request our study to be advertised to all Lancaster students on the 'Psychology Research Participation System'.
- 'Spectrum Connect' is a database held by a local research centre, containing details of people with bipolar disorder interested in participating in research. If access to the database is approved, I will contact individuals on the database via letter or email, using a copy of the Participant Information Sheet.
- Advertising the study on social media websites such as, Facebook and Twitter and making any posts public and sharable. To maximise recruitment through social media, the Principal Investigator will contact any groups for individuals with bipolar disorder, asking if they could feature a post containing details of the study. The post will contain the title of the study and a link to Qualtrics, where details of the study and the participant information sheet will be available. The Principal Investigator will also contact popular mental health bloggers specific to bipolar disorder to request they post a link to endorse the study.
- Mental health charities such as Mind and Bipolar UK will also be approached regarding advertising on their websites, forums and social medias.

- Local organisations and charities that support people with bipolar disorder will be contacted to ask if they could distribute the study advert to individuals they support.
- The National Survivor User Network's (NSUN) will be approached regarding advertising in their e-mail newsletter. The advert will be a brief paragraph outlining the study's aims, inclusion criteria, and a link to the participant information sheet.
- Internet forums will be used to post an advert for research participants. The post will contain a brief summary of the study, as included in the NSUN email newsletter, and a link to the survey which will contain the participant information sheet. Depending on the forum identified, the Principal Investigator will either post publicly, or contact the forum in order to request permission to post details of the study. Forums identified are:

  -https://healthyfamilies.beyondblue.org.au/

  -https://www.mentalhealthforum.net/

  -https://www.bphope.com/community/

  -https://www.healthfulchat.org/bipolar-chat-room.html

  -https://www.dbsalliance.org/

  -https://psychcentralforums.com/bipolar/

  -https://mdsc.ca/forum/forum/mood-disorders/bipolar-disorder

  -https://www.sane.org

  -https://americanbrainsociety.org/forums/forum/bipolar-disorder/

  -https://www.bipolarsupport.org/forum/

  -https://www.uncommonforum.com/viewforum.php?f=19

-https://www.mumsnet.com/Talk/feeling_depressed/1452637-BIPOLAR-Advice-please

-https://www.talkhealthpartnership.com/talkmentalhealth/forums

Whether the participants become aware of the study through an online advert or a flyer handed to them by an organisation, all marketing resources for the study will include a URL which they will be able to click on, to automatically be redirected to the Qualtrics survey and it's relevant information, or they will be able to manually type in the URL into their electronic device.

3.4 Design

The study will take a quantitative approach using a cross-sectional correlational design. The study will recruit one group of participants with a diagnosis of bipolar disorder.

There will be one dependent variable (quality of life) and three independent variables (bullying, anxiety, and mood. The study will investigate the relationships and interactions between all variables by using a demographic questionnaire and measures of childhood bullying and clinical outcomes.

We aim to have a pilot group of around five individuals with lived experiences of bipolar disorder, who we will be able to test the feasibility and acceptability of the measures on, to receive feedback on the study and Qualtrics online procedures and usability. Such groups could be the Spectrum service user group or Lancaster University Public Involvement Network (LUPIN).

3.5 Materials

All data will be collected through an online survey platform called Qualtrics. All participants will be directed to a welcome page and participant information sheet which will

outline the what the study is about, who can take part, what taking part will involve, how personal information will be collected and used, any benefits and risk to participation and the results. Once the participant has reached the end of the participation information sheet, they will be directed to a consent form. If the participant does not agree and consent to participating in the study, the survey will end, if they choose to consent, they will automatically be directed to the primary survey which will host the following:

- *Demographic questionnaire:* age, gender, ethnicity, highest qualification, and employment status. Further questions will relate to bipolar diagnosis, age of onset, number of mental health inpatient admissions, if they have ever accessed talking therapies, or are currently being prescribed antipsychotics/antidepressants/mood stabilisers, if they regularly use alcohol or drugs, and if they have any other mental health difficulties.
- Multi*dimensional Office and Online Peer Victimisation Scale (MOOPVS;* Sumter, Valkenburg, Baumgartner, Peter & van der Hof, 2015)*:* The MOOPVS measures direct and indirect adolescent peer victimisation online and offline. It is a self-report questionnaire consisting of twenty questions which use a six-point likert scale for responses (Sumter et al., 2015). Individuals are asked to reflect on experiences between the ages of 11 and 18 years old (Beduna & Perrone-McGovern, 2019). The measure was found to have good construct validity and reliability in both adolescents and adults retrospectively.
- Sibling *Victimisation Scale: The University of Illinois Victimisation Scale (UIVS*; Espelage & Holt, 2011) was adapted to measure victimisation among siblings. The questions were adapted to ask about bullying behaviours from “my siblings” rather than “other students”. Individuals are asked to retrospectively concentrate on a one-month period in their childhood (Hoetger, Hazen & Brank, 2014), and responses are

on a seven-point likert scale. The measure is short with four self-report questions. The scale was found to have strong reliability.

- *Brief Quality of Life Bipolar Disorder Scale (QoLBD;* Michalak, Murray, CREST.BD, 2010*):* QoL in individuals with bipolar disorder has been found to be markedly impaired, even when they are considered clinically euthymic (Michalak, Yatham, & Lam, 2005). The Brief QoLBD scale is a self-report questionnaire consisting of twelve questions using a five-point likert scale, which can provide important additional information about an individual's wellbeing. It has good reliability and validity to be used with a bipolar disorder population (Michalak, Murray, CREST.BD, 2010).
- 7 up *7 down Inventory (*Youngstrom, Murray, Johnson & Findling, 2013)*:* It is a brief self-report measure and has been validated in clinical and non-clinical populations. The scale uses fourteen questions on a four-point likert scale to measure manic and depression tendencies. The inventory has good internal reliability and construct validity. It has been found to have good psychometric properties across a wide range of ages (Youngstrom et al., 2013).
- Generalised *Anxiety Disorder-7 (GAD 7;* Spitzer, Kroenke, Williams & Löwe, 2006*):* Childhood bullying has been found to result in elevated levels of anxiety in adults (Takizawa, Maughan, & Arseneault, 2014). The GAD-7 is a brief self-report questionnaire consisting of seven items to assess current anxiety symptoms. Responses are scored on a four-point likert scale. The GAD-7 has been validated for use in primary care patients and the general population and has good test-retest reliability and construct validity (Spitzer, Kroenke, Williams & Löwe, 2006; Löwe et al., 2008).

- Mood *Disorder Questionnaire (MDQ;* Hirschfield, 2000)*:* This scale will be used to cross-validate participants self-report of bipolar disorder. The MDQ is a simple participant-rated screening instrument for bipolar disorder. It contains seventeen items of which twelve assess symptoms of bipolar disorder using yes or no responses, and two further questions assess clustering of symptoms and functional impairment (Hirschfield, 2002). The MDQ has good sensitivity and specificity (Hirschfield, 2000) and has been used in psychiatric and community samples (Hirschfield, 2003).

Once the participant has completed all questionnaires, they will be presented with a debrief sheet which will be open and transparent about why the study is investigating the relationship between childhood bullying and quality of life in individuals with bipolar disorder. Due to needing to limit the impact of demand characteristics, the title and information about the purpose of the study included within the participant information sheet, details childhood adversity, not specifically childhood bullying. We also hope this would reduce the number of participants not taking part due to them feeling they did not experience any childhood bullying. In addition, the debrief sheet will contain the details of agencies participants can contact if they need any support for their mental health in the present or future, as a result of their participation.

After the debrief sheet has been read, participants will be asked if they would like to opt-in to receive a summary of the study's results. If they do, they will be directed to a second survey, detached from the first, which will be used to collect email addresses for individuals who would like to receive a summary of the study's findings, whilst maintaining the anonymity of the survey results.

3.6 Procedure

Participants will be recruited into the study through the methods outlined in section 3.3. Participants who choose to engage in the study will be asked to access the survey via an online platform, Qualtrics. On the electronic study advertisement (see Appendix 14), they will be provided with a link which they can click on to be automatically directed to the survey, or they can type the URL manually.

Once they have accessed the survey, they will be presented with a participant information sheet (see Appendix 2) which will outline what the study is about, who can take part, what taking part will involve, how personal information will be collected and used, any benefits and risk to participation, and the results. Once the participant has reached the end of the participant information sheet, they will be directed to a consent form (see Appendix 4). If the participant does not agree and consent to participating in the study, the survey will end. If they choose to consent, they will automatically be directed to the primary survey.

On being presented with the primary survey participants will be asked to complete seven questionnaires.

- *A demographic questionnaire* will collate information on participant's relating to age, gender, ethnicity, highest qualification, employment status, age of bipolar disorder onset, number of mental health inpatient admissions, if they have ever accessed talking therapies or are currently being prescribed antipsychotics/antidepressants/mood stabilisers, if they regularly use alcohol or drugs, and if they have any other mental health difficulties (Appendix 5).
- *Multidimensional Office and Online Peer Victimisation Scale (MOOPVS;* Beduna & Perrone-McGovern, 2019*), (Appendix 6).*
- *Sibling Victimisation Scale* – The University of Illinois Victimisation Scale (UIVS; Espelage & Holt, 2011), (Appendix 7).

- *Brief Quality of Life Bipolar Disorder Scale (QoLBD;* Michalak, Murray, CREST.BD, 2010), (Appendix 8).

- *7 up 7 down Inventory (*Youngstrom, Murray, Johnson & Findling, 2013), (Appendix 9).

- *Generalised Anxiety Disorder-7 (GAD 7;* (Spitzer, Kroenke, Williams & Löwe, 2006), (Appendix 10)

- *Mood Disorder Questionnaire (MDQ;* Hirschfield, 2000), (Appendix 11)

Once participants have completed the primary survey, they will be shown a debrief sheet asked if they wish to opt-in to receive results of the study (see Appendix 12). They will be informed that by choosing to opt-in, will require providing an email address. The participants will then be presented with a new Qualtrics link which will direct them to the second survey, or they can click the red arrow to close the survey. If they choose to opt-in, they will be directed to the second survey (see Appendix 13), where they will be able to enter their email address, to ensure it is not linked to their primary survey responses. If at this stage the participant changes their mind, they will also be provided with another red arrow to end the survey.

During the participant's time completing the primary survey, they will have access to information signposting them to resources and organisations where they can access further support (see Appendix 3) on both the participant Information sheet and debrief Sheet.

Information on how the collected data will be stored, analysed and results disseminated are outlined in the sections below.

4. PROPOSED STATISTICAL ANALYSIS

Analysis and reporting of the data will take place once the online survey has closed and will include, reporting data, summarising recruitment and attrition rates, missing data, and the results. All analysis will be completed using statistical software.

Correlational analysis: A Pearson's correlation (or non-parametric equivalent) will be used to explore associations between key clinical variables (univariate analysis). Following this a block design multiple regression (enter method) will be employed to explore key predictors of bipolar quality of life (block 1: demographics; block 2: demographics & clinical covariates; block 3: demographics, clinical covariates & bullying measures). We will explore the variance in bipolar disorder quality of life explained by bullying. In the case of non-normally distributed data, we will use bootstrapping (1000 reps).

Multiple regression allows us to predict values of a continuous dependent variable (response variable – quality of life) from 2 or more independent variables (predictor variables – bullying measure, demographics, anxiety, and mood) of any type (i.e. categorical or continuous). Multiple regression enables us to investigate how changes in one predictor relate to changes in the response variable, while automatically controlling for all other predictors in the model.

5. PRACTICAL ISSUES

5.1 Patient and Public Involvement

As all measures will be self-administered online using survey software Qualtrics, we hope to run a pilot of the study with up to five people with lived experience of bipolar disorder. We hope to recruit volunteers from either the Spectrum service user group or Lancaster University Public Involvement Network (LUPIN). We aim to consult the volunteers on the feasibility and acceptability of the measures and to receive feedback on Qualtrics online procedures and usability. We will also ask for their feedback on the

readability of the participant information sheet and consent forms, and if any changes are suggested, they will be submitted to ethics as an amendment.

Potential questions which could be used during the pilot study consultation could be:

1. Do you feel the title of the study is appropriate?
2. What was your experience of completing the survey?
3. Is there anything that you would like to change?
4. Was the participant information sheet and consent form easy to understand?
5. Any other comments?

6. ETHICAL CONSIDERATIONS

6.1 Consent

All participants will be provided with an electronic participant information sheet and consent form. Participants will be shown the participant information sheet on the second page of the survey along with text explaining the importance of reading through the information in full. The contact details of all involved researchers will be provided for participants who may wish to make contact to ask questions prior to taking part. The third page of the survey will contain the consent form, where the participant will have indicated they have read and understood the information provided and are happy to consent. Only when the participant clicks on the red arrow will they be presented with the primary survey. If the participant does not want to consent by clicking on the red arrow, they will be directed to close the survey.

6.2 Participant Research Withdrawal

Individuals will be able to withdraw from participating in the survey at any point before completing the primary survey. It will be made explicit to the individuals, that once they have selected to complete the primary survey or have been directed to the second survey to provide an email address for dissemination of results, they will no longer be able to

withdraw from the study. Due to anonymity of the survey, once participants have submitted their data, they will be unable to withdraw their consent for their data to be used.

6.3 Risk to Participants

The research will include a clinical sample of individuals all whom will have a diagnosis of bipolar disorder, so there is a presumption that they will be currently using mental health services or have done so in the past. Due to the nature of the bullying questions, there is a risk that this may retrigger painful past experiences for all participants. In addition, the survey will also include questions on their current mood. Due to prompting self-reflection, there is the possibility they could cause emotional distress and additional concerns about their mental wellbeing. In an attempt to mitigate risk, the presence of these question will be made explicit in the participant information sheet in order to make participants aware before providing consent, and the survey will make it explicit that all questionnaires are not diagnostic in an effort to limit distress caused by participants responses.

Information on where all participants can seek support will be provided. All participants will be able to access this information regardless of whether they complete the survey. Any concerns regarding mood will be brought to and discussed in supervision with a clinical psychologist, to consider the effects of the research, but contacting participants to signpost to further support would not be possible due to anonymity of the survey.

6.4 Risk to Principal Investigator

Due to the study having an online survey design, the risk to the principal investigator is limited. As participants will be provided with the researchers contact details, there is a risk they may be contacted if the participant is experiencing difficulties. If this occurs, the researcher will seek supervision and will signpost the participant to relevant support.

However, the risk of this occurring will be reduced due to participants only being provided with a university email address as a point of contact.

6.5 Data Protection and Patient Confidentiality

All researchers involved in the study must comply with the General Data Protection Regulation (GDPR) and the (UK) Data Protection Act (2018) with regards to the collection, storage, processing and disclosure of personal information and will uphold their core principles. All study data will be collected, securely stored and maintained in accordance with legislative frameworks governing data protection, research ethics and research governance.

For this study, it will not be necessary to collect participants personal identifiable information, such as name, date of birth, and address. An exception to this will be if the participants choose to opt-in to receive a summary of the study's findings. In this instance, the participant will be asked to provide an email address as a method of contact. Due to this personal information not being collected on the primary survey, email addresses will not be able to be linked with any data collected from the survey. After the results are disseminated, the Principal Investigator will permanently delete any records pertaining to such email correspondence.

All survey data collected will be stored within Qualtrics and transferred directly onto Lancaster University's secure server at the time of the survey closing. The Programme will securely store data electronically for a period of 10 years in accordance with their data retention policy.

7. DISSEMINATION

On completion of the study, data will be analysed, and a thesis will be compiled by the Principal Investigator for submission to the Doctorate in Clinical Psychology programme

for examination. It is hoped the study will meet criteria for publication purposes. If this is achieved, a separate report will be prepared for publication and submitted to academic journals. Participants and forums, charities etc. who were involved in the study and opted-in to receiving results, will be provided with a brief summary. A presentation on the results of the study will be made to colleagues on the DClinPsy programme at Lancaster University and results may be used for similar purposes e.g. conferences.

8. TIMESCALE

Dates	**Activity**
12th June 2020	Thesis proposal submitted
July – September 2020	Thesis contract meeting and action planning. Identify relevant ethics committee and get forms and deadlines for submission.
October – December 2020	Submit draft ethics proposal and then finalise and submit for approval. Decide on topic for systematic literature review and begin collecting references.
January – March 2021	Draft introduction and method of systematic literature review. Start Data Collection
April – June 2021	Draft introduction and method to empirical paper. Data collection.
July – September 2021	Complete data collection (Data collection may have to be extended if minimum number of participants is not met). Review literature for systematic review. Identify topic for critical appraisal chapter.
October 2021 – December 2021	Draft results and discussion of systematic literature review chapter.
	Complete analysis of data. Draft results of empirical paper.
January – March 2022	Draft critical appraisal.

	Final drafts of other chapters.
	Final formatting of thesis.
March 2022	Submit Thesis.
April – August 2022	Viva voce examination.
	Correction to thesis as required.
August 2022	Disseminate results to participants and agencies who opted-in

REFERENCES

Acosta, J., Librenza-Garcia, D., Watts, D., Francisco, A., Zartea, F., … Passos, I. (2020). Bullying and psychotic symptoms in youth with bipolar disorder. *Journal of Affective Disorders, 265,* 603-610.

Agnew-Blais, J., & Danese, A. (2016). Childhood maltreatment and unfavourable clinical outcomes in bipolar disorder: a systematic review and meta-analysis. *The Lancet Psychiatry, 3*(4), 342-349.

Alonso, J., Petukhova, M., Vilagut, G., Chatterji, S., Heeringa, S., Ustun, T. B., … Kessler, R. C. (2011). Days out of role due to common physical and mental conditions: results from the WHO World Mental Health surveys. Molecular Psychiatry, *16,* 1234-1246.

Arnow, B. A. (2004). Relationships between childhood maltreatment, adult health and psychiatric outcomes, and medical utilization. *Journal of Clinical Psychiatry*, *65*(12), 5-10.

Beduna, K, & Perrone-McGovern, K. (2019). Recalled childhood bullying victimization and shame in adulthood: The influence of attachment security, self-compassion, and emotion regulation. *Traumatology, 25*(1), 21–32.

Copeland, W. E, Wolke, D., Angold, A., Costello, E. J. (2013). Adult psychiatric outcomes of bullying and being bullied by peers in childhood and adolescence. *JAMA Psychiatry, 70(4)*,419-426.

Cotter, J., Kaess, M., & Yung, A. (2015). Childhood trauma and functional disability in psychosis, bipolar disorder and borderline personality disorder: a review of the literature. *Irish Journal of Psychological Medicine, 32,* 21-30.

Cunningham, T., Hoy., K., & Shannon, C. (2016). Does childhood bullying lead to the development of psychotic symptoms? A meta-analysis and review of prospective studies. *Psychosis, 8*(1), 1-14.

Dantchev, S., Hickman, M., Heron, J., Zammit, S., & Wolke, D. (2019). The Independent and Cumulative Effects of Sibling and Peer Bullying in Childhood on Depression, Anxiety, Suicidal Ideation, and Self-Harm in Adulthood. *Frontiers in Psychiatry, 10*, 1-12.

Dantchev, S., Zammit, S., & Wolke, D. (2013). Sibling bullying in middle childhood and psychotic disorder at 18 years: a prospective cohort study. *Psychological Medicine, 48*, 2321-2328.

Espelage, D. L., & Holt, M. (2001). Bullying and victimization during early adolescence: Peer influences and psychosocial correlates. *Journal of Emotional Abuse, 2*, 123–142.

Frizzo, M. N., Bisol, L. W., & Lara, D. R. (2012). Bullying victimisation is associated with dysfunctional emotional traits and affective temperaments. J*ournal of Affective Disorders, 148*, 48-52.

Gradinger, P., Strohmeier, D., & Spiel, C. (2009). Traditional bullying and cyberbullying: Identification of risk groups for adjustment problems. *Zeitschrift für Psychologie/Journal of Psychology*, *217*(4), 205-213.

Grande, I., Goikolea, J., de Dios, C., Gonzalex-Pinto, A., Montes, J., Saiz-Ruiz, J., … Vieta, E. (2013). Occupational disability in bipolar disorder: analysis of predictors of being on severe disablement benefit. Acta Psychiatrica Scandinavica, *127*, 403-411.

Green, J.G., McLaughlin, K.A., Berglund, P., Gruber, M.J., Sampson, N.A., Zaslavsky, A.M., & Kessler, R.C. (2010). Childhood adversities and adult psychopathology in the National Comorbidity Survey Replication (NCS-R) I: Associations with first onset of DSM-IV disorders. *Archives of General Psychiatry, 62*, 113-123.

Hoetger, L. A., Hazen, K., & Brank, E. M. (2014). All in the Family: A Retrospective Study Comparing Sibling Bullying and Peer Bullying. *Journal of Family Violence, 30*(1), 103-111.

Hirschfeld, R. M. A, Williams, J. B. W., Spitzer, R. L., Calabrese, J. R., Flynn, L., Keck, P.E., … Zajecka, J. (2000). Development and validation of a screening instrument for bipolar spectrum disorder: The Mood Disorder Questionnaire. *American Journal of Psychiatry, 157*, 1873–1875.

Hirschfield, R. M. A. (2002). The Mood Disorder Questionnaire: A Simple Patient-Rated Screening Instrument for Bipolar Disorder. *The Primary Care Companion to the Journal of Clinical Psychiatry, 4*(1), 9-11.

Hirschfeld, R. M. A., Holzer, C., Calabrese, J. R., Weissman, M., Reed, M., Davies, M., … Hazard, E. (2003). Validity of the Mood Disorder Questionnaire: A General Population Study. *American Journal of Psychiatry, 160(1), 178–180.*

Hoetger, L., Hazen, K., & Brank, E. (2014). All in the Family: A Retrospective Study Comparing Sibling Bullying and Peer Bullying. *Journal of Family Violence, 30*, 103-111.

Juvonen, J., & Gross, E. F. (2008). Extending the school grounds? Bullying experiences in cyberspace. *Journal of School Health*, *78*(9), 496-505.

Kessler, R., McLaughlin, K., Green, J., Gruber, M., Sampson, N., Zaslavsky, A., . . . Williams, D. (2010). Childhood adversities and adult psychopathology in the WHO World Mental Health Surveys. *British Journal of Psychiatry, 197*, 378-385.

Kiselica, M., & Morrill-Richards, M. (2007). Sibling Maltreatment: The Forgotten Abuse. *Journal of Counselling & Development*, *85*(2), 148-160.

Löwe, B., Decker, O., Müller, S., Brähler, E., Schellberg, D., Herzog, W., & Herzberg, P. Y. (2008). Validation and Standardisation of the Generalised Anxiety Disorder Screener (GAD-7) in the General Population. *Medical Care, 46(*3), 266-274.

McLaughlin, K.A., Green, J.G., Gruber, M.J., Sampson, N.A., Zaslavsky, A., & Kessler, R.C. (2012). Childhood adversities and first onset of psychiatric disorders in a national sample of adolescents. *Archives of General Psychiatry, 69*, 1151-1160.

McLaughlin, K. (2016). Future Directions in Childhood Adversity and Psychopathology. *Journal of Clinical Child & Adolescent Psychology, 45*(3), 361-382.

Michalak, E. E., Murray, G., & Collaborative Research Team to Study Psychosocial Issues in Bipolar Disorder. (2010). Development of the QoL.BD: A Disorder-Specific Scale to Assess Quality of Life in Bipolar Disorder. *Bipolar Disorders, 12*(7), 727-740.

Michalak, E. E., Yatham, L. N., & Lam, R. W. (2005). Quality of life in bipolar disorder: A review of the literature. *Healthy Quality Life Outcomes, 3*,72-89.

Palmier-Claus, J., Berry, K., Bucci, S., Mansell, W., & Varese, F. (2016). Relationship between childhood adversity and bipolar affective disorder: systematic review and meta-analysis. The British *Journal of Psychiatry*, *209*, 454-459.

Parker, G., Fletcher, K., McGraw, S., Futeran, S., & Hong, M. (2013). Identifying antecedent and illness course variables differentiating bipolar I, bipolar II and unipolar disorders. *Journal of Affective Disorders, 148*, 202-209.

Ransone, R., Lam, C., & Wiederman, M. (2010). Being Bullied in Childhood: Correlations with Borderline Personality in Adulthood. *Comprehensive Psychiatry, 51*(5), 458-461.

Rowland, T. A., & Marwaha, S. (2018). Epidemiology and risk factors for bipolar disorder. Therapeutic Advances in Psychopharmacology, *8*(9), 251-269.

Sole, B., Jiménez, E., Torrent, C., Reinares, M., del Mar Bonnin, C., Torres, I., … Vieta, E. (2017). Cognitive Impairment in Bipolar Disorder: Treatment and Prevention Strategies. *International Journal of Neuropsychopharmacology, 20*(8), 670-680.

Sourander, A., Gyllenberg, D., Klomek, A. B., Sillanmaki, L., Illols, A. M., & Kumpulainen, K. (2016). Association of bullying behaviour at 8 years of age and use of specialised services for psychiatric disorders by 29 years of age. *JAMA Psychiatry, 73*(2), 159-165.

Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A Brief Measure for Assessing Generalised Anxiety Disorder: The GAD-7. *Archives of Internal Medicine, 166*(10), 1092-1097.

Stapinski, L. A., Bowes, L., Wolke, D., Pearson, R. M., Mahedy, L., … Araya, R. (2014). Peer victimization during adolescence and risk for anxiety disorders in adulthood: a prospective cohort study. *Depression and Anxiety, 31*(7), 574-582.

Stowkowy, J., Goldstein, B., MacQueen, G., Wang, J., Kennedy, S., … Addington, J. (2020). The Trauma in Youth At-Risk for Serious Mental illness. *Journal of Nervous and Mental Disease, 208*(1), 70-76.

Sumter, S. R., Valkenburg, P. M., Baumgartner, S. E., Peter, J., & van der Hof, S. (2015). Development and validation of the Multidimensional Offline and Online Peer Victimization Scale. *Computers in Human Behaviour, 46*, 114-122.

Takizawa, R., Maughan, B., & Arseneault, L. (2014). Adult Health Outcomes of Childhood Bullying Victimisation: Evidence from a Five-Decade Longitudinal British Birth Cohort. *The American Journal of Psychiatry, 171*, 777-784.

Thomas, H. J., Connor, J. P., & Scott, J. G. (2015). Integrating traditional bullying and cyberbullying: challenges of definition and measurement in adolescents - a review. *Educational Psychology Review, 27*(1), 135-152.

Trotta, A., Murray, R. M., David, S. A., Kolliakou, A., O'Connor, J., … Fisher, H. L. (2016). Impact of Different Childhood Adversities on 1-Year Outcomes of Psychotic Disorder in the Genetics and Psychosis Study. *Schizophrenia Bulletin, 42*(2), 464-475.

Valmaggia, L. R., Day, F. L., Kroll, J., Laing. J., Byrne. M., Fusar-Poli. P., & McGuire, P. (2015). Bullying victimization and paranoid ideation in people at ultra-high risk for psychosis. *Schizophrenia Research, 168*(1), 68-73.

van Dam, D. S., van der Ven, E., Velthorst, E., Selten, J. P., Morgan, C., & de Haan, L. (2012). Childhood Bullying and the Association with Psychosis in Non-Clinical and Clinical Samples: A Review and Meta-Analysis. *Psychological Medicine, 42*(12), 2463-2473.

Wolke, A. S., Schreier, A., Zanarini, M. C., & Winsper, C. (2012). Bullied by peers in childhood and borderline personality symptoms at 11 years of age: A prospective study. *Journal of Child Psychology and Psychiatry, 53*(8), 1-10.

Youngstrom, E. A., Murray, G., Johnson, S. L., & Findling, R. L. (2013). The 7 Up and 7 Down Inventory: A 14 item measure of manic and depressive tendencies carved from the General Behaviour Inventory. *Psychological Assessments, 25(*4), 1377-1383.

APPENDIX

(All appendices will be presented using an online survey software, Qualtrics, so may be formatted differently to as shown below.)

Appendix One

Page one – Welcome to the study

Doctorate in Clinical Psychology | Lancaster University

The role of childhood adversity in bipolar disorder

Thank you for participating in our study.

Please click the red arrow to read the Participant Information Sheet.

Appendix Two

Page two – Participant Information Sheet

Doctorate in Clinical Psychology | Lancaster University

The role of childhood adversity in bipolar disorder

Participant Information Sheet

My name is Laura Williams and I am conducting this research as a student in the Doctorate of Clinical Psychology programme at Lancaster University, Lancaster, United Kingdom.

You are being invited to take part in this research study. It involves completing an online survey that should take no longer than 20 minutes. Please read this information about the study before deciding to participate. It is important that you understand why this research is being undertaken and what it will involve. If you have any questions about the study, please contact me on l.williams19@lancaster.ac.uk.

What is the study about?

We are interested in the impact of childhood adversity on individuals with bipolar disorder in adulthood. The study will ask you questions about the type, age of onset and severity of your bipolar disorder, as well as questions on your mood, anxiety, quality of life and if you experienced any bullying (face-to-face and online) during your childhood.

Who can participate in the study?

All participants need to be aged 18 and over and have a diagnosis of bipolar disorder. Individuals should be able to understand and complete an online survey in English and have no diagnosed neurological conditions such as, Parkinson's Disease, Alzheimer's Disease or Acquired Brain Injury.

Do I have to take part?

No. It's completely up to you whether you participate. I encourage you to take time to consider whether or not you would like to take part. If you have any questions that you would like to ask before making your decision, please email me at l.williams19@lancaster.ac.uk. If you begin the survey and change your mind whilst completing the survey, due to the responses collected being anonymous, it will not be possible for the researchers to identify and remove your data from the research.

What will I be asked to do if I take part?

If you decide that you would like to take part, you will be directed to the next page, where you will be asked to give your consent to participate electronically. All participants will be asked to provide basic information about themselves, but the survey will **NOT** ask for any personal

identifiable information, such as name, date of birth or address. All participants will be provided with seven questionnaires, which should take no longer than 20 minutes to complete.

The survey will prompt you to complete any questions that you may have missed out accidentally. However, if it is fine to skip any questions which you do not feel comfortable answering.

After completing the primary survey, you will be asked whether you want to record your email address to receive a summary of the study's results. The secondary survey is not linked to the primary survey, so **NO data can be matched with an email address.**

Will my data be Identifiable?

The survey will not ask for any personal identifiable information such as, name, date of birth and address. The survey data will be anonymous. There is an option to provide an email address to receive a summary of the study's results. However, email address' are collected and stored separately, so cannot be linked to the responses provided on the questionnaires.

If you email me at l.williams19@lancaster.ac.uk to ask any questions about participating in the study, it will not be possible for me to link this correspondence to any survey responses. All email correspondence is confidential, and after you have received a satisfactory response to your query, all emails will be permanently deleted from the Lancaster University email address.

What will happen to the results?

The results will be analysed, reported and submitted as part of my training on the Doctorate in Clinical Psychology programme at Lancaster University. A presentation on the results of the study will be made to colleagues on the DClinPsy programme at Lancaster University and results may be used for similar purposes e.g. conferences. It is hoped the study will meet criteria for publication purposes. If this is achieved, a separate report of the results will be prepared for publication and submitted to academic journals. In addition, participants, forums, and charities etc. who were involved in the study and opted-in to receiving results, will be provided with a brief summary.

All data collated by the study will be securely stored electronically by the Lancaster Doctorate in Clinical Psychology for a period of 10 years in accordance with their data retention policy. The data will also be deposited in Lancaster University's institutional data repository, where it will be made freely available to researchers with relevant access and licences. Lancaster University uses Pure as the data repository which will hold, manage, preserve and provide access to datasets produced by Lancaster University research. If the research is submitted for publication purposes, supporting data will be provided in an electronic format on the journal website, with unrestricted access post-publication. The study will not share any data which could risk the participant being identified. However, any such data such as participant email addresses will have already been destroyed pre-publication and repository processes.

For further information about how Lancaster University processes personal data for research purposes and your data rights, please visit the webpage: www.lancaster.ac.uk/research/data-protection

Are there any risks?

Due to the nature of the questions asking you to reflect on any childhood bullying experiences, mood and wellbeing, there is a risk of experiencing distress for some people. As previously mentioned, you do not have to respond to any questions that make you feel uncomfortable. If you do experience any distress following participation, you can contact the resources provided at the end of this sheet and at the end of the survey, and you may also wish to speak to your GP or mental health practitioner.

Are there any benefits to taking part?

Although you may find participating interesting and benefit from contributing to research which may help others in the future, there are no direct benefits in taking part.

Who has reviewed the project?

This study has been reviewed and approved by the Faculty of Health and Medicine Research Ethics Committee at Lancaster University *(provided reference number*).

Where can I obtain further information about the study if I need it?

If you have any questions about the study, please contact me:

Laura Williams
Email: l.williams19@lancaster.ac.uk

Doctorate in Clinical Psychology
Faculty of Health and Medicine
Division of Health Research
Lancaster University
Lancaster
LA1 4YG

Or alternatively, you can contact one of the research project supervisors:

Dr Jasper Palmier-Claus
Email: j.palmier-claus@lancaster.ac.uk

Spectrum Centre for Mental Health Research
Faculty of Health and Medicine
Division of Health Research
Lancaster University
Lancaster
LA1 4YG

Dr James Kelly
Email: j.a.kelly@lancaster.ac.uk

Doctorate in Clinical Psychology
Faculty of Health and Medicine
Division of Health Research

Lancaster University
Lancaster
LA1 4YG

Complaints

If you wish to make a complaint or raise concerns about any aspect of this study and do not want to speak to a member of the research teams, you can contact:

Dr Ian Smith (Research Director)
Email: i.smith@lancaster.ac.uk
Telephone: 01524 592282

Doctorate in Clinical Psychology
Faculty of Health and Medicine
Division of Health Research
Lancaster University
Lancaster
LA1 4YG

If you wish to speak to someone outside of the Clinical Psychology Doctorate Programme, you may also contact:

Dr Laura Machin (Chair of Faculty of Health and Medicine)
Email: l.machin@lancaster.ac.uk
Telephone: 01524 594973

Faculty of Health and Medicine
Lancaster Medical School
Lancaster University

Lancaster
LA1 4YG

Thank you for taking the time to read this information sheet.
If you are happy to continue, please click on the red arrow.

Appendix Three

Page three – Emotional Support Signposting

Doctorate in Clinical Psychology | Lancaster University

Emotional Support Signposting

Should you feel distressed either as a result of taking part, or in the future, you may contact your GP or care co-ordinator, or contact the agencies I have included below for support.

The Samaritans
A 24-hour free confidential support to discuss any problems.
https://www.samaritans.org/
Telephone: 116 123

SHOUT
A free 24-hour text service for anybody struggling to cope with their mental health.
https://www.giveusashout.org/
Text: 85258

SANEline
A national out of hours helpline offering emotional support and information to individuals affected by mental health difficulties.
http://www.sane.org.uk/home
Telephone: 0300 304 7000

Kooth
An online counselling service that provides mental health support for young people up to 25 years old.
https://www.kooth.com/

Mind
Information and support for anybody struggling with their mental health.
https://www.mind.org.uk/
Telephone: **0300 123 3393**

Bipolar UK
A charity who can provide support and information specific to bipolar disorder.
https://www.bipolaruk.org/
Telephone: **0333 323 3880**

If you are happy to continue, please click on the red arrow.

Appendix Four

Page Four – Consent Form

Doctorate in Clinical Psychology | Lancaster University

The role of childhood adversity in bipolar disorder

Consent Form

We are asking if you would like to take part in a research project to help us explore the impact of childhood adversity on individuals with bipolar disorder in adulthood.

Before you consent to participating in the study, we ask that you read the Participant Information Sheet and if you agree to take part, click on the relevant link. If you have any questions or queries before signing the consent form please speak to the principal investigator: Laura Williams, Trainee Clinical Psychologist, l.williams19@lancaster.ac.uk.

1. I confirm that I have read the Participant Information Sheet and fully understand what is expected of me within this study, including the risks and benefits of participation.
2. I confirm that if applicable, I have been able to ask any questions and have them answered.
3. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected.
4. I understand that once my responses have been inputted into the survey, it will not be possible for my data to be withdrawn due to the anonymity of the survey
5. I understand that the researcher will discuss data with their supervisor as needed.
6. I understand that the information from my survey will be pooled with other participants anonymous responses and reported on. This will take the form of a written report and presentation and may include publication and conferences.
7. If I provide my email address to receive a summary of the research findings, it will remain confidential, and will be destroyed on dissemination of the results.
8. I consent to Lancaster University securely storing the data collected as part of this study for 10 years after study completion in line with their data retention policy, as detailed in the Participant Information Sheet.
9. I can confirm that I am aged 18 years or older and do not have organic brain damage.
10. I consent to take part in the above study.

By clicking on the red arrow, I agree I have read and consent to all ten statement above and wish to take part in the study.

Clicking on the red arrow will open the survey.

The survey should take no longer than 20 mins to complete.

Appendix Five

Page Five – Demographics Questionnaire

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About you

Please choose the appropriate response, or if you prefer not to answer, please check the 'prefer not to say' option.

What is your age?

……

Which gender do you most identity?

Male

Female

Transgender Male

Transgender Female

Gender non-conforming

Non-binary

What is your ethnic group? Choose one option that best describes your ethnic group or background. *(Taken from Office for National Statistics)*

WHITE - English/Welsh/Scottish/Northern Irish/British

WHITE - Irish

WHITE - Gypsy or Irish Traveller

WHITE - Other

MIXED/MULTIPLE - White and Black Caribbean

MIXED/MULTIPLE - White and Black African

MIXED/MULTIPLE - White and Asian

MIXED/MULTIPLE - Other

ASIAN/ASIAN BRITISH - Indian

ASIAN/ASIAN BRITISH - Pakistani

ASIAN/ASIAN BRITISH - Bangladeshi

ASIAN/ASIAN BRITISH - Chinese

ASIAN/ASIAN BRITISH - Other Asian

BLACK/AFRICAN/CARIBBEAN/BLACK BRITISH - African

BLACK/AFRICAN/CARIBBEAN/BLACK BRITISH - Caribbean

BLACK/AFRICAN/CARIBBEAN/BLACK BRITISH - Other

OTHER - Arab

Other

What is your highest level of education?

No formal education

High School

College

Undergraduate University

Masters

Doctorate/PHD

Other

What is your current employment status?

Full time employment

Part time employment

Unemployed – looking for work

Unemployed – not looking for work

Student

Retired

Other

Have you ever been reliant on alcohol?

Yes

No

Have you ever used drugs other than those for medical reasons?

Yes

No

If known, what is your current bipolar disorder diagnosis?

Bipolar I Disorder

Bipolar II Disorder

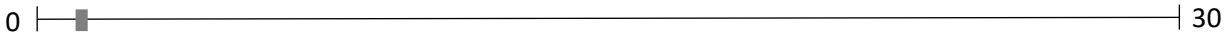
Cyclothymia

I don't know

At what age were you diagnosed with bipolar disorder?

……

Since your diagnosis, how many mental health inpatient admissions have you had?



(this question would be answered using a sliding scale, so the participant can move their slider to the appropriate number of leave on zero)

Are you currently/have you ever engaged in psychological therapy?

Yes

No

Are you currently/have you ever been prescribed medication to manage your symptoms, if yes, what were they?

No

Yes - Antipsychotics

Yes - Antidepressants

Yes - Anticonvulsants

Yes – I don't know

Please state if you have been diagnosed with any other mental health difficulty?

……

If you are happy to continue, please click on the red arrow. Or

Appendix Six

Page Six - MOOPVS

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Multidimensional Offline and Online Peer Victimization Scale (MOOPVS)

The following questions are about your past experiences with peers. We are interested in your experiences with peers and not with adults. How often did the following things happen to you between the ages of 11 and 18?

		Never (1)	Rarely (2)	Sometimes (3)	Most Days (4)	Everyday (5)
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

The Internet refers to Internet via a computer, tablet, or cell phone. The following questions are about your past experiences with peers on the Internet. We are interested in your experiences with peers and not with adults. How often did the following things happen to you between the ages of 11 and 18?

		Never (1)	**Rarely (2)**	**Sometimes (3)**	**Most Days (4)**	**Everyday (5)**
11.						
12.						
13.						
14.						
15.						
16.						
17.						
18.						
19.						
20.						

This assessment is not intended to be a diagnosis. If you are concerned about your results in any way, please speak with a qualified health professional.

If you are happy to continue, please click on the red arrow.

Beduna, K, & Perrone-McGovern, K. (2019). Recalled childhood bullying victimization and shame in adulthood: The influence of attachment security, self-compassion, and emotion regulation. *Traumatology, 25*(1), 21–32

Appendix Seven

Page Seven - SIBVS

Doctorate in Clinical Psychology | Lancaster University

Sibling Victimisation Scale

For each of the following questions, think about a normal one-month period in your childhood and indicate how the following behaviours occurred. A sibling includes any member of the family who serves in a brother or sister role including, full, half, step, adopted, or foster sibling, as long as you considered that person to be a sibling.

		Never	1 or 2 Times	3 or 4 Times	5 or 6 Times	7 or more Times
1.						
2.						
3.						
4.						

This assessment is not intended to be a diagnosis. If you are concerned about your results in any way, please speak with a qualified health professional.

If you are happy to continue, please click on the red arrow.

Hoetger, L. A., Hazen, K., & Brank, E. M. (2014). All in the Family: A Retrospective Study Comparing Sibling Bullying and Peer Bullying. *Journal of Family Violence, 30*(1), 103-111.

Appendix Eight

Page Eight – Brief QoL.BD

Doctorate in Clinical Psychology | Lancaster University

The Brief Quality of Life in Bipolar Disorder (Brief QoL.BD) Questionnaire

The following items ask about a range of experiences, behaviours, and feelings related to quality of life. Please tell us about your quality of life by rating how much you agree with each of the statements below. Circle the number that best describes your experience over the last 7 days. Do not spend too long on each item, it is your first impressions we are interested in.

Over the past 7 days, I have …		**Strongly agree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						

This assessment is not intended to be a diagnosis. If you are concerned about your results in any way, please speak with a qualified health professional.

If you are happy to continue, please click on the red arrow.

Michalak, E. E., Murray, G., & Collaborative Research Team to Study Psychosocial Issues in Bipolar Disorder. (2010). Development of the QoL.BD: A Disorder-Specific Scale to Assess Quality of Life in Bipolar Disorder. *Bipolar Disorders, 12*(7), 727-740.

Appendix Nine

Page Nine – 7 Up & 7 Down Inventory

Doctorate in Clinical Psychology | Lancaster University

7 Up 7 Down Inventory

Below are some questions about behaviours that occur in the general population. Using the scale below, select the number that best describes how often you experience these behaviours.

Item		**Never or hardly ever (0)**	**Sometimes (1)**	**Often (2)**	**Very often of almost constantly (3)**
1.					
2.					
3.					
4.					
5.					
6.					

7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

This assessment is not intended to be a diagnosis. If you are concerned about your results in any way, please speak with a qualified health professional.

If you are happy to continue, please click on the red arrow.

Youngstrom, E. A., Murray, G., Johnson, S. L., & Findling, R. L. (2013). The 7 Up and 7 Down Inventory: A 14 item measure of manic and depressive tendencies carved from the General Behaviour Inventory. *Psychological Assessments, 25(*4), 1377-1383.

Appendix Ten

Page Ten – GAD-7

Doctorate in Clinical Psychology | Lancaster University

Generalised Anxiety Disorder 7 (GAD-7)

	Over the last 2 weeks, how often have you been bothered by the following problems?	**Not at all (0)**	**Several days (1)**	**More than half the days (2)**	**Nearly every day (3)**
1.	Feeling nervous, anxious or on edge				
2.	Not being able to stop or control worrying				
3.	Worrying too much about different things				
4.	Trouble relaxing				
5.	Being so restless that it is hard to sit still				
6.	Becoming easily annoyed or irritable				
7.	Feeling afraid as if something awful might happen				

This assessment is not intended to be a diagnosis. If you are concerned about your results in any way, please speak with a qualified health professional.

If you are happy to continue, please click on the red arrow.

Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A Brief Measure for Assessing Generalised Anxiety Disorder: The GAD-7. *Archives of Internal Medicine*, *166*(10), 1092-1097.

Appendix Eleven

Page Eleven – MDQ

Doctorate in Clinical Psychology | Lancaster University

Mood Disorder Questionnaire (MDQ)

Please answer each question to the best of your ability.

	Yes	No
1.		
2.		
3.		

No Problem	Minor Problem	Moderate Problem	Serious Problem

This assessment is not intended to be a diagnosis. If you are concerned about your results in any way, please speak with a qualified health professional.

If you are happy to continue, please click on the red arrow.

Hirschfeld, R. M. A, Williams, J. B. W., Spitzer, R. L., Calabrese, J. R., Flynn, L., Keck, P.E., … Zajecka, J. (2000). Development and validation of a screening instrument for bipolar spectrum disorder: The Mood Disorder Questionnaire. *American Journal of Psychiatry, 157*, 1873–1875.

Appendix Twelve

Page Twelve – Debrief

Doctorate in Clinical Psychology | Lancaster University

Debrief Sheet

Thank you for taking the time to participate in this study.

We hope you understood all information in the survey and found responding to the questionnaires easy. Hopefully the survey did not cause you any distress, but if you do feel you would like support for your mental health now or in the future, please contact your GP or mental health practitioner, or contact the agencies I have included below for support.

The Samaritans
A 24-hour free confidential support to discuss any problems.
https://www.samaritans.org/
Telephone: 116 123

SHOUT
A free 24-hour text service for anybody struggling to cope with their mental health.
https://www.giveusashout.org/
Text: 85258

SANEline
A national out of hours helpline offering emotional support and information to individuals affected by mental health difficulties.
http://www.sane.org.uk/home
Telephone: 0300 304 7000

Kooth
An online counselling service that provides mental health support for young people up to 25 years old.
https://www.kooth.com/

Mind
Information and support for anybody struggling with their mental health.
https://www.mind.org.uk/
Telephone: **0300 123 3393**

Bipolar UK
A charity who can provide support and information specific to bipolar disorder.
https://www.bipolaruk.org/
Telephone: **0333 323 3880**

Purpose of the study:

Current research suggests being a victim of childhood adversity can have longstanding effects and contribute to adult mental health difficulties, such as depression, anxiety and self-harm. The purpose of this study is to investigate whether there is a relationship between experiencing childhood bullying and developing bipolar disorder. The study's definition of bullying covers traditional bullying (face-to-face), cyberbullying and sibling bullying. The study will explore whether the frequency and type of childhood bullying impacts the age of onset and other clinical outcomes, such as mood and anxiety. We are interested to explore whether childhood bullying significantly affects an individual's quality of life when diagnosed with bipolar disorder.

How will the data be collected and analysed?

As detailed in the participant information sheet, all data will be collated using Qualtrics, the survey software. Results will be analysed using a statistical computer software and will then be reported and submitted as part of my training on the Doctorate in Clinical Psychology programme at Lancaster University. A presentation on the results of the study will be made to colleagues on the DClinPsy programme at Lancaster University and results may be used for similar purposes e.g. conferences. It is hoped the study will meet criteria for publication purposes. If this is achieved, a separate report of the results will be prepared for publication and submitted to academic journals. In addition, participants, forums, and charities etc. who were involved in the study and opted-in to receiving results, will be provided with a brief summary.

How will the data be stored?

All data collated by the study will be securely stored electronically by the Lancaster Doctorate in Clinical Psychology for a period of 10 years in accordance with their data retention policy. The data will also be deposited in Lancaster University's institutional data repository, where it will be made freely available to researchers with relevant access and licences. Lancaster University uses Pure as the data repository which will hold, manage, preserve and provide access to datasets produced by Lancaster University research. If the research is submitted for publication purposes, supporting data will be provided in an electronic format on the journal website, with unrestricted access post-publication. The study will not share any data which could risk the participant being identified. However, any such data such as participant email addresses will have already been destroyed pre-publication and repository processes.

For further information about how Lancaster University processes personal data for research purposes and your data rights, please visit the webpage: www.lancaster.ac.uk/research/data-protection.

If you would like to opt-in to receive a summary of the study's results, please click on the link below which will direct you to a secondary survey, which will ensure your survey responses and email address are not linked.

Secondary qualtrics survey link

Please click on the red arrow to close the survey

Appendix Thirteen

Secondary Survey – Thank You & Opt-in for results summary

Doctorate in Clinical Psychology | Lancaster University

The role of childhood adversity in bipolar disorder

Thank you for taking the time to participate in the study.

Would you like a summary of the study's results?

Yes

No

If you selected yes, please type your email address in the box below. Please note, your email address **CANNOT** be linked to your previous survey responses. It will be securely stored separately, and permanently deleted on dissemination of the study's results.

……
……

If you are happy to close the survey, please click on the red arrow.

Appendix Fourteen

Electronic Study Advert

Doctorate in Clinical Psychology | Lancaster University

The role of childhood adversity in bipolar disorder

Hi! My name is Laura Williams and I am a Trainee Clinical Psychologist at Lancaster University.

I am inviting English speaking individuals aged 18 and above, **with** a diagnosis of bipolar disorder to take part in my research.

We are interested in exploring the impact of childhood adversity on individuals with bipolar disorder in adulthood. By better understanding the relationship, we may be able to improve the support for individuals with bipolar disorder.

Taking part involves completing an online survey and should take **no longer than 20 minutes**.

You can find out more information and the survey by clicking on the link below.

(Qualtrics survey link)

If you would like to ask any questions, please get in touch:

Laura Williams

l.williams19@lancaster.ac.uk

Thank you for your time.