Doctoral Thesis

Submitted in partial fulfilment of the Lancaster University Doctorate in Clinical Psychology

A Sense of Belonging: Childhood Abuse, Intolerance of Uncertainty and Bipolar Disorder

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Doctorate in Clinical Psychology

December 2021

Word Count Statement

	Main Text	Appendices, references, tables and figures	Total
Thesis abstract	241	-	241
Literature review	8173	7708	15881
Empirical research paper	7097	10796	17893
Critical appraisal	4722	1683	6405
Ethics documentation	4907	4750	9657
Total	25140	24937	50077

Abstract

This thesis is comprised of a systematic literature review, an empirical research project and a critical appraisal.

The systematic literature review offers a narrative synthesis of the published evidence regarding a relationship between childhood abuse and one's sense of belonging/social connectedness, in the context of Joiner's Interpersonal Psychological Theory of Suicide. A total of 13 papers were included in this review and findings suggest that experiencing childhood abuse and a reduced sense of belonging/social connectedness are associated. The literature review also offers an evaluation of the current measures used in childhood abuse/belongingness studies. As a result, recommendations are made as to the feasibility, acceptability and reliability of measures used in future research.

The empirical research paper explores the relationship between intolerance of uncertainty and thwarted belongingness in individuals who self-report a BD diagnosis. Data was collected from 169 participants using an online survey in regards to demographic and clinical information, current depressive/(hypo)manic symptoms, belonging, intolerance of uncertainty and stigma. Using a linear regression analysis, findings showed that intolerance of uncertainty (alongside experiencing a current mood episode) was significantly associated with thwarted belongingness. Considering these findings, it is possible that existing, evidence-based interventions for intolerance of uncertainty can be used to tackle feelings of thwarted belongingness in clinical practice.

The critical appraisal explores the findings of the previous two sections in the context of attachment and offers a critique of the current use of psychiatric diagnosis to lead clinical and research developments.

Declaration

This thesis has been undertaken as part of the Doctorate in Clinical Psychology, within the Division of Health Research at Lancaster University. The work presented in this thesis is the author's own, except otherwise referenced. This work has not been submitted elsewhere for the award of another degree or academic award.

Acknowledgments

I would first like to express gratitude towards all those who took part in the study, without your time and effort this thesis would not have been possible. I would like to thank my research supervisors for their ongoing support throughout the project; Guillermo for your patience, humour and enthusiasm and Graeme for your thoughtful and thorough feedback.

To Sara, Sharon, Caela and Ruth, for keeping me grounded and reminding me of what truly matters in trying times. I’m very lucky to have you all.

To Deryn, for your kindness and compassion, thank you for riding the ups and downs with me.

Finally I would like to thank my parents, for your unwavering guidance and support, not only during this process, but in everything I do.

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Doctorate in Clinical Psychology

December 2021

Word Count

Word count for text: 8,173

Word count for tables, figures, references and appendices: 7,708

Total word count: 15,881

Abstract

Background

Childhood abuse is a risk factor for suicide but the mechanisms by which this occurs are not well understood. The Interpersonal-Psychological Theory of Suicide provides a theoretical framework to understand this process, telling us that feelings of thwarted belonging may mediate the relationship between childhood abuse and suicidality. This review aimed to examine the current evidence for an existing relationship between abuse in childhood and sense of belonging later in life. An existing relationship between these two variables could inform our understanding of the psychological processes contributing to suicide risk among people who have experienced childhood abuse.

Method

Thirteen quantitative articles were identified by searching the following databases: CINAHL, Embase, Medline Complete, PsycINFO, Scopus and Web of Science. Findings have been synthesised into a narrative review.

Results

Of the 13 studies reviewed, 11 found that thwarted belongingness, low sense of belonging or reduced social connectedness was associated with having experienced childhood abuse. Four of these studies also found evidence that one's sense of belonging mediates the relationship between childhood abuse and negative psychosocial outcomes (e.g. suicidal ideation, risky alcohol use and psychological distress).

Conclusions

Childhood abuse appears to be related to sense of belonging, in that exposure to abuse as a child is associated with reduced (or thwarted) sense of belonging. Low sense of (or thwarted)

belonging also appears to contribute to further negative outcomes for individuals, including suicide.

Further research is required to understand the impact of culture, race, ethnicity or gender on the relationship between childhood abuse and one's sense of belonging, as the outcome of this review suggests these factors may also be relevant. Furthermore, it is particularly important to further investigate other forms of childhood adversity (e.g. poverty or household challenges) aside from child abuse, as it is thought that children who experience abuse are particularly vulnerable to other forms of adversity and that cumulative adverse or abuse experiences can have serious negative outcomes for such individuals.

A Systematic Review of the Relationship between Childhood Abuse and Belonging or Social Connectedness as a Contributing Factor to Suicide Risk

Childhood abuse has been defined as "words or overt actions that cause harm, potential harm, or threat of harm to a child" (Leeb, Paulozzi, Melanson, Simon, & Arias, 2008, p. 11) and can generally be categorised as acts of commission (physical, sexual or emotional abuse) or acts of omission (neglect) (Leeb, Paulozzi, Melanson, Simon, & Arias, 2008). Childhood abuse is a major health concern (Puzia, Kraines, Liu & Kleiman, 2014). According to The Office for National Statistics (2020), 20% of adults in the United Kingdom aged 18 to 74 have experienced at least one form of abuse before the age of 16.

Childhood abuse is thought to be a risk factor for several, negative outcomes across a range of areas in a person's life. A systematic review by Hughes et al. (2017) found that adverse childhood experiences (including childhood abuse) are associated with risky or heavy alcohol use, smoking, poor perception of own health, cancer, respiratory and cardiac diseases, obesity or physical inactivity, sexual risk taking, drug use, violence (towards both self and others) and poor mental health. In terms of mental health, victims of childhood abuse often report difficulties with anxiety, low mood, trauma responses, paranoia, hostility, cognitive distortion and physical symptoms associated with emotional distress, as well as having an increased likelihood of receiving a psychiatric diagnosis (including post-traumatic stress disorder, personality and mood disorders) (Leeb, Lewis & Zolotor, 2011).

Possibly of most concern is the association between childhood abuse and suicide. As suicide is one of the leading causes of death worldwide, with one out of every 100 deaths being completed suicide (World Health Organisation, 2021), understanding the association between childhood abuse and suicide and the mechanisms behind this is of huge importance. Studies have shown that childhood abuse can lead to increased suicide risk (Briere, Madni, &

Godbout, 2016; Norman et al., 2012), however there is currently limited understanding of the underlying processes behind this association (Puzia et al., 2014) which require further exploration. Experimental or cross-sectional studies are unable to ascertain causality and so cannot provide a definitive answer as to whether childhood abuse causes suicidal ideation or behaviour. Although there does appear to be a temporal sequence, in that child abuse tends to occur before suicidal behaviour, with suicidal behaviour often happening much later in life (Angelakis, Austin & Gooding, 2020). Furthermore, when examining the relationship between childhood psychological abuse and depression/suicidal behaviour in later life, Bifulco et al. (2002) found a dose-response effect in regards to the severity of abuse (i.e. number of occurrences) and the prevalence of both depression and suicidal behaviour. Further supporting the idea that there could be a causal relationship between childhood abuse and suicidality.

Recently, The Interpersonal Psychological Theory of Suicidal Behaviour (IPTS) (Van Orden et al., 2010) has been considered as a theoretical framework in research to understand how abuse in childhood might lead to suicidal behaviours later in life. The IPTS posits that for an individual to complete lethal (or near-lethal) suicide, there must be both a desire and ability to do so (Van Orden et al., 2010). In this model, the *ability* to complete suicide is referred to as acquired capability for suicide (ACS). ACS is thought to result from repeated painful or frightening experiences, resulting in a high tolerance for pain. For example, previous suicide attempts, self-harm and experiences of violence, can lead to an acquired capability to inflict pain upon oneself and an increased tolerance for fear. A person's *desire* for suicide is thought to come from experiencing two painful, interpersonal, psychological states, known as perceived burdensomeness (PB) and thwarted belongingness (TB). PB is the belief that one's existence is a burden to those around them, or to society generally, whilst TB refers to feeling that one is alienated from valued social groups.

The IPTS suggests that childhood trauma could be a risk factor for suicide (Van Orden et al., 2010). If we consider the implicit messages given by the perpetrator of the abuse to the victim (or indeed explicit in the case of emotional abuse), childhood abuse could lead to feelings of PB and TB and so provide a mechanism for the link between childhood abuse and suicide (Joiner, 2005). Furthermore, Smith and Cukrowicz (2010) have suggested that the pain and fear associated with child abuse can in itself lead to ACS, again contributing to risk of completed suicide. Joiner (2005) tells us that more severe forms of abuse (i.e. physical or sexual abuse) are assumed to be more painful and so are associated with the highest risk of suicide due to the way it can lead to habituation to pain (and increase ACS), and that emotional abuse or neglect are less life threatening (but not necessarily less harmful). That said, we should acknowledge this assumption that some categories of abuse are more severe than others. Although there is evidence to support the idea that severity of abuse is related to the severity of negative outcomes (Bifulco et al., 2002; Kirisci et al., 2001; Trickett et al., 1997), in these cases severity was defined not by the type of abuse experienced, but by frequency, duration, acts of force or relationship to the abuser (Clemmons et al., 2007). Furthermore, Higgins (2004) found that when looking at the impact of child abuse on psychosocial adjustment, abuse it better classified by degree (i.e. frequency), as opposed to type, which contradicts Joiner's assumptions that some categories of abuse are intrinsically more severe.

The IPTS was chosen as the preferred theoretical model for this review, as it provides us with a contextual framework to explain the complex processes contributing to suicide, which is particularly relevant to a subgroup of individuals who have experienced abuse, in line with evidence that a person's early experiences of adversity are a significant risk factor for suicide (Turecki et al., 2012). Other models, such as The Cognitive Behavioural Model of Suicidality (Rudd, 2000) which focusses more on the impact of mental health diagnosis, or The Stress-Diathesis model (Mann, Waternaux, Haas and Malone, 1999) which champions genetic predispositions as a primary risk factor, have less focus on contextual factors and transdiagnostic processes and are therefore less applicable to the population and focus of this review. Also, there is a good amount of research supporting the IPTS model, in particular the negative impact of childhood abuse on all three IPTS constructs; acquired capability for suicide, perceived burdensomeness and thwarted belongingness (Brausch & Holaday, 2014; Puzia, Kraines, Liu & Kleiman, 2014; Twomey, Kaslow & Croft, 2000).

Belonging and Social Connectedness

Thwarted belongingness, one of the three IPTS constructs, is of particular interest because the impact of childhood abuse on belonging has been researched elsewhere, not only in regards to the IPTS model. The review will therefore consider studies examining thwarted belonging, as well as a *sense of* belonging or social connectedness in relation to child abuse. Sense of belonging has been included as, similar to TB, a sense of belonging is the perception that one is an integral or valued member of a system. Social connectedness has been included as it is defined as subjective awareness of interpersonal closeness with the social world as a whole and is a core element of one's sense of belonging (Lee & Robbins, 1995).

Belonging or social connectedness also appear to be related to suicide. A systematic review by Hatcher and Stubbersfield (2013) found that a low sense of belonging was associated with suicidality. Research has also found evidence to suggest social connectedness is a protective factor against suicidality (Czyz, Liu & King, 2012; Stone, Luo, Lippy & McIntosh, 2015), which suggests that there is an association between the two.

Although limited, there is also evidence showing that low social connectedness is a risk factor for suicide (Arango, Opperman, Gipson, & King, 2016). It is also important to note for this review that it is thought current research does not adequately measure the phenomenon of belongingness (Lee & Robbins, 1995) and has been suggested that this may be a result of an inconclusive understanding of factors which contribute to one's sense of belonging, for example attachment, loneliness or tangible social support (Newcombe, 1990).

There are gaps in our current understanding of the processes through which childhood abuse is associated with suicide risk. As discussed in this introduction, it may be that child abuse negatively impacts one's sense of belonging and that in turn, reduced or thwarted belonging can lead to suicidal ideation (Joiner, 2005), yet there is limited evidence supporting this.

In order to fill this gap in our knowledge, this review aims to synthesise the existing evidence for an association between childhood abuse and a reduced sense of belonging in later life, in the context of The Interpersonal Psychological Theory of Suicidal Behaviour (IPTS) (Van Orden et al., 2010). Published, quantitative studies, reporting a statistical relationship between child abuse and belonging will be narratively reviewed and results discussed. The author hypothesises that victims of childhood abuse will report lower sense of belonging/social connectedness, compared to individuals who have not experienced childhood abuse. Although the review uses the IPTS as a theoretical model to inform the research, this review does not examine the role of suicidality. By focussing specifically on the relationship between abuse and belonging, we are able to provide a broad scope of this relationship, not only in the context of suicide, but in a more general sense. This decision also allows the inclusion of all papers examining this relationship, not only those referring to suicidality, which again provides a broader view of the available evidence and could provide more generalisable findings.

In an attempt to address concerns regarding whether research appropriately measures belonging as a phenomenon, a secondary aim of this review is to present information on the instruments which are frequently used to measure belongingness, social connectedness and child abuse. Instruments used in the field will be reviewed and discussed in relation to item content, face validity and internal consistency as well as acceptability and feasibility for use in research practice, in an attempt to make conclusions about the usefulness of these measures when conducting research into belongingness, social connectedness and childhood abuse.

Method

This systematic review was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Liberati et al., 2009), as recommended for systematic reviews in clinical psychology by Perestelo-Pérez (2013). As this is the first review of its kind and due to the limited amount of available data, as recommended in Cochrane Guidelines (McKenzie & Brennan, 2021), a narrative synthesis was used. A narrative review was also deemed to be appropriate in this case, as many of the reviewed studies provided multivariate regression data from models with disparate sets of designs, covariates and instruments, which limit the use of standard meta-analysis. To address the possibility for bias in a narrative synthesis of existing evidence, written guidance by Popay et al. (2006) was used (e.g. the use of a critical appraisal tool to assess robustness of methodology).

Search Strategy

The search strategy for this review was developed in consultation with a specialist librarian at Lancaster University. Papers were identified by searching the following databases; CINAHL, Embase, Medline Complete, PsycINFO, Scopus and Web of Science.

Due to this review being the first in its area, no date limits were applied to searches. Search terms included free text and, where applicable, subject headings. Terms were searched for in titles, abstracts and keywords of articles. Terms relating to the same concept were combined using the Boolean operator OR and these groups were then combined with AND (see Table 1 for search terms). Truncation and proximity operators were also used to refine the search strategy. Following the identification of papers a review of reference lists was completed to identify any further relevant articles.

Inclusion and Exclusion Criteria

Studies were included for review if they met the following criteria; quantitative methodology, full text available in English, peer reviewed and reporting a statistical relationship between childhood abuse and belonging and/or social connectedness, regardless of the final role assigned to belonging/social connectedness; whether that be predictor, mediator, moderator or outcome. Social connectedness was included alongside belonging as a sense of belonging is thought to be a core element of social connectedness (Frieling et al., 2018).

Papers were excluded if they met the following criteria; qualitative methodology, unpublished literature (articles, theses/dissertations) or where the full text was unavailable in English. Studies were excluded if they focussed on social support (rather than connectedness), as this is considered to refer to tangible resources provided by others to help one achieve an objective (Dovidio et al., 2006) rather than a psychological sense of belonging. Furthermore, studies measuring connectedness to specific social groups (e.g. school, family or racial identity) were also excluded from the review, as they focus on the quality of particular relationships, rather than a general sense of belonging.

Data Extraction and Quality Assessment

To create the data extraction form (see Appendix 1-A), work by Booth et al. (2016) was taken as a reference and adaptations were made to ensure all necessary data could be captured (e.g. sample characteristics, methodology, findings). The data extraction form was also used to capture instruments used to measure childhood abuse and belonging/social connectedness, to address the secondary aim of this review. The form was initially piloted against three studies and no issues were identified. Data gathered using this form was then summarised and clustered by statistical criteria (see Table 3) as according to the 'hourglass model' (Swales, 1990).

The Quality Assessment Tool for Studies with Diverse Designs (QATSDD) (Sirriyeh et al., 2012) (see Table 2) was used to assess the quality of each study. This is 16-item tool, 14 of which relate to quantitative studies, providing an overall score ranging from 0-42. The QATSDD can be used to assess a diverse range of studies and has been shown to have good validity and reliability for the assessment of study quality. Each item was scored between 0-3 by the reviewer, overall scores were converted to percentages to enable comparison. The percentages were then used to classify the quality of reviewed papers as low (<50%), medium (50-80%) or high (>80%). Two papers identified for review were assessed by a blind, independent rater, as well as the author of this review, any discrepancies in scoring were discussed, clarified and a final rating agreed upon. If a consensus could not be reached, although not the case in this review, a third independent rater would be asked to assess the paper and the majority rating would be used.

Results

The literature search process is outlined diagrammatically in Figure 1. Initial identification of papers involved electronic database searching, which identified 1239 articles. These were then screened for duplicates, of which there were 711. Following the removal of duplicates, the remaining 528 papers were then screened using title and abstract, at this stage 437 were excluded. The remaining 91 articles were read in full to determine their eligibility for review, resulting in the exclusion of a further 79 articles. One further paper was identified for inclusion from review of the reference lists of the final 12 articles, therefore 13 papers were included in the final review.

The purpose of this review was to narratively synthesise the evidence for a relationship between childhood abuse and belongingness/social connectedness. Key information from reviewed papers is summarised in Table 3.

Study and Sample Characteristics

The 13 studies were published between 2001 and 2020. Eleven of these employed a cross-sectional design, while two (Puzia, Kraines, Liu & Kleiman, 2014; Spínola, Campos, Marques & Holden, 2020) instead used (two-wave) longitudinal designs. The majority of the studies were conducted in the USA (n=9), as well as Germany (n=1), Canada (n=1), Australia (n=1) and Portugal (n=1).

The total sample from all studies was 11,779, with individual sample sizes ranging from 59 to 8,806. Studies included both clinical (n=6) and non-clinical (n=7) populations. Mean age of participants ranged from 15.51 to 46.6. Not all studies reported data about ethnicity within their sample. Of those that did, all but one reported predominantly

Caucasian participants (ranging from 54-96%). One study (Allbaugh et al., 2017) employed a sample entirely of African-American women.

Data Collection Instruments

The studies in the review employed a range of instruments to measure childhood abuse and belonging or social connectedness, details of which can be found in Table 4.

Among the reviewed papers, seven different instruments were used to evaluate belonging/social connectedness, with the INQ-15 (Van Orden et al., 2012) being used most frequently (i.e. in four of the 13 papers). All instruments used to measure belonging/social connectedness were self-report measures. In regards to internal consistency, other than Zhornitsky et al. (2020), all studies reported Cronbach's alpha for the measures used and these ranged from poor (α=.54 in Allbaugh et al., 2017) to excellent (α=.94 in Prior & Quinn, 2010), with the majority of the papers (77%) reporting a Cronbach's alpha rating of good or excellent. The number of items relating to belonging/social connectedness within the instruments ranged from 7-17.

In terms of childhood abuse measures, seven different instruments were used. The most frequently used instrument to collect data on childhood abuse was the CTQ (Bernstein, Fink, Handelsman & Foote, 1998), which was used in 6 of the 13 papers. All but one of the measures were self-report, with Seeds et al. (2010) using a semi-structured contextual interview and a standardised rating scale. In regards to internal consistency, only six papers reported Cronbach's alpha for the measures. Of those that did, Cronbach's alpha ranged from acceptable (α=.72 in Schönfelder et al., 2019) to excellent (α=.96 in Smith et al., 2018). The number of items relating to childhood abuse within the instruments used ranged from 1-28.

Quality Assessment

In regards to the quality of the reviewed studies, as according to the QATSDD critical appraisal tool (Sirriyeh et al., 2012), three reviewed studies were classified as high quality (Corrales et al., 2016; Prior & Quinn, 2010; Rew et al., 2001a), while the remaining 10 studies were classified as medium quality. The mean quality score for all papers was 74% (ranging from 62-81%). Studies generally scored well on QATSDD items relating to a statement of aims/objectives, assessment of the reliability and validity of measurement instruments and the fit between the research question and data collection/analysis. Studies generally performed poorly on items relating to evidence of service-user involvement in study design and evidence of sample size having been considered in terms of analysis. Further details on the individual ratings of each paper are presented in Table 2.

Key Findings

The purpose of this section is to present the key statistical findings from the reviewed papers, all results should be interpreted in the context of sample characteristics.

Correlations between childhood abuse and sense of belonging/social connectedness. Of the 10 studies which reported a correlation between childhood abuse and belonging or social connectedness, all but one (Allbaugh et al., 2017) found a significant relationship between the two variables. Due to differences across measures in the way belonging is defined and scored, some correlations are reported as positive (i.e. as experiences of child abuse increase, so do feelings of thwarted or low belonging). However, even in these cases, the general trend is that child abuse and sense of belonging are negatively correlated.

Bryan et al. (2013) found that physical and/or sexual abuse (combined as one variable) in childhood were negatively associated with a sense of belonging in military personnel ($r = -.14$, $p < .05$), while Torgerson et al. (2018) found childhood trauma was negatively correlated with a sense of belonging in females ($r = -.18$, $p < .01$) but not males.

Four studies found positive associations between different types of childhood abuse and thwarted belongingness. Puzia et al. (2014) reported an association between thwarted belongingness and childhood emotional ($r = .304$, $p < .01$) and physical abuse ($r = .160$, $p < .05$), but not sexual abuse. Schönfelder et al. (2019) found childhood emotional abuse was associated with thwarted belongingness ($r = .31$, $p < .01$), but neither childhood physical nor sexual abuse were found to be correlated with thwarted belongingness. Smith et al. (2018) however, found that all three types of childhood abuse; physical ($r = .46$, $p < .001$), emotional ($r = .69$, $p < .001$) and sexual ($r = .34$, $p < .01$), were all associated with thwarted belongingness. Spínola et al. (2020) found a positive association between childhood trauma and thwarted belongingness, at both Time 1 ($r = .52$, $p < .001$) and Time 2 ($r = .43$, $p < .001$). Corrales et al. (2016) found that childhood adversity was positively associated with a low sense of belonging ($r = .26$, $p < .01$).

Looking at social connectedness, a similar pattern was found in that types of childhood abuse appear to be associated with feelings of social connectedness. Prior and Quinn (2010) found that emotional neglect was negatively associated with social connectedness ($r = -.284$, $p < .05$) and that the relationship between these two variables was significant ($\chi^2 = 14.02$, $p < .05$, $df = 3$). Rew et al. (2001b) found that social connectedness was negatively associated with childhood physical ($r = -.223$, $p < .01$) and sexual abuse ($r = -.125$, $p < .01$).

Allbaugh et al.'s (2017) study is the only reviewed paper not to find a significant correlation between measures of child abuse and belonging. This study found no correlation between thwarted belonging and physical, sexual or emotional abuse in African-American women who reported both a suicide attempt and exposure to intimate partner violence in the last year.

Comparison of means. Rew et al. (2001a) carried out t-tests for within-group differences in sexual abuse. They found that social connectedness was not significantly different for those who had experienced sexual abuse to participants who had not. Interestingly, those who had experienced sexual abuse did report significantly higher loneliness scores.

Regression analyses. Zhornitsky et al. (2020) used stepwise regression which included childhood abuse, sociodemographic characteristics, cocaine use, personality traits, depression and self-esteem as predictors and found that when male and females participants were combined, both childhood emotional ($\beta = .63$, $t = 2.90$, $p < .01$) and sexual abuse ($\beta = .34$, $t = 2.03$, $p < .05$) both predicted thwarted belongingness. Meaning that greater childhood abuse predicted increased thwarted belongingness. However, when split by biological sex, emotional abuse predicted thwarted belongingness in male ($\beta = 1.10$, $t = 5.22$, $p < .0001$), but not females participants. Interestingly, when split by sex, childhood sexual abuse did not predict thwarted belongingness for males or females.

Belonging as a mediator. Of the 13 studies selected for review, eight carried out mediational analysis of data. Seven of these studies examined belonging as a mediator between childhood abuse as a predictor and various outcomes.

Corrales et al. (2016) examined whether low sense of belonging mediated the relationship between childhood adversity and several outcomes; psychological distress, educational engagement and early parenthood. They found that childhood adversity had a direct effect on low sense of belonging and that low sense of belonging mediated the effect of childhood adversity on psychological distress (*β*= .08, *p*< .001, BCa CI [0.03,0.14]) and educational engagement (*β*= .01, *p*< .001, BCa CI [0.00, 0.03]), but not early parenthood.

Puzia et al. (2014) examined whether thwarted belongingness mediated the relationship between different types of childhood abuse (emotional, physical or sexual) and suicidal ideation. Childhood emotional abuse was the only type of abuse found to have a direct effect on thwarted belongingness in this model (*β*= .072, *p*<.001, *r*= .265), however as thwarted belongingness was not found to predict suicidal ideation, it was not considered a mediator.

Schönfelder et al. (2019) examined whether thwarted belongingness mediated the relationship between emotional, physical or sexual abuse and suicidal ideation. In line with the results of the correlational analysis, childhood emotional abuse was found to have a direct effect on thwarted belongingness (*β*= .257, *p*< .01), however no indirect effect of emotional abuse on suicidal ideation via belongingness was found. Childhood sexual or physical abuse were not found to have a direct effect on thwarted belongingness, nor were they found to have an indirect effect on suicidal ideation via thwarted belongingness.

Spínola et al. (2020) examined whether thwarted belongingness mediated the relationship between childhood trauma and suicidal ideation. At Time 2 they found that childhood trauma had a direct effect on thwarted belongingness (*β*= .195, CI [0.099, 0.291], *p*< .01) and results suggested that thwarted belongingness mediated the effect of childhood trauma on changes in positive suicidal ideation.

Seeds et al. (2010) examined whether belonging mediated the relationship between father- or mother-perpetrated maltreatment and the outcome of depression. Results showed that father-perpetrated maltreatment had a direct effect on belonging (*β*= -.22, *p*< .05) and that belonging mediated the effect of father-perpetrated maltreatment on depression (β= .11, p< .01, CI [.04, .21]). Mother-perpetrated maltreatment had no significant effect on belonging.

Torgerson et al. (2018) examined whether belonging (and/or adult mental health) mediated the relationship between childhood trauma and the outcome of risky alcohol use. When male and female participants were combined, childhood trauma was found to have a direct effect on belonging (β= -.05, p< .001). Belonging and adult mental health were also found to mediate the effect of childhood trauma on risky alcohol use (β= .04, p< .05).

Allbaugh et al.'s results do not reflect the findings of the studies outlined so far in this section. In their mediational analysis, thwarted belongingness was examined as a mediator for the relationship between types of abuse as predictors and suicide resilience as an outcome. Analysis was conducted for five categories of childhood abuse; physical, sexual, emotional, cumulative and cumulative-severe. None of these were found to have a direct effect on thwarted belongingness and therefore thwarted belongingness was not considered a mediator.

Finally, Smith et al. (2018) examined thwarted belongingness as an outcome, rather than a mediator, to establish whether the relationship between the predictor of childhood emotional abuse as the predictor and thwarted belonging, was mediated by depressive symptoms. Childhood emotional abuse was found to have a direct effect on thwarted belongingness (β= .21, p< .001), and an indirect effect, mediated by depressive symptoms (β= .08, p< .05, CI [0.07,0.19]). However, neither physical nor emotional abuse were found to have a direct or indirect effect on thwarted belongingness.

Review of Data Collection Instruments

Measures of Belonging and Social Connectedness

Reviewing the belongingness measures and their item content where available, they do appear to be relatively consistent in the questions that are asked, particularly focussing on the perception of being valued and cared for within a social group, rather than simply being a part of said group. Similarly, the Social Connectedness Scale items ask about the sense of belonging or connection, rather than the type or level of social connection available to the individual. As belongingness is a personal phenomenon, this seems the most appropriate way to measure it and these instruments appear to capture the subjective nature of belongingness.

Internal Consistency. Other than Zhornitsky et al. (2020), all studies reported Cronbach's alpha, the majority ranging from good to excellent for belonging/social connectedness measures. Allbaugh et al. (2017), found that the INQ-25 belonging subscale had poor internal consistency (α= .54) in their sample of African-American women, which raises concerns about how appropriate this instrument is for measuring belonging in their population. The authors note in this study that when the two INQ-25 subscales (i.e. thwarted belonging and perceived burdensomeness) are considered together, Cronbach's alpha increased to .63. In line with Allbaugh's suggestions, the author of this review recommends that the use of the INQ-25 to measure belonging in this population is further investigated to better understand how to best capture their experience of thwarted belonging.

Feasibility and Acceptability. Next we should consider the feasibility of the belongingness and social connectedness measures, for use in future research. It is thought that in order to maximise responses to psychometric measures, brevity is a key factor which must be considered, hence to frequent use of short-form versions of psychometric instruments. Most instruments used to measure belonging or social connectedness in this review are relatively short, suggesting that it would be feasible to use them in research, as they take little time to complete. However, the MAHS (used by Rew et al., 2001b) contained

225 items in total, with nine items assessing social connectedness. It is possible that the length of this instrument makes it less appropriate for use in future research, as a lengthy completion process could result in missing responses, reduced concentration or reduced motivation to complete the measure.

On reviewing these measures and examples of their individual items (where published), the language used is accessible and items appear to be clear in what they are asking participants. In the case of MAHS (Blum et al., 1989), very little information was provided about the content of the instrument, both in Rew et al. (2001b) and in other published literature, so it is not possible to ascertain the acceptability of the instrument in regards to the items used to measure social connectedness. Furthermore, there was limited information provided in the reviewed studies regarding missing responses, which again makes it difficult to comment on ease of use or acceptability of these instruments.

Measures of Childhood Abuse

In terms of childhood abuse measures, it is important to note that some instruments were designed to measure trauma or adversity, not limited to child abuse. For example, the TESI-A, used by Torgerson et al. (2018) covers physical, emotional, and sexual abuse, but also other potentially traumatic events such as severe accidents, illness and separation from caregiver. Similarly, the CDQ (Corrales et al., 2016) focuses on adversity, which includes experiences of abuse, but also factors thought to contribute to adversity such as family disruption, parental drug and alcohol misuse or exposure to violence. Because of this, results should be interpreted with caution, at it is possible that participants scored highly on other areas of adversity, but not have experienced abuse. The reviewer recommends that future research into childhood abuse employ instruments which measure abuse only, to gain a clearer picture of its impact.

Feasibility and Acceptability. Similarly to the belonging/social connectedness measures, instruments used to measure child abuse in this review are relatively short. Aside from the MAHS (as previously discussed), the instrument requiring the highest number of responses had 28 items, suggesting that these measures are appropriate for use in research in terms of their feasibility.

The reviewed instruments for childhood abuse vary in the way they ask about abuse. The Childhood Trauma Questionnaire (CTQ) (Bernstein, Fink, Handelsman & Foote, 1998) and its short-form version, The Childhood Trauma Screener (Grabe et al., 2012) use Likert scales to measure the degree to which someone agrees with each individual item (e.g. ‘‘I thought that my parents wished I'd never been born”). The remainder of the self-report measures used in the reviewed studies simply invited participants to indicate whether or not they have experienced abuse (or certain types of abuse). The use of dichotomous questions can result in an instrument which is short and simple for participants to use (Allen, 2017), suggesting good feasibility. However, it does raise concerns about the usability of the instruments, as reduced responding options could limit how accurately participants responses are able to reflect their experiences, which could not only lead to participant frustration, but also compromised results.

Method of Data Collection. Finally, the reviewed studies relied heavily on self-report measures, with only one study (Seeds et al., 2010) employing independent raters to categorise participants' abuse experiences. It is thought that self-report measures of abuse are better able to capture the reality of the prevalence of abuse than official reports (Gilbert et al., 2009) and so this seems an appropriate form of data collection. However, according to Widom and Morris (1997) self-report measures may still underestimate the rates of abuse due to difficulties with forgetting, denial, misunderstanding or embarrassment leading to under-reporting, particularly in relation to sexual abuse. This highlights the complex nature of researching childhood abuse and should be taken into account when interpreting outcomes.

Discussion

The primary aim of this review was to synthesise the evidence regarding the relationship between childhood abuse and belongingness/social connectedness. The findings suggest that such a relationship does exist and are aligned with our hypotheses. The review of available data highlights areas for further discussion and will be organised here into three sections. Firstly, an interpretation of the findings and emerging patterns of this review in relation to its primary aim. Secondly, reflections and discussion on the use of varying data collection instruments and finally, an evaluation of this review and its implications will be presented.

When interpreting the findings of this review, it is important to consider the quality of the papers included. None of the papers reviewed in the study were classified as being of very low quality (i.e. a score of less than 50% indicates low quality according to the QATSDD tool). If this had been the case and any papers to be reviewed were classified as very low quality, these would have been excluded to ensure only papers of satisfactory quality were used in the review. As reported in the results section of this paper, all studies were rated to be of medium-high quality, which suggests the methodology of these papers was of reasonable quality. However, as only 3 of the reviewed studies were of high quality, the results should be interpreted with some caution. Furthermore, the findings of the quality assessment highlighted a lack of reported service-user involvement in study design and lack of reported consideration of sample size in regards to analysis. As a result, the author of this review recommends that future research address these shortcomings. Most studies used in this review employed large sample sizes and so we could assume that these studies were adequately powered. However in the case of Rew et al., (2001a) a relatively small sample size of 59 was used. The potential implications of Rew et al.'s small sample size on findings are outlined later in this discussion.

The Impact of Childhood Abuse on Belonging or Social Connectedness

Overall, findings from the reviewed studies were mixed, however the majority of studies (84.62%) found evidence of an existing relationship between childhood abuse and belonging/social connectedness. Most studies provided correlational data between the two variables, providing evidence that a relationship exists and offers a starting point for further research. However, correlational data cannot provide information on the nature of relationships and so does not tell us if one variable predicts the other once the impact of other variables has been controlled for. By using regression analyses, it is possible to gain a better understanding of how the two variables interact. Eight of the reviewed studies found evidence that (at least one form of) childhood abuse was a significant predictor of sense of belonging, which provides more information in terms of the direction of the relationship. These findings are in line with the theory that childhood abuse can lead to various forms of psychopathology, including suicidal behaviour (Norman et al., 2012) and is particularly pertinent in the context of the IPTS (Joiner, 2005), as it provides a potential pathway from childhood abuse to suicide.

The results of this review are consistent with the theoretical predictions. Although we are not able to confirm that childhood abuse as a direct, causal effect on one's sense of belonging, it appears that not only does childhood abuse appear to have a direct relationship with one's sense of belonging, but that in turn, low sense of belonging can lead to further negative outcomes such as psychological distress, less engagement in education (Corrales et al., 2018), positive suicidal ideation (Spínola et al., 2020) and risky alcohol use (Torgerson t al., 2018). It is widely accepted that early experiences of trauma or abuse can disrupt an individual's relational attachments (Harvey, Dorahy, Vertue & Duthie, 2012) and lead to beliefs that oneself is unworthy, others cannot be trusted and the world is dangerous. It has also been suggested by Baumeister, DeWall, Ciarocco & Twenge (2005) that such experiences of rejection reduces one's ability or willingness to behave in a pro-social way, for fear of further exclusion, which could contribute to our understanding of how childhood abuse (and thwarted belongingness) impacts psychosocial outcomes.

It is important to consider non-significant results in the context of the study, in order to understand what may have led to a difference in results. Allbaugh et al. (2017) was the only study in this review to use a homogenous sample of participants, consisting entirely of African-American women. As there is limited cross-cultural research into childhood abuse and belonging, it is not possible to conclude that race or ethnicity plays a role in this relationship. However, existing evidence tells us that one's racial or ethnic identity can positively impact adjustment for individuals who have experienced adversity (Rivas-Drake et al., 2014). Moses, Villodas & Villodas (2020) identified ethnic-racial identity (ERI) as having a protective role in mitigating the negative impact of adverse childhood experiences on black adolescents' future expectations. If we consider ERI in the context of belonging, it could be hypothesised that a sense of belonging to a particular ethnic group plays a protective role in maintaining a sense of connectedness for individuals who have experienced childhood abuse. A study of racial disparities in risk and protective factors for suicide (Davidson & Wingate, 2011) found that African American college students endorsed higher levels of hope, which in turn can protect against feelings of thwarted belongingness (Davidson, Wingate, Rasmussen & Slish, 2009). It has also been suggested that although African American individuals are more likely to encounter stressors such as racism or socio-economic disadvantage (Clark, Anderson, Clark & Williams, 1999), they are less likely to die by suicide (American Association of Suicidology, 2008), which could suggest they are more resilient. There is evidence to support that African Americans are more resilient to mental health difficulties than their white counterparts and that racial-identity, religious affiliation or increased exposure to (and so experience of coping with) adversity (Breslau et al., 2006) may play a role in this. However we should also consider that the apparent reduced rates of suicide in African Americans are in part a result of racial disparities in the classification of death by suicide (Rockett et al., 2010) or systematic reporting biases. The all-female sample of participants in Allbaugh et al.'s study may also have impacted results, the role of gender is discussed later in the discussion.

In terms of methodology, the outcome measures used in this study were the Childhood Trauma Questionnaire and the Interpersonal Needs Questionnaire, which were also used by multiple other studies in this review (Puzia et al., 2014; Smith et al., 2018; Spinola et al., 2020; Zhornitsky et al., 2020). It therefore seems unlikely that the choice of outcome measures in Allbaugh et al. (2017) were responsible for the discrepancies in the findings. The key methodological differences, as previously mentioned are the sample population characteristics and so we should consider that this could be the reason for differences in findings.

Rew et al. (2001a) also found non-significant results in that levels of social connectedness did not differ between those who had or had not been sexually abused. We could again consider this in the context of resilience. Participants in this study reported relatively high levels of resilience and social connectedness was found to be inversely related to resilience, it is suggested that this may relate to adolescents perception of resilience as being isolated and disconnected from others (Hunter & Chandler, 1999). Considering the average social connectedness score was extremely low in Rew et al.'s (2001a) sample, it is also possible that there are other factors impacting on social connectedness levels for this population, which require further exploration. For example we might assume that homeless young people have less access to family support or employment, which in turn may impact their sense of social connectedness.

In terms of outcome measures, it seems unlikely that the use of the Social Connectedness Scale (SCS) played a role in these findings, as the SCS is considered a valid and reliable measure. Also, Prior and Quinn (2010) from this review employed the SCS and found significant results. However as only two studies in the review used the SCS, it is not possible to make definitive conclusions regarding this. Secondly, Rew et al. (2001a) had the smallest sample size of all reviewed papers. This could mean that the study was not adequately powered and so unable to detect the true effects, as non-significant results does not mean there is no existing relationship between the two variables, simply that this study was unable to find it (Alderson, 2004).

We should also acknowledge the population of participants. Rew et al. (2001a) recruited young people experiencing homelessness and SCS scores were extremely low. As previously mentioned, it is possible that this impacted the results of this study. In contrast, Corrales et al. (2016) recruited young people engaged with community services and found that childhood adversity was significantly associated with low sense of belonging. Although these studies are not directly comparable due to differences in constructs and outcome measures, we could consider how engagement with community services (or assumed lack of in the case of homeless young people) might impact social connectedness and/or belonging. In a study by Ron (2004), findings showed that duration of homelessness episode was associated with reduced sense of belonging, it is therefore possible that the population of Rew et al.’s (2001a) sample impacted the outcome of the study, particularly as homelessness experiences were not controlled for in the analysis.

Bryan et al. (2013) studied two non-clinical populations, military personnel and undergraduate students and found that only in military personnel was there a significant correlation between childhood abuse and belonging. Again, this has been suggested that developmental and contextual factors specific to each population are responsible for divergent results. In particular, it is thought that younger individuals are more likely to have experienced sexual abuse than older participants (Acierno et al., 2001) and this is reflected in the data collected in Bryan et al.’s (2013) study. It is possible that this difference in abuse could explain the divergent results between populations, particularly as it has been suggested that different forms of abuse can impact one’s sense of belonging differently.

Considering methodological issues, in this study a novel questionnaire was developed by the authors to measure childhood abuse, whereas most reviewed studies tended to use previously validated or widely used measures. According to the original paper, this questionnaire presented participants with a list of potential traumatic events and asked to indicate whether they had experienced each item. Only one item on the list related to childhood physical or sexual abuse. This raises two concerns. Firstly, due to the novel nature of the questionnaire, we are unable to make judgements on the validity and reliability of the measure (and these are not addressed in the original paper). Secondly, as only one item on the questionnaire referred to childhood abuse, it is not possible to distinguish between the impact of childhood abuse and the impact of other items in the questionnaire (e.g. abuse, rape, robbery or assault during adulthood). Furthermore, the mean age of student participants was 19.83, raising questions about the appropriateness of the questionnaire for this population. It is also worth mentioning that Bryan et al.’s (2013) paper was one of the lowest scoring during the quality assessment (medium quality at 67%). It is therefore possible that the methodological quality of the paper impacted the results.

Different types of childhood abuse. Of the five studies which examined the impact of different types of abuse on belonging or social connectedness, findings of four studies seem to show that different types of abuse may impact belonging differently. Results of three studies (Puzia et al., 2014; Schönfelder et al.,2019; Smith et al., 2018) appear to suggest that childhood emotional abuse is most relevant to one's sense of belonging. We could consider this in terms of cognitive vulnerability to suicidality (Abramson, Metalsky & Alloy, 1989), which tells us negative cognitive styles (particularly hopelessness) can lead to increased risk of suicide. It is thought that childhood maltreatment can lead to negative cognitive styles (Gibb, Alloy & Abramson, 2001) particularly childhood emotional abuse (Rose & Abramson, 1992), as the nature of emotional abuse itself allows for negative cognitions to be passed on from the perpetrator to the victim, which are then internalised (Glaser, 2002). We should also consider that emotional abuse is more closely related to the IPTS construct of thwarted belongingness, than physical or sexual abuse, as it can lead to the absence of care (Van Orden et al., 2010), feelings of social alienation (Schönfelder et al., 2019) or low self-esteem (Mullen, Martin, Anderson, Romans, & Herbison, 1996).

Seeds et al. (2010) found that father-perpetrated maltreatment (FPM) was significantly related to belonging, but not mother-perpetrated maltreatment (MPM). Considering there were limited differences in the types of abuse reported, regardless of perpetrator, it appears that there is something qualitatively different between FPM and MPM. It has been shown that adolescents from abusive homes perceive peers as strong sources of support (Bao, Whitbeck & Hoyt, 2000) and it may be that in instances of MPM, victims are more likely to seek out alternative sources of support than victims of FPM, which may maintain their sense of belonging. This was reflected in Seeds et al.'s (2010) study, in that severe MPM had a direct, positive effect on levels of perceived tangible support. However, more research is required to further understand these relationships. It may also be useful for future research to investigate the differences in belonging related to FPM and MPM in the context of suicidality, as this was not a focus of Seeds et al.'s work, nor has it been widely researched.

The effect of gender. Two of the reviewed studies considered the impact of gender on the relationship between childhood abuse and belonging (Torgerson et al.,2018 ; Zhornitsky et al., 2020). It appears from these studies that gender differences may exist in terms of how abuse impacts belonging, yet conflicting findings are inconclusive. It has been suggested that women are more vulnerable to feelings of thwarted belongingness (Van Orden et al., 2010), which is reflected in Torgerson et al.'s findings. However, it is thought that males and females have different risk factors for thwarted belongingness. For example, Donker, Batterham, Van Orden and Christensen (2014) found that in males, negative interactions with others or being single predicted higher thwarted belongingness for males, whilst in female participants poor mental health and low mastery were risk factors. Understanding other potential risk factors (alongside child abuse) in the context of gender requires further exploration, and could contribute to our understanding.

Data Collection Instruments

As the findings of the outcome measures review is detailed in the results, this section will outline future recommendations for the use of relevant outcome measures in research.

Measures of Belonging and Social Connectedness

Recommendations for the use of outcome measures for belonging and social connectedness are that they should be easy and relatively quick to complete, to maximise responses and reduce missing data. Instruments should be appropriate and relevant to their intended population, to ensure measures are sensitive to cultural differences within these constructs, something which in itself requires more research, as illustrated in Allbaugh et al. (2017).

Measures of Childhood Abuse

In order to make recommendations for the use of these measures, it is perhaps better to consider the nature of future research when judging the most appropriate instrument. For example, studies interested in gathering more detailed information on the experience of victims of child abuse may be more suited to the CTQ, which allows for a range of responses and provides continuous data. For research which is more focussed on the prevalence of child abuse, it may be more feasible to use shorter, simpler instruments, such as the Childhood Difficulties Questionnaire (Corrales et al., 2016).

Evaluation and Implications

Strengths and limitations. This review was limited to published studies which were written in English, which may contribute to publication bias. Studies with non-significant results are less likely to be published, or if published, less likely to be in English journals (Egger et al., 1997), meaning this review may have excluded pertinent data by limiting the search in this way. There was also a heavy-reliance on self-report measures in the reviewed studies. Although the majority of measures used provided psychometric information and were therefore considered valid and reliable, it is known that responses on self-report measures are often influenced by other factors than the content of the items in the measures, such as psychological, sociological or contextual factors and language (Harrison, McLaughlin & Coalter, 1996). This should be considered when interpreting results. There was a notable lack of cross-cultural studies investigating child abuse and belonging/social connectedness. All but one reviewed study had predominantly white samples and the majority of studies were conducted in America. As a result, the findings of this review may not be generalisable to individuals from other countries or cultural backgrounds. Further investigation using cross-cultural samples is necessary, particularly considering the findings from Allbaugh et al.'s study. This review was also limited in that the majority of studies were cross-sectional and so cannot provide much insight into causal relationships. As previously mentioned some studies used measures which did not focus entirely on abuse, but adversity more generally. As a result, these results should be interpreted with caution as it is possible that some participants rated highly only on the items relating to adversity, and not abuse. Another limitation of this study is the use of Joiner's IPTS model without a focus on suicidality, but rather a focus on the relationship between childhood abuse and belonging. Although focussing the review in this way provided a broader view of the relationship between childhood abuse and belonging, we acknowledge that including suicidality in the review would provide a more complete picture of the constructs within the model and how childhood abuse fits with this. This is therefore a limitation of this study and could be a focus of future research in this area. Finally, the narrative nature of this review should be considered as a limitation. It may be possible to conduct a meta-analysis if further information regarding the original data was obtained from the authors of the reviewed studies. However, due to practical considerations related with the nature of this programme, this has not been possible. Despite limitations, this review is the first to synthesise evidence for the relationship between childhood abuse and belonging, bringing further understanding to this area and highlighting areas for further investigation. Quality assessment was carried out using a well-established, psychometrically sound tool and employed a second, independent rater to minimise bias. Furthermore, this review followed PRISMA guidelines.

Clinical implications. The findings of this review highlight the role of belonging for victims of abuse. As a result, there should be a routine and integral focus on sense of belonging when working clinically, both at assessment and during intervention. This could be particularly important when working with victims of childhood abuse, but also more generally if we consider the potential consequences of thwarted belongingness. We should also consider potentially barriers when working with victims of abuse. Considering the evidence that early traumatic experiences can lead to a negative view of the self, world and others, greater importance should be placed on the client-therapist relationship to foster a sense of belonging within services. It has also been highlighted that population characteristics could play a role in one's sense of belonging, therefore any clinical work should be specific and targeted, to ensure they are appropriate for the intended recipient.

Recommendations for future research. This review offers a summary of the current evidence base for the impact of childhood abuse on belonging or social connectedness. However, there is clearly a need for further research. In particular, to further examine the impact of population characteristics on this relationship. Furthermore, cross-cultural understanding of this concept is extremely limited. This could be particularly important considering the individualistic, independent culture of Western society, in comparison to an interdependent, collective identity which is associated more with Eastern cultures (Markus & Kitayama, 1991). Future research could also address other group associations which may impact on one's sense of belonging generally, for example ethnic-racial identity or school belonging, as these have been suggested to mitigate the impact of childhood abuse on feelings of belonging (Moses et al., 2020; Zhang, Liu & Long, 2021).

Considering the promising literature on the importance of belonging for wellbeing, future research should examine factors which contribute to an increased sense of belonging, in order to inform future psychological interventions designed to target belonging and/or social connectedness.

References

Abramson, L. Y., Metalsky, G. I., & Alloy, L. B. (1989). Hopelessness depression: A theory-based subtype of depression. *Psychological review, 96*(2), 358. doi: 10.1037/0033-295X.96.2.358

Acierno, R., Gray, M., Best, C., Resnick, H., Saunders, B., & Brady, K. (2001). Rape and physical violence: Comparison of assault characteristics in older and younger adults in the National Women's Study. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, *14*(4), 685-695. doi: 10.1023/A:1013033920267.

Alderson, P. (2004). Absence of evidence is not evidence of absence. *BMJ*, *328*(7438), 476-477. doi:10.1136/bmj.328.7438.476.

Allbaugh, L. J., Florez, I. A., Render Turmaud, D., Quyyum, N., Dunn, S. E., Kim, J. & Kaslow, N. J. (2017) Child abuse—Suicide resilience link in African American women: Interpersonal psychological mediators. *Journal of Aggression, Maltreatment & Trauma*, 26(10), 1055-1071. doi: 10.1080/10926771.2017.1350773.

Allen, M. (2017). The *sage encyclopedia of communication research methods. Thousand Oaks, CA: SAGE Publications.* doi: 10.4135/9781483381411.

American Association of Suicidology. (2011). *U.S.A. suicide: 2005 official final data.* Retrieved from http://www.ct.gov/dmhas/lib/dmhas/prevention/cyspi/aas2005data.pdf

Angelakis, I., Austin, J. L., & Gooding, P. (2020). Association of childhood maltreatment with suicide behaviors among young people: a systematic review and meta-analysis. *JAMA network open*, *3*(8), e2012563-e2012563. doi: 10.1001/jamanetworkopen.2020.12563.

Arango, A., Opperman, K. J., Gipson, P. Y. & King, C. A. (2016). Suicidal ideation and suicide attempts among youth who report bully victimization, bully perpetration and/or low social connectedness. *Journal of Adolescence, 51,* 19-29. doi: 10.1016/j.adolescence.2016.05.003.

Bao, W., Whitbeck, L. B. & Hoyt, D. R. (2000). Abuse, Support, and Depression among Homeless and Runaway Adolescents. *Journal of Health and Social Behavior, 41*(4), 408-420. doi: 10.2301/2676294

Baumeister, R. F., DeWall, C. N., Ciarocco, N. J. & Twenge, J. M. (2005). Social exclusion impairs self-regulation. *Journal of Personality and Social Psychology, 88,* 589-604. doi: 10.1037/0022-3514.88.4.589

Bernstein, D. P., Fink, L., Handelsman, L., & Foote, J. (1998). Childhood trauma questionnaire. *Assessment of family violence: A handbook for researchers and practitioners.* doi: 10.1037/t02080-000

Bifulco, A., Brown, G. W., & Harris, T. O. (1994). Childhood Experience of Care and Abuse (CECA): a retrospective interview measure. *Journal of Child Psychology and Psychiatry*, *35*(8), 1419-1435. doi: 10.1111/j.1469-7610.1994.tb01284.x

Bifulco, A., Moran, P. M., Baines, R., Bunn, A., & Stanford, K. (2002). Exploring psychological abuse in childhood: II. Association with other abuse and adult clinical depression. *Bulletin of the Menninger Clinic*, *66*(3), 241-258. doi: 10.1.1.455.9926.

Blum, R., Harris, L. J., Resnick, M. D., & Rosenwinkel, K. (1989). Technical report on the adolescent health survey. *Minneapolis, MN: University of Minnesota*.

Booth, A., Sutton, A. & Papaioannou, D. (2016). *Systematic Approaches to a Successful Literature Review.* (2nd Ed.). Los Angeles: SAGE.

Brausch, A. M., & Holaday, T. C. (2014). Suicide-related concerns as a mediator between physical abuse and self-harm behaviors in college students. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 36,* 440–446. doi: 10.1027/0227-5910/a000349

Breslau, J., Aguilar-Gaxiola, S., Kendler, K. S., Su, M., Williams, D., & Kessler, R. C. (2006). Specifying race-ethnic differences in risk for psychiatric disorder in a USA national sample. *Psychological medicine*, *36*(1), 57-68. doi: 10.1017/S0033291705006161.

Briere, J., Madni, L. A., & Godbout, N. (2016). Recent suicidality in the general population: Multivariate association with childhood maltreatment and adult victimization. *Journal of Interpersonal Violence, 31,* 3063–3079. doi:10.1177/0886260515584339

Bryan, C. J., Mcnaugton-Cassill, M., Osman, A. & Hernandez, A. M. (2013) The associations of physical and sexual assault with suicide risk in nonclinical military and undergraduate samples. *Suicide and Life-Threatening Behavior,* 43(2), 223-234. doi: 10.1111/sltb.12011.

Clark, R., Anderson, N. B., Clark, V. R. & Williams, D. R. (1999). Racism as a stressor for African Americans: A biopsychosocial model. American Psychologist, 54, 805-816. doi: 10.1037/0003-066X.54.10.805

Clemmons, J. C., Walsh, K., DiLillo, D., & Messman-Moore, T. L. (2007). Unique and combined contributions of multiple child abuse types and abuse severity to adult trauma symptomatology. *Child maltreatment*, *12*(2), 172-181. doi: 10.1177/1077559506298248

Cohen, S., Mermelstein, R., Kamarck, T., & Hoberman, H. M. (1985). Measuring the functional components of social support. In Sarason, I. G. (Eds.) *Social support: Theory, research and applications* (pp. 73-94). Dordrecht: Springer.

Corrales, T., Waterford, M., Goodwin-Smith, I., Wood, L., Yourell, T. & Ho, C. (2016) Childhood adversity, sense of belonging and psychosocial outcomes in emerging adulthood: A test of mediated pathways. *Children and Youth Services Review,* 63, 110-119. doi: 10.1016/j.childyouth.2016.02.021.

Czyz, E. K., Liu, Z., & King, C. A. (2012). Social connectedness and one-year trajectories among suicidal adolescents following psychiatric hospitalization. *Journal of Clinical Child & Adolescent Psychology, 41*(2), 214-226. doi: 10.1080/15374416.2012.651998.

Davidson, C. L., Wingate, L. R., Rasmussen, K. A. & Slish, M. L. (2009). Hope as a predictor of interpersonal suicide risk. *Suicide and Life-Threatening Behaviour, 39*, 499-507. doi: 10.1521/suli.2009.39.5.499

Donker, T., Batterham, P. J., Van Orden, K. A., & Christensen, H. (2014). Gender-differences in risk factors for suicidal behaviour identified by perceived burdensomeness, thwarted belongingness and acquired capability: cross-sectional analysis from a longitudinal cohort study. *BMC psychology, 2*(1), 1-10. doi: 10.1186/2050-7283-2-20

Dovidio, J.F., Piliavin, J.A. Schroeder, D.A. & Penner, L.A. (2006). *The social psychology of prosocial behavior*. Mahwah, NJ: Lawrence Erlbaum Associates.

Egger, M., Zellweger-Zähner, T., Schneider, M., Junker, C., Lengeler, C., & Antes, G. (1997). Language bias in randomised controlled trials published in English and German. *The Lancet, 350*(9074), 326-329. doi: 10.1016/S0140-6736(97)02419-7

Ford, J. D., & Rogers, K. (1997). Traumatic events screening inventory – Adult screening version. Unpublished measure. Mansfield: University of Connecticut.

Frieling, M., Krassoi Peach, E. & Jacinta Cording, J. (2018). *The Measurement of Social Connectedness and its Relationship to Wellbeing.* Retreived from https://msd.govt.nz/about-msd-and-our-work/publications-resources/literature-reviews/social-connectedness-and-wellbeing.html

Gibb, B. E., Alloy, L. B., Abramson, L. Y., Rose, D. T., Whitehouse, W. G., Donovan, P., ... & Tierney, S. (2001). History of childhood maltreatment, negative cognitive styles, and episodes of depression in adulthood. *Cognitive Therapy and Research, 25*(4), 425-446. doi: 10.1023/A:1005586519986

Gilbert, R., Widom, C. S., Browne, K., Fergusson, D., Webb, E., & Janson, S. (2009). Child Maltreatment 1 Burden and consequences of child maltreatment in high-income countries. *The Lancet (British Edition), 373*(9657), 68-81. doi: 10.1016/S0140-6736(08)61706-7

Glaser, D. (2002). Emotional abuse and neglect (psychological maltreatment): A conceptual framework. *Child Abuse & Neglect, 26*(6), 697-714. doi: 10.1016/S0145-2134(02)00342-3

Grabe, H. J., Schulz, A., Schmidt, C. O., Appel, K., Driessen, M., Wingenfeld, K., ... & Freyberger, H. J. (2012). A brief instrument for the assessment of childhood abuse and neglect: the childhood trauma screener (CTS). *Psychiatrische Praxis*, *39*(3), 109-115.

Hagerty, B. M., & Patusky, K. (1995). Developing a measure of sense of belonging. *Nursing research*, *44*(1), 9-13.

Harrison, D.A., McLaughlin, M.E. & Coalter, T.M. (1996). Context, cognition and common method variance: Psychometric and verbal protocol evidence. *Organizational Behavior and Human Decision Processes, 68*, 246-261. doi: 10.1006/obhd.1996.0103

Harvey, S. M., Dorahy, M. J., Vertue, F. M., & Duthie, S. (2012). Childhood psychological maltreatment and perception of self, others, and relationships: A phenomenological exploration. *Journal of Aggression, Maltreatment & Trauma, 21,* 237–255. doi: 10.1080/10926771.2012.665428.

Hawthorne, G., Richardson, J., & Osborne, R. (1999). The Assessment of Quality of Life (AQoL) instrument: a psychometric measure of health-related quality of life. *Quality of life research, 8*(3), 209-224. doi: 10.1023/A:1008815005736.

Higgins, D. J. (2004). The importance of degree versus type of maltreatment: A cluster analysis of child abuse types. Journal of Psychology, 138, 303-324. doi: 10.3200/JRLP.138.4.303-324.

Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., . . . Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: A systematic review and meta-analysis. *The Lancet. Public Health, 2*(8), E356-E366. doi: 10.1016/S2468-2667(17)30118-4

Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., ... & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. *The Lancet Public Health, 2*(8), e356-e366. doi: 10.1016/S2468-2667(17)30118-4

Hughes, Karen, Bellis, Mark A, Hardcastle, Katherine A, Sethi, Dinesh, Butchart, Alexander, Mikton, Christopher, . . . Dunne, Michael P. (2017). The effect of multiple adverse childhood experiences on health: A systematic review and meta-analysis. *The Lancet. Public Health, 2*(8), E356-E366. doi: 10.1016/S2468-2667(17)30118-4

Hunter, A. J., & Chandler, G. E. (1999). Adolescent resilience. *Image: The Journal of Nursing Scholarship, 31*(3), 243-247. doi: 10.1111/j.1547-5069.1999.tb00488.x

Joiner, T. (2005). Why people die by suicide. Cambridge, MA: Harvard University Press.

Kirisci, L., Dunn, M. G., Mezzich, A. C., & Tarter, R. E. (2001). Impact of parental substance use disorder and child neglect severity on substance use involvement in male offspring. Prevention Science, 2, 241-255. doi: 10.1023/A:1013662132189.

Lee, R. M., & Robbins, S. B. (1995). Measuring belongingness: The social connectedness and the social assurance scales. *Journal of counseling psychology*, *42*(2), 232. doi: 10.1037/0022-0167.42.2.232

Leeb, R. T., Lewis, T., & Zolotor, A. J. (2011). A review of physical and mental health consequences of child abuse and neglect and implications for practice. *American Journal of Lifestyle Medicine*, *5*(5), 454-468. doi: 10.1177/1559827611410266

Leeb, R.T., Paulozzi, L., Melanson, C., Simon, T., & Arias, I. (2008). *Child maltreatment surveillance: Uniform definitions for public health and recommended data elements.* Atlanta, GA: National Center for Injury Prevention and Control.

Markus, H.R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224–253. doi: 10.1037/0033-295X.98.2.224

McKenzie, J.E. & Brennan, S. E. (2021). Synthesizing and presenting findings using other methods. In: Higgins J. P., Thomas, J., Chandler, J., Cumpston, M., Li, T., Page, M. J. & Welch, V. A. (Eds). *Cochrane Handbook for Systematic Reviews of Interventions* version. Retrieved from www.training.cochrane.org/handbook

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Prisma Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *BMJ*, *339*(7716), E78-336. doi: 10.1136/bmj.b2535

Moses, J. O., Villodas, M. T., & Villodas, F. (2020). Black and Proud: The Role of Ethnic-Racial Identity in the Development of Future Expectations Among At-Risk Adolescents. *Cultural Diversity & Ethnic Minority Psychology*, *26*(1), 112-123. doi: 10.1037/cdp0000273

Newcomb, M. D. (1990). Social support by many other names: Toward a unified conceptualization. *Journal of Social and Personal Relationships, 7*, 479-494.

Noble-Carr, D., Barker, J., McArthur, M., & Woodman, E. (2014). Improving practice: The importance of connections in establishing positive identity and meaning in the lives of vulnerable young people. *Children and Youth Services Review, 47*(3), 389–397. doi: 10.1016/j.childyouth.2014.10.017

Norman, R. E., Byambaa, M., De, R., Butchart, A., Scott, J., & Vos, T. (2012). The long-term health consequences of child physical abuse, emotional abuse, and neglect: A systematic review and meta-analysis. *PLoS Medicine, 9*(11). doi:10.1371/journal.pmed.1001349

Office for National Statistics. (2019). Child abuse extent and nature, England and Wales. Retrieved from www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/articles/childabuseextentandnatureenglandandwales/yearendingmarch2019

Perestelo-Pérez, L. (2013). Standards on how to develop and report systematic reviews in Psychology and Health. *International Journal of Clinical and Health Psychology, 13*(1), 49-57. doi:10.1016/S1697-2600(13)70007-3

Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., … Duffy, S. (2006). *Guidance on the Conduct of Narrative Synthesis in Systematic Reviews.* Retrieved from www.lancaster.ac.uk/media/lancaster-university/content-assets/documents/fhm/dhr/chir/NSsynthesisguidanceVersion1-April2006.pdf

Prior, M. K. & Quinn, A. S. (2010) The relationship between childhood emotional neglect and adult spirituality: An exploratory study. *Journal of Religion & Spirituality in Social Work: Social Thought,* 29(4), 277-299. doi: 10.1080/15426432.2010.518816.

Puzia, M. E., Kraines, M. A., Liu, R. T., & Kleiman, E. M. (2014). Early life stressors and suicidal ideation: Mediation by interpersonal risk factors. Personality and Individual Differences, 56, 68–72. doi: 10.1016/j.paid.2013.08.027.

Rew, L., Resnick, M.D., & Beuhring, T. (1999). Usual sources, patterns of utilization, and forgone health care among Hispanic adolescents. *Journal of Adolescent Health, 25,* 407-413. doi: 10.1016/S1054-139X(98)00159-1

Rew, L., Taylor-Seehafer, M., Thomas, N. Y. & Yockey, R. D. (2001a) Correlates of resilience in homeless adolescents. *Journal of Nursing Scholarship,* 33(1), 33-40. doi: 10.1111/j.1547-5069.2001.00033.x.

Rew, L., Thomas, N., Horner, S. D., Resnick, M. D. & Beuhring, T. (2001b) Correlates of recent suicide attempts in a triethnic group of adolescents. *Journal of Nursing Scholarship,* 33(4), 361-367. doi: 10.1111/j.1547-5069.2001.00361.x.

Richardson, J., Elsworth, G., Iezzi, A., Khan, M. A., Mihalopoulos, C., Schweitzer, I., & Herrman, H. (2011). *Increasing the sensitivity of the AQoL inventory for the evaluation of interventions affecting mental health*. Retrieved from https://business.monash.edu/__data/assets/pdf_file/0013/350401/researchpaper61.pdf

Richardson, J., Iezzi, A., Khan, M. A., & Maxwell, A. (2014). Validity and reliability of the Assessment of the Quality of Life (AQoL)-8D multi-attribute utility instrument. *The Patient, 7*(1), 85–96. doi: 10.1007/s40271-013-0036-x

Rivas-Drake, D., Markstrom, C., Syed, M., Lee, R. M., Umana-Taylor, A. J., Yip, T., . . . French, S. (2014). Ethnic and Racial Identity in Adolescence: Implications for Psychosocial, Academic, and Health Outcomes : Ethnic and Racial Identity in Child Development. *Child Development, 85*(1), 40-57.

Rockett, I., Wang, S., Stack, S., De Leo, D., Frost, J., Ducatman, A., ... Kapusta, N. (2010). Race/ethnicity and potential suicide misclassification: window on a minority suicide paradox?. *BMC psychiatry*, *10*(1), 1-8. doi: 10.1186/1471-244X-10-35.

Ron, Y. (2004). *No man is an island: The relationship between attachment styles, sense of belonging, depression and anxiety among homeless adults* [Doctoral dissertation, Adler School of Professional Psychology]. https://proquest.com/docview/305036439?pq-origsite=gscholar&fromopenview=true

Rose, D. T., & Abramson, L. Y. (1992). Developmental predictors of depressive cognitive style: Research and theory. In D. Cicchetti & S. L. Toth (Eds.), *Developmental perspectives on depression* (pp. 323–349). University of Rochester Press.

Rudd, M. (2000). The Suicidal Mode: A Cognitive-Behavioral Model of Suicidality. *Suicide & Life-threatening Behavior, 30*(1), 18-33. doi: 10.1111/j.1943-278X.2000.tb01062.

Schönfelder, A., Hallensleben, N., Spangenberg, L., Forkmann, T., Rath, D. & Glaesmer, H. (2019) The role of childhood abuse for suicidality in the context of the interpersonal theory of suicide: An investigation in German psychiatric inpatients. *Journal of affective disorders*, *245*, 788-797. doi: 10.1016/j.jad.2018.11.063

Seeds, P. M., Harkness, K. L. & Quilty, L. C. (2010) Parental maltreatment, bullying, and adolescent depression: Evidence for the mediating role of perceived social support. *Journal of Clinical Child and Adolescent Psychology,* 39(5), 681-692. doi: 10.1080/15374416.2010.501289.

Sirriyeh, R., Lawton, R., Gardner, P., & Armitage, G. (2012). Reviewing studies with diverse designs: the development and evaluation of a new tool. *Journal of evaluation in clinical practice*, *18*(4), 746-752. doi: 10.1111/j.1365-2753.2011.01662.x

Smith, N. B., Monteith, L. L., Rozek, D. C. & Meuret, A. E. (2018) Childhood Abuse, the Interpersonal-Psychological Theory of Suicide, and the Mediating Role of Depression. *Suicide & Life-Threatening Behavior,* 48(5), 559-569. doi: 10.1111/sltb.12380.

Smith, P. N., & Cukrowicz, K. C. (2010). Capable of suicide: A functional model of the acquired capability component of the interpersonal-psychological theory of suicide. *Suicide and Life-Threatening Behavior, 40*, 266–274. doi: 10.1521/suli.2010.40.3.266

Spínola, J., Campos, R. C., Marques, D. & Holden, R. R. (2020) Psychache, unmet interpersonal needs, childhood trauma and suicide ideation in young adults. *Death Studies*. doi: 10.1080/07481187.2020.1788670.

Stone, D. M., Luo, F., Lippy, C., & McIntosh, W. L. (2015). The role of social connectedness and sexual orientation in the prevention of youth suicide ideation and attempts among sexually active adolescents. *Suicide and Life-Threatening Behavior*, *45*(4), 415-430. doi: 10.1111/sltb.12139

Swales, J. (1990). *Genre analysis: English in academic and research settings*. Cambridge University Press.

Torgerson, C. N., Love, H. A. & Vennum, A. (2018) The buffering effect of belonging on the negative association of childhood trauma with adult mental health and risky alcohol use. *Journal of Substance Abuse Treatment,* 88, 44-50. doi: 10.1016/j.jsat.2018.02.005.

Trickett, P. K., Reiffman, A., Horowitz, L. A., & Putnam, F. W. (1997). Characteristics of sexual abuse trauma and the prediction of developmental outcomes. In D. Cicchetti & S. Toth (Eds.), *Rochester symposium on developmental psychopathology: Developmental perspectives on trauma: Theory, research, and intervention* (pp. 289- 314). Rochester, NY: University of Rochester Press

Turecki, G., Ernst, C., Jollant, F., Labonté, B., & Mechawar, N. (2012). The neurodevelopmental origins of suicidal behavior. *Trends in neurosciences, 35*(1), 14-23. doi: 10.1016/j.tins.2011.11.008.

Twomey, H. B., Kaslow, N. J., & Croft, S. (2000). Childhood maltreatment, object relations, and suicidal behavior in women. *Psychoanalytic Psychology*, *17,* 313–335. doi: 10.1037/0736-9735.17.2.313.

Van Orden, K. A., Cukrowicz, K. C., Witte, T. K., & Joiner Jr, T. E. (2012). Thwarted belongingness and perceived burdensomeness: construct validity and psychometric properties of the Interpersonal Needs Questionnaire. *Psychological assessment*, *24*(1), 197. doi: 10.1037/a0025358

Van Orden, K. A., Merrill, K. A., & Joiner Jr, T. E. (2005). Interpersonal-psychological precursors to suicidal behavior: A theory of attempted and completed suicide. *Current Psychiatry Reviews*, *1*(2), 187-196. doi: 10.2174/1573400054065541

Van Orden, K. A., Witte, T. K., Cukrowicz, K. C., Braithwaite, S. R., Selby, E. A., & Joiner Jr, T. E. (2010). The interpersonal theory of suicide. *Psychological review*, *117*(2), 575. doi: 10.1037/a0018697

Widom, C. S., & Morris, S. (1997). Accuracy of Adult Recollections of Childhood Victimization. *Psychological Assessment, 9*(1), 34-46. doi: 10.1037/1040-3590.9.1.34

World Health Organization. (2021). *Suicide worldwide in 2019.* Retrieved from www.who.int/publications/i/item/9789240026643

Zhang, H., Liu, M., & Long, H. (2021). Child maltreatment and suicide ideation in rural China: The roles of self-compassion and school belonging. *Child and Adolescent Social Work Journal*, *38*(3), 325-335. doi: 10.1007/s10560-020-00679-z.

Zhornitsky, S., Le, T. M., Dhingra, I., Adkinson, B. D., Potvin, S. & Li, C.-S. R. (2020) Interpersonal Risk Factors for Suicide in Cocaine Dependence: Association with Self-Esteem, Personality Traits, and Childhood Abuse. *Suicide & life-threatening behavior*, 50(4), 867-883. doi: 10.1111/sltb.12621.

Tables

Table 1

Free text search terms for Childhood Abuse, Belonging and Social Connectedness

Childhood Abuse	Belonging	Social Connectedness
(child* OR early) N3 (abus* OR trauma* OR maltreat* OR neglect*)	belonging*	(social*) N3 (connect*)

Table 2

Quality Assessment with QATSDD tool (Sirriyeh, Lawton, Gardner & Armitage, 2012)

Criteria	Allbaugh et al. (2017)	Bryan et al. (2013)	Corrales et al. (2016)	Prior & Quinn (2010)	Puzia et al. (2014)	Rew et al. (2001a)	Rew et al. (2001b)	Schönfelder et al. (2019)	Seeds et al. (2010)	Smith et al. (2018)	Spínola et al. (2020)	Torgerson et al. (2018)	Zhornitsky et al. (2020)
Explicit theoretical framework	3	2	3	3	3	2	3	3	3	3	3	3	3
Statement of aims/objectives in main body of report	3	3	3	3	3	3	3	3	3	3	3	3	3
Clear description of research setting	2	3	3	3	2	3	3	2	3	3	2	1	1
Evidence of sample size considered in terms of analysis	0	0	0	1	0	3	0	0	1	0	0	0	0
Representative sample of target group of a reasonable size	2	3	3	2	1	2	3	1	1	2	2	2	2
Description of procedure for data collection	3	3	3	3	3	3	2	2	3	1	3	2	1
Rationale for choice of data collection tool(s)	3	2	2	3	1	3	2	3	3	3	2	3	2

Detailed recruitment data	2	0	2	3	2	2	3	3	2	0	3	3	1
Statistical assessment of reliability and validity of measurement tool(s) (Quantitative only)	3	2	3	3	3	3	3	3	3	3	3	3	1
Fit between stated research question and method of data collection (Quantitative only)	3	3	3	3	3	3	3	3	2	3	3	3	3
Fit between stated research question and format and content of data collection tool e.g. interview schedule (Qualitative only)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fit between research question and method of analysis (Quantitative only)	3	3	3	3	3	3	3	3	3	3	3	3	3
Good justification for analytic method selected	1	2	3	2	3	1	1	3	3	3	0	3	3
Assessment of reliability of analytic process (Qualitative only)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Evidence of user involvement in design	0	0	0	0	0	1	0	0	0	0	0	0	0

Strengths and limitations critically discussed	3	2	3	2	3	2	2	3	3	3	2	3	3
Total Score (maximum of 42)	31	28	34	34	30	34	31	32	33	30	29	32	26
Quality (%)	74%	67%	81%	81%	71%	81%	74%	76%	79%	71%	69%	76%	62%
Quality Classification	Medium	Medium	High	High	Medium	High	Medium	Medium	Medium	Medium	Medium	Medium	Medium

Table 3

Summary Table of Study Characteristics and Results

Study	Location	Design	Sample	N	Gender (%)	Mean Age (SD)	Childhood Abuse Measure	Belonging Measure	Key Findings in relation to Current Review	Quality (%)
Corrales et al. (2016)	Australia	Cross-sectional	Young people engaged in community based services	254	62.9% female 37.1% male	18.89 (1.45)	Childhood Difficulties Questionnaire	Sense of Belonging Instrument-Psychological State	A significant positive correlation between childhood adversity and low sense of belonging ($r= .26$, $p< .01$). In all mediation analyses, childhood adversity was the predictor and low sense of belonging was the mediator. For the outcome of psychological distress, a small but significant mediation effect was found ($\beta= .08$, $p< .001$, BCa CI [0.03,0.14]). Low sense of belonging also mediated the relationship between childhood adversity and educational engagement ($\beta= .01$, $p< .001$, BCa CI [0.00, 0.03]). Low sense of belonging did not mediate the relationship between childhood adversity and early parenthood.	81

									Consistent with the correlations, in all mediation models, there was a significant pathway from childhood adversity to low sense of belonging.	
Puzia et al. (2014)	USA	Two-wave longitudinal	People with a history of moderate-severe childhood abuse	189	84.2% female 15.8% male	22.02 (0.49)	Childhood Trauma Questionnaire (28-item)	Interpersonal Needs Questionnaire (15-item)	Thwarted belongingness was significantly, positively correlated with both childhood emotional abuse (r= .304, p< .01) and to a lesser degree, childhood physical abuse (r= .160, p< .05). Thwarted belongingness was not significantly correlated with childhood sexual abuse. In the mediation analysis, childhood emotional abuse predicted thwarted belongingness (β= .072, p<.001, r= .265), but thwarted belongingness did not predict suicidal ideation (the outcome), and therefore thwarted belongingness was not considered a candidate mediator.	71
Schönfelder et al. (2019)	Germany	Cross-sectional	Adult psychiatric inpatients	84	69% female 31% male	37.6 (14.0)	Childhood Trauma Screener (5-item)	Interpersonal Needs Questionnaire (15-item)	Childhood emotional abuse was significantly correlated with thwarted belongingness (r= .31, p< .01). Childhood physical and sexual abuse were not significantly correlated with thwarted	76

									belongingness. In the mediational analysis, emotional abuse had a direct effect on thwarted belongingness (*β*= .257, *p*< .01). No direct effect of physical or sexual abuse on thwarted belonging were found.	
Seeds et al. (2010)	Canada	Cross-sectional	Adolescents	101	63.4% female 36.6% male	15.51 (1.27)	Childhood Experience of Care and Abuse	Interpersonal Support Evaluation List (Belonging Subscale)	Father-perpetrated maltreatment had a direct, negative effect on belonging (β= -.22, p< .05). The relationship between father-perpetrated maltreatment (predictor) and depression (outcome) was mediated by belonging (β= .11, p< .01, CI [.04, .21]). Mother-perpetrated maltreatment had no significant effect on belonging.	79
Smith et al. (2018)	USA	Cross-sectional	Adults who engaged in NSSI 5 times in the last year Adults with elevated scores on Difficulties in Emotional Regulation Scale	31 30	88.8% female 11.2% male	21.72 (5.79)	Childhood Trauma Questionnaire (28-item)	Interpersonal Needs Questionnaire (15-item)	Thwarted belongingness was significantly correlated with physical abuse (r= .46, p< .001), emotional abuse (r= .69, p< .001) and sexual abuse (r= .34, p<.01). In mediation analysis, with abuse as the predictor, thwarted belonging as the outcome and depressive symptoms as the mediator, emotional abuse had a direct effect on thwarted belonging	71

			Healthy individuals without a psychiatric diagnosis, emotional dysregulation or self-harm	30					(β= .21, p< .001), as well as an indirect effect, mediated by depressive symptoms (β= .08, p< .05, CI [0.07,0.19]). There was no significant direct or indirect effect of physical abuse or sexual abuse on thwarted belonging. (NB Analysis was inclusive of all participants, rather than in relation to individual populations.)	
Spínola et al. (2020)	Portugal	Longitudinal	University students	386	53.8% female 46.2% male	19.49 (1.89)	Childhood Trauma Questionnaire (28-item)	Interpersonal Needs Questionnaire (15-item)	Childhood trauma was correlated with thwarted belongingness at Time 1 (r= .52, p< .001) and Time 2 (r= .43, p< .001). At Time 2, childhood trauma had a direct effect on thwarted belonging (β= .195, CI [0.099, 0.291], p< .01). Mediation analysis results indicated at Time 2, changes in thwarted belongingness (along with perceived burdensomeness and depressive symptoms) mediated the relationship between childhood trauma (predictor) and changes in positive suicidal ideation (outcome).	69
Torgerson et al. (2018)	USA	Cross-sectional	Adults	654	62.1% female	31.88 (4.32)	Traumatic Events	Assessment of Quality of Life	Childhood trauma and belonging were significantly, negatively	76

					37.9% male		Screening Inventory	(Relationship Domain)	correlated in females (r= -.18, p< .01) but not in males. Path analysis showed that childhood trauma was directly, negatively associated with belonging (β= -.05, p< .001). Belonging also mediated the relationship between childhood trauma (predictor) and risky alcohol use (outcome) (β= .04, p< .05).	
Rew et al. (2001a)	Texas, USA	Cross-sectional	Homeless young people	59	36% female 64% male	18.66 (1.65)	Population Characteristics Survey	Social Connectedness Scale	Childhood sexual abuse did not predict social connectedness.	81
Zhornitsky et al. (2020)	USA	Cross-sectional	Cocaine dependant adults	70	32.9% female 67.1% male	Females 44.4 (7.7) Males 46.6 (6.3)	Childhood Trauma Questionnaire (28-item)	Interpersonal Needs Questionnaire (25-item)	Regression analyses were conducted for cocaine-dependent participants only. When males and females were combined, thwarted belongingness was predicted by both childhood emotional abuse (β= .63, t= 2.90, p< .01) and sexual abuse (β= .34, t= 2.03, p< .05). When split by biological sex, only emotional abuse predicted thwarted belongingness in males (β= 1.10, t= 5.22, p< .0001), and neither emotional or sexual abuse predicted thwarted belongingness in females.	62
			Healthy controls	70	35.7% female 64.3% male	Females 43.3 (11.6) Males 45.7 (9.7)				

Allbaugh et al. (2017)	USA	Cross-sectional	African-American women from public hospital (inpatients and outpatients) reporting both a suicide attempt and exposure to intimate partner violence in the last year	179	100% female	36.5 (10.55)	Childhood Trauma Questionnaire (28-item)	Interpersonal Needs Questionnaire (25-item)	No correlation between different types of childhood abuse and thwarted belongingness. Thwarted belongingness did not mediate the relationship between childhood abuse and suicide resilience, nor was there a direct effect of any type of abuse on thwarted belongingness.	74
Bryan et al. (2013)	USA	Cross-sectional	Military personnel	273	18.3% female 81.7% male	25.99 (5.90)	Novel questionnaire	ISEL Belonging Subscale	A significant negative correlation between having experienced physical or sexual abuse as a child and sense of belonging (r= -.14, p<.05) in military sample. No significant correlation between having experienced physical or sexual abuse as a child and sense of belonging in undergraduate sample.	67
			Undergraduate students	309	53.7% female 46.3% male	19.83 (3.15)				
Prior & Quinn (2010)	USA	Cross-sectional	University students (Master's and undergraduate)	254	90.2% female 9.8% male	30 (no SD reported)	Childhood Trauma Questionnaire (28-item)	Social Connectedness Scale	A significant negative correlation between emotional neglect and social connectedness (r= -.284, p< .05). There was also a significant association between levels of severity of emotional neglect and connectedness to others (χ^2= 14.02, p= .05, df= 3).	81

Rew et al. (2001b)	USA	Cross-sectional	High school students	8806	52.4% female 47.6% male	Not reported	Minnesota Adolescent Health Survey	Minnesota Adolescent Health Survey	Social connectedness was significantly, negatively correlated with both childhood physical abuse (r= -.223, p< .01) and childhood sexual abuse (r= -.125, p< .01)	74

Table 4

Instruments and Measures

Measure	**Studies used**	**Type of Measure**	**Items**	**Examples**	**Scoring**	**Interpretation**	**Psychometric Properties in Reviewed Studies**
Belonging							
Interpersonal Needs Questionnaire (INQ-15) **(Van Orden et al., 2012)**	Puzia et al. (2014) Schönfelder et al. (2019) Smith et al. (2018) Spínola et al. (2020)	Self-report	9 items (Thwarted Belongingness Subscale)	"These days people care about me" "These days, I often feel like an outsider in social gatherings" "These days, I feel like I belong"	7-point Likert scale	Higher scores indicate higher thwarted belonging (i.e. lower sense of belonging)	In Puzia et al. (2014), α=.88 (good) In Schönfelder et al. (2019), α=.84 (good) In Smith et al. (2018), α=.93 (excellent) In Spínola et al. (2020), α=.83 at Time 1, α=.79 at Time 2 (good)
Interpersonal Needs Questionnaire (INQ-25) **(Van Orden et al., 2012)**	Allbaugh et al. (2017) Zhornitsky et al. (2020)	Self-report	10 items (Thwarted Belongingness Subscale)	"These days people care about me" "These days, I often feel like an outsider in social gatherings"	7-point Likert scale	Higher scores indicate higher thwarted belonging (i.e. lower sense of belonging)	In Allbaugh et al. (2017), α=.54 (poor) No psychometric information provided in Zhornitsky et al. (2020).

				"These days, I feel like I belong"			
Interpersonal Support Evaluation List (ISEL) **(Cohen, Mermelstein, Kamarck & Hoberman, 1985)**	Bryan et al. (2013) Seeds et al. (2010)	Self-report	10 items (Belonging Subscale)	"I don't often get invited to do things with others"	Dichotomously scored; whether or not they agree with the statement (Seeds et al., 2010) 4-point scale ranging from 'definitely false' to 'definitely true' (Bryan et al., 2013)	Higher scores indicate higher sense of belonging	In Bryan et al. (2013), α=.85 (good) in military sample, stated that α was comparable for undergraduate sample. In Seeds et al. (2010), α= .86 for full ISEL and α=.81 for Belonging Subscale (good)
Sense of Belonging Instrument (SOBI) **(Hagerty & Patusky, 1985)**	Corrales et al. (2016)	Self-report	17 items (Psychological State Subscale)	"I could disappear for days and it wouldn't matter to my family" "I would describe myself as a misfit in most social situations"	4-point scale (how much participants agree with the statement)	Higher scores indicate a *lower* sense of belonging	In Corrales et al. (2016), α=.93 (excellent)
Assessment of Quality of Life (AQoL-8D) **(Richardson et al., 2011)**	Torgerson et al. (2018)	Self-report	7 items (Relationship Domain Subscale)	"How much do you enjoy your close relationships (family and friends)?" "How often do you feel socially excluded or left out?"	4-, 5- or 6-point Likert scale	Higher scores indicate higher sense of belonging	In Torgerson et al. (2018), α=.84 in males and α=.85 in females (good)

Social Connectedness							
Social Connectedness Scale (SCS) **(Lee & Robbins, 1995)**	Prior & Quinn (2010) Rew et al. (2001a)	Self-report	8-items	“I feel disconnected from the world around me” “Even among my friends, there is no sense of brother/sisterhood” “Even around people I know, I don't feel that I really belong”	4-point scale (how much participants agree with the statement)	Higher scores indicate higher social connectedness	In Prior & Quinn (2010), α=.94 (excellent) In Rew et al. (2001a), α=.69 (acceptable)
Minnesota Adolescent Health Survey (MAHS) **(Blum et al., 1989)**	Rew et al. (2001b)	Self-report	9-items (as part of a larger instrument)	Information not available	Information not available	Higher scores indicated	In Rew et al. (2001b), α=.82 for Caucasian participants, α=.82 for African American participants, and α=.80 for Hispanic Latino participants (good)
Childhood Abuse							
Childhood Trauma Questionnaire (CTQ)	Allbaugh et al. (2017) Prior & Quinn (2010)	Self-report	28-items (5 subscles for emotional, physical or sexual abuse, physical	‘‘I thought that my parents wished I’d never been born’’ ‘‘People in my family hit me so hard that it	5-point Likert scale	Higher scores indicate higher levels of childhood trauma	Not available in Allbaugh et al. (2017). In Prior & Quinn (2010), for the emotional neglect subscale, α=.86 (good)

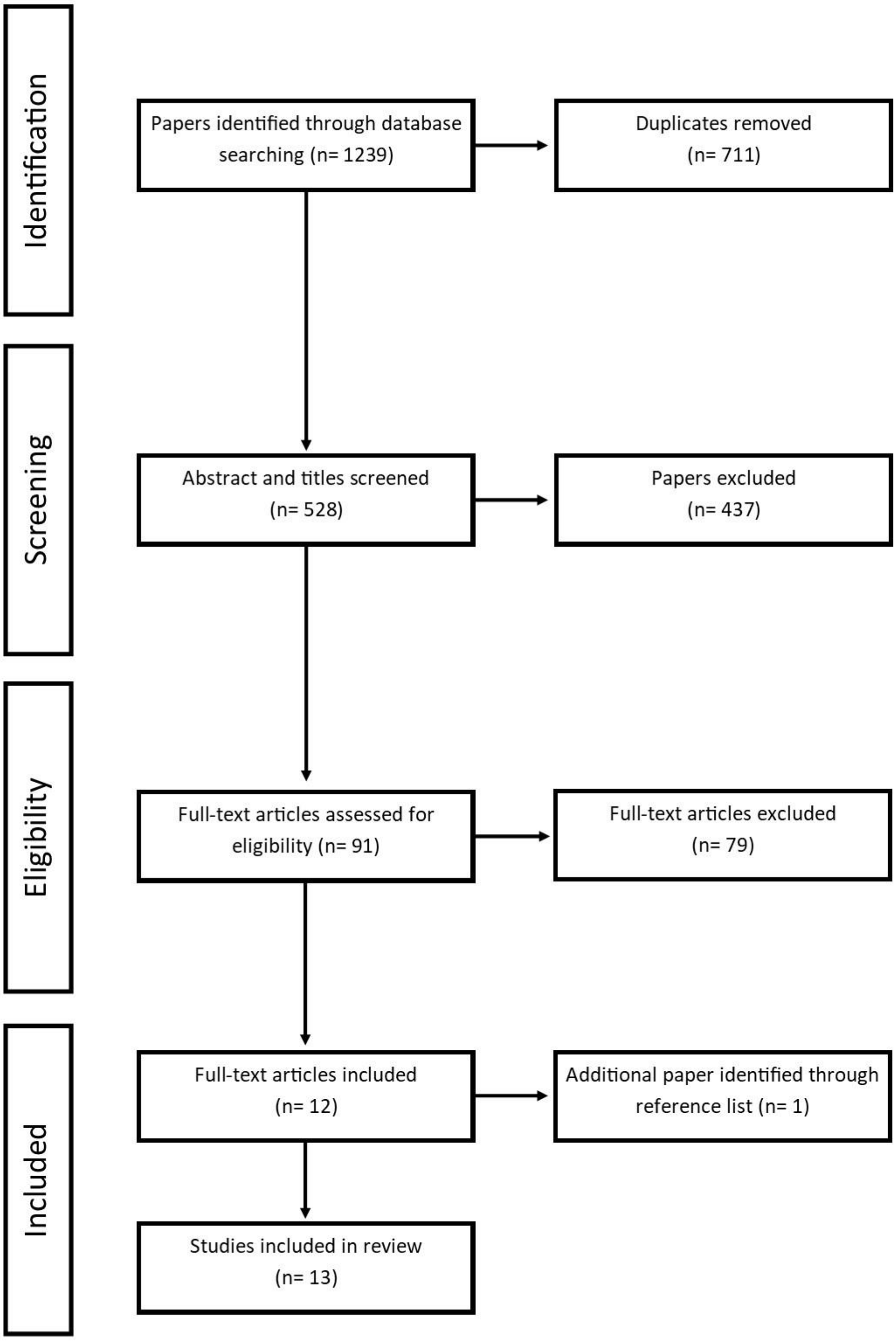
(Bernstein, Fink, Handelsman & Foote, 1998)	Puzia et al. (2014) Smith et al. (2018) Spínola et al. (2020) Zhortinsky et al. (2020)		and emotional neglect)	left me with bruises or marks’’ ‘‘Someone tried to make me do sexual things or watch sexual things’’			In Puzia et al. (2014), for emotional, physical and sexual abuse, α=.77, α=.81, α=.90, respectively (acceptable-excellent) In Smith et al. (2018), for emotional, physical and sexual abuse, α=.90. α=.90, α=.96 (excellent) In Spínola et al. (2020), α=.85 (good) Not provided in Zhortinsky et al. (2020)
Childhood Trauma Screener (CTS) **(Grabe et al., 2012)**	Schönfelder et al. (2019)	Self-report	5-items	Not available (CTS is a shorter version of the CTQ)	5-point Likert scale	Higher scores indicate higher levels of childhood trauma	In Schönfelder et al. (2019), α=.72 (acceptable)
Childhood Difficulties Questionnaire	Corrales et al. (2016)	Self-report	19-items	“I've been left alone without adults to care for me”	Dichotomously scored; whether or not they	Higher scores indicate higher number of adverse	In Corrales et al. (2016), α=.88 (good)

(CDQ) **(Corrales et al., 2016)**				“I've been exposed to unwanted sexual behaviour” “My parents separated or divorced”	experienced certain traumatic events (yes or no)	childhood experiences	
Traumatic Screening Events Inventory (TESI-A) **(Ford & Rogers, 1997)**	Torgerson et al. (2018)	Self-report	17-items	Not available	Dichotomously scored; whether or not they experienced certain traumatic events (yes or no)	Higher scores indicate higher instances of traumatic events	Not provided in Torgerson et al. (2018). Although the TESI has been shown to have sound psychometric properties, validity of the TESI when administered online (as it was in this case) is not known.
Minnesota Adolescent Health Survey (MAHS) **(Blum et al., 1989),**	Rew, Taylor-Seehafer, Thomas & Yockey (2001a) Rew, Thomas, Horner, Resnick and Beuhring (2001b)	Self-report	2-items as part of a larger instrument (Rew et al., 2001b) 1-item only as part of a larger instrument (Rew et al., 2001a)	Not available	Dichotomously scored; whether or not they experienced abuse (yes or no)	Higher scores indicate higher instances of abuse	Not available in Rew et al. (2001a) or Rew et al. (2001b).

Novel Instrument **(Bryan et al., 2013)**	Bryan et al. (2013)	Self-report	4-items (1-item relating to child abuse)	“Child physical or sexual abuse”	Dichotomously scored: whether or not they had experienced certain traumatic events (yes or no)	Higher scores indicate higher instances of abuse	Not available in Bryan et al. (2013)
Childhood Experience of Care and Abuse (CECA) **(Bifulco, Brown & Harris, 1994)**	Seeds et al. (2010)	Semi-structured contextual interview and standardised rating scale	Not applicable	Not applicable	Participants are interviewed and independent raters rank level of threat associated with each item. 4-point scale ranging from ‘marked’ to ‘little or none’ by comparing participant responses to case examples, then dichotomised to ‘severe’ or ‘non-severe’.	Higher scores indicate higher severity of abuse	Not available in Seeds et al. (2010)

Figures

Figure 1PRISMA Diagram



Appendices

Appendix 1-A

Data Extraction Form

Reference	
Research Aims	
Location	
Sample (n)	
Design	
Study Duration	
Recruitment	
Sample Characteristics	
Population	
Age	
Gender	
Clinical Presentation	
Ethnicity	
Education or Employment	
Data Collection	
Measure of Childhood Abuse	
Measure of Belonging	
Other Measures	
Analysis	
Key Findings	
Strengths	
Limitations	
Conclusions	
Comments	

Appendix 1-B

Journal of Aggression, Maltreatment & Trauma Instructions for Authors

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Tables

References

Figure or table captions

Footnotes

Endnotes

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Please note that long quotations should be indented without quotation marks.

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Updated 22nd November 2021

Section 2: Empirical Research Paper

Thwarted Belongingness and Intolerance of Uncertainty in Individuals with a Diagnosis of Bipolar Disorder

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Lancaster University

Doctorate in Clinical Psychology

December 2021

Word Count

Word count for text: 7,097

Word count for tables, figures, references and appendices: 10,796

Total word count: 17,893

Abstract

Background

This study investigates the relationship between belongingness and intolerance of uncertainty for people with a diagnosis of Bipolar Disorder. People with a diagnosis of Bipolar Disorder are thought to be at increased risk of suicide and thwarted belongingness is thought to be a risk factor for suicide, yet there is little existing research into belongingness for people with a diagnosis of Bipolar Disorder. It is possible that intolerance of uncertainty will affect one's ability to engage socially, which in turn could reduce feelings of belonginess. This study will investigate the relationship between intolerance of uncertainty and thwarted belongingness in people with a diagnosis of Bipolar Disorder.

Method

169 individuals who self-reported a Bipolar Disorder diagnosis took part in an online survey. Linear regression was used to ascertain the relationship between intolerance of uncertainty and thwarted belongingness, after controlling for other confounding variables.

Results

Intolerance of uncertainty (*part*= .263) and experiencing a current mood episode (*part*= .256) were found to be significantly associated with thwarted belongingness, over and above the impact of depression, stigma and being prescribed medication for Bipolar Disorder.

Conclusions

Intolerance of uncertainty is relevant to belongingness in people with a diagnosis of Bipolar Disorder. Interventions which tackle intolerance of uncertainty, may be helpful in addressing thwarted belongingness. Recommendations for future research are made as findings indicate more research is required.

Thwarted Belongingness and Intolerance of Uncertainty in Individuals with a Diagnosis of Bipolar Disorder

Belongingness, or a sense of belonging, refers to the sense that one is part of a valued group and the feeling of being connected to others. It is defined by Hagerty et al. (1992) as "an experience of personal involvement in a system or environment so that persons feel themselves to be an integral part of that system or environment".

The belongingness hypothesis (Baumeister & Leary, 1995) states that individuals have a desire to form interpersonal relationships, and that threats to one's sense of belonging can elicit negative emotions. According to Maslow's Hierarchy of Needs (1968), love and belonging are fundamental needs which humans are motivated to achieve, and it is thought that a desire to be accepted by others influences thoughts, emotions and behaviours (Baumeister & Tice, 1990; Leary, 1990). Baumeister and Tice's (1990) social exclusion theory of anxiety posits that a primary cause of anxiety is perceived exclusion from social groups, as social exclusion is an innate fear. Meaning that as humans, we are prone to a fear response, when our connection to social groups is threatened. The fear is suggested to trace back to socioanalytic theory (Hogan, 1982) and the idea that membership to a tribe would increase chances of survival. In short, the social exclusion theory of anxiety is based on the following propositions; humans possess a fundamental motive to avoid exclusion from social groups, much social behaviours reflect attempts to maintain inclusion, and that perception of social exclusion leads to negative affective states.

Baumeister and Tice (1990) suggest that anxiety does not result from chronic exclusion, but is rather an emotional response to the threat of exclusion. Although Baumeister and Tice (1990) also suggest that exclusion can make one vulnerable to increased anxiety, due to lack of connections providing comfort in times of distress. Leary (1990) develops these ideas further, based on the aforementioned propositions, to consider affective reactions to exclusion outside of anxiety, suggesting social anxiety (i.e. a motivation to achieve inclusion but lack of confidence in one's ability to do so), loneliness, jealousy and depression can all result from social exclusion. Furthermore, although the social exclusion theory of anxiety states that lack of belonging is a primary cause of anxiety, it is thought that anxiety itself is a heterogenous concept (Baumeister & Tice, 1990), impacted upon by many factors, one of which could be social exclusion.

Conversely, there appears to be a buffering effect of social inclusion on negative emotions. There are two principal models used to understand how social support impacts wellbeing, introduced by Cohen and Wills (1985); the buffering hypothesis and the main-effect model. The buffering hypothesis tells us that social support can act as a protective factor against the negative psychological impact of stressful events, whereas the main-effect model states social support has a beneficial impact on wellbeing regardless of whether someone is experiencing stress. Although these models present conflicting information on the role of social support, there is empirical evidence to support the relevance of both models (Cohen & Wills, 1985) and that they represent different processes by which social support impacts wellbeing. Irrespective of the process, the influence of connection to others on wellbeing is clear from the literature; whether that be in regards to social support (Harandi et al., 2017), social exclusion or a sense of belonging (Sargent et al., 2002; Torgerson et al., 2018; Treichler & Luckstead, 2018).

An example of the importance of belonging in wellbeing which is particularly relevant to this study is the relationship between belongingness and suicide, illustrated by Joiner's Interpersonal-Psychological Theory of Suicidal Behaviour (IPTS) (Joiner, 2005).

The Interpersonal-Psychological Theory of Suicidal Behaviour

The IPTS states that in order for someone to die by suicide, that they must have the desire and ability to do so (Joiner, 2005). The acquired capability for suicide is said to result from recurrent exposure and therefore habituation to painful or fearful experiences (e.g. previous suicide attempts or self-harm, a history of suicide in the family or childhood maltreatment) and so a cumulative tolerance for such pain. The desire for suicide is thought to result from the simultaneous experience of two interpersonal, psychological states; perceived burdensomeness and thwarted belongingness. Perceived burdensomeness refers to the perception that one’s existence itself is a burden to others and/or society. Thwarted belongingness is feeling alienated from valued social groups and is a construct of interest in the current study.

The IPTS as a model for predicting suicidal behaviour is supported in research literature (Ribeiro & Joiner, 2009) and is the theoretical model upon which this study is based. Although at present there is more evidence to support perceived burdensomeness as a predictor for suicidal behaviour, than thwarted belongingness (Van Orden et al., 2008; Hill & Pettit, 2012), there still exists a wealth of evidence to support thwarted belongingness as a risk factor, as illustrated in a review by Van Orden et al. (2010). It also appears from the literature that thwarted belongingness is an underlying mechanism which can explain the link between other factors and suicide. For example, in a sample of veterans, Rogers et al. (2017) found that thwarted belongingness explained the link between anger and risk of suicide. Similarly, there is evidence that thwarted belongingness explains the link between suicide and insomnia (Chu et al., 2017), grief (Hill et al., 2018) and alcohol related problems (Lamis & Malone, 2011) in various populations. It is thought that thwarted belongingness has two components; loneliness and the absence of reciprocal care, and that this can lead to a desire for suicide. According to the IPTS, thwarted belongingness is not a static trait, but a dynamic cognitive-affective state which is impacted upon by both interpersonal (e.g. number of people in one's social circle or a tendency to perceive others as rejecting) and intrapersonal factors (e.g. one's emotional state such as low mood).

The relationship between belongingness and suicidal behaviours is a particularly important issue for individuals with a diagnosis of bipolar disorder (BD), as they are thought to be at high risk of both self-harm (Singhal, Ross, Seminog, Hawton & Goldacre, 2014) and suicide (Eroglu, Karakus & Tamam, 2013; Goodwin & Jamison, 2007). There are very few studies which have examined the IPTS in relation to BD. However, one study by Silva et al. (2015) looked at IPTS constructs and their relevance to several psychiatric diagnoses, including BD. This study found that having a diagnosis of BD (along with depression and borderline personality disorder) was associated with feelings of thwarted belongingness and perceived burdensomeness, suggesting that such individuals are at a greater risk of suicide. Silva et al. suggest that this is due to certain diagnoses (including BD) being associated with social withdrawal or dependence on others, further highlighting the importance of the IPTS for people with a BD diagnosis.

Understanding Bipolar Disorder

BD is characterised as instability or changes in mood, ranging from very low mood to very high mood. Low mood in BD is understood in the same way as unipolar depression and involves periods of extreme sadness, loss of enjoyment in activities and often suicidality (Rihmer, 2001). According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (American Psychiatric Association, 1994), BD differs from unipolar depression in that people also experience periods of high mood, known as mania or hypomania. Mania can be understood as euphoric or irritable mood alongside an increase in energy. Other common features of mania include reduced need for sleep, impulsivity, hallucinations and delusions. These symptoms lead to a marked change in a person’s usual behaviour and cause significant impairment in functioning. Hypomania is defined in a similar way to mania yet is thought to cause less significant impairment to a person’s functioning (Strakowski, 2014).

Psychological Models of Bipolar Disorder

BD has long been regarded as having biological or genetic causes and there is evidence to support this (Goodwin and Jamison, 1990), leading to mostly pharmacological treatment. However more recently, psychological models have been proposed to explain how psychosocial factors may have implications for people with a diagnosis of BD. This shift can in part be attributed the proven efficacy of psychological treatments (alongside medication), as well as the apparent comorbidity of mental health difficulties which people with a BD diagnosis experience (Leahy, 2007). It has since been suggested that stress can trigger BD episodes and relapses (Brietzke et al., 2012) and there is evidence that certain life events can increase the risk of BD episodes (Alloy et al., 2005; Johnson & Roberts, 1985).

The Stress-Diathesis Model aims to understand the interplay of both the genetic and psychosocial factors contributing to mental health difficulties. The model was initially developed in relation to schizophrenia (Nuechterlein & Dawson, 1984), but has since been applied to many mental health diagnoses, including BD. This model tells us that the amount of stress needed to trigger an episode of mental ill-health varies between individuals. Some people are more vulnerable to developing mental health difficulties and so require less stress to trigger these problems. However, this model has been criticised as being lacking in its ability to explain the role of stress within mental health difficulties, particularly as there is a lack of evidence for a linear relationship between experiences of stress and psychopathology (Brietzke et al., 2012).

We must also consider the evidence for the role of the circadian system, as evidence tells us disruptions to these rhythms can act as a vulnerability factor for BD (Goodwin & Jamison, 1990). Although disruptions in circadian rhythms are likely influenced by genetics, it has been suggested that certain stressors (including interpersonal and environmental stressors) which lead to poor sleep can also cause rhythm instability, leading to an increase in experiences associated with a BD episode (Jones, 2001). These ideas are supported in a study by Harvey et al. (2016) investigating treatment for insomnia in people with a BD diagnosis, which was found to be associated with a reduced risk of relapse.

Psychological Therapeutic Approaches to Bipolar Disorder

In this section will be a brief overview of the available psychotherapies for people with a BD diagnosis and their current evidence base.

Psychoeducational Interventions

Psychoeducational interventions aim to educate individuals about their diagnosis to increase understanding of symptoms or warning signs and aid self-management. This can be done one-to-one with clients, in a group or as a family intervention. There is limited research (and so evidence) in regards to the efficacy of individual psychoeducation. One study reported fewer mania relapses and longer times between relapses in those who received such an intervention, as well as better social and work-related functioning, however these benefits did not extend to depressive symptoms (Perry, 1999). Similarly, the evidence base for the benefits of family psychoeducation is limited (Smith, Jones & Simpson, 2010). Jones (2004) suggests this lack of evidence may be due to methodological issues in research and a lack of BD appropriate outcome measures. That said, there is evidence that psychoeducation can increase knowledge of the benefits of medication and so improved adherence to pharmacological treatment, which in turn can have positive, long term effects for people with a BD diagnosis (Bond & Anderson, 2015). Watson and Dodd (2017) also found that psychoeducation delayed time until relapse in comparison to a peer support group. These findings suggest a potential benefit of psychoeducation, however more research is needed to reach a consensus.

Cognitive Behavioural Therapy

Cognitive Behavioural Therapy (CBT) has a substantial evidence base for use with individuals experiencing depression and more recently the application of CBT to BD has been investigated. The concept of CBT interventions for BD does not drastically differ from CBT for depression, focussing on thinking errors and cognitive distortions, whether that be during negative mood states or mania. A 2017 meta-analysis of randomised-controlled trials investigating CBT for BD (Chiang et al., 2017) showed that CBT does indeed appear to have benefits for people with a BD diagnosis; reducing low mood and mania severity, reduced relapse rates and improved psychosocial functioning. Interestingly, this review also found that sessions of 90 minutes or more had better outcomes for individuals with BD Type I, which is attributed to the ability to develop a stronger therapeutic relationship. A randomised-controlled trial by Scott et al. (2006) highlighted the complexity of using CBT in BD, as their findings suggested that CBT is possibly only helpful for those with less frequent recurring mood episodes. They state that this subgroup of individuals are likely a minority of those presenting to mental health services, which could have implications for the appropriateness of CBT for the ‘more complex’ majority.

Interpersonal and Social Rhythm Therapy

Interpersonal and Social Rhythm Therapy (IPSRT) (Frank, Swartz & Boland, 2007) was developed specifically for people with a BD diagnosis and is based in interpersonal therapy (IPT) (Klerman, Weissman & Rounsaville, 1984). As in IPT, IPSRT focuses on improving interpersonal relationships and functioning within one's social roles, whilst also supporting individuals to use structure and routine in their everyday life to maintain stability (e.g. regular wake times, meals and consistent adherence to medication). The importance of structure comes from our understanding of how disrupted circadian rhythms can have implications for mood and functioning for people with a BD diagnosis, IPSRT aims to regulate these rhythms. It also aims to improve understanding of events which may disrupt rhythms and how best to manage these (Frank et al., 2007).

The efficacy of IPSRT has limited research evidence in regard to beneficial outcomes for people with a BD diagnosis (Steardo et al., 2020), although the evidence we do have is promising. For example, IPSRT has been found to be associated with delayed relapse episodes and increased regularity of social rhythms (Frank et al., 2005). Furthermore, Steardo et al. (2020) found that participants receiving an IPSRT intervention showed improvements in symptoms of anxiety, depression and mania, psychosocial functioning, and response of medication. However, research findings are not unanimous. Crowe et al. (2020) found that IPSRT was associated with improved overall functioning, and yet even when used alongside medication, did not decrease mood episode relapses. Similarly, a recent meta-analysis of IPSRT for people with a BD diagnosis (Lam & Chung, 2021) found that although improved functioning was an outcome of the intervention, it did not improve symptomology.

Recently, Social Rhythm Therapy has been developed to incorporate the key aspects of IPSRT into a short, simple intervention which can easily be used in clinical practice

(Crowe, Inder, Swartz, Murray & Porter, 2020), however this is yet to be trialled for its effectiveness.

As shown above, although strides have been made recently in the development of psychological interventions for BD with promising results, these remain underdeveloped and there is no definitive answer as to their effectiveness. In order to address this, it may be helpful to take a less typical view of BD and consider the common clinical experiences for people with this diagnosis.

Sense of Belonging for Individuals with a Bipolar Disorder Diagnosis

A study by Taylor et al. (2016) suggested that individuals with a BD diagnosis may be susceptible to feelings of thwarted belongingness. They hypothesise characteristics of this diagnosis could reduce a sense of belonging, for example, aggression, impulsivity and risky behaviours. Considering the evidence that individuals with a BD diagnosis are a highly-stigmatised group (Hawke, Parikh & Michalak, 2013), we could also hypothesise this could reduce one's sense of belonging, a point discussed in detail below. That said, we should also consider that people could develop a sense of belonging within stigmatised or marginalised groups. Although there is no available research on this which is specifically relevant to people with a BD diagnosis, it has been documented that belonging within stigmatised groups can develop for people with a dual diagnosis (Blank, Finlay & Prior, 2016) and in black students living in America (Hunter, Case & Harvey, 2016), which could extend to other stigmatised groups, such as people with a BD diagnosis.

There is some evidence that feelings of thwarted belongingness in individuals with a BD diagnosis could be related with compromised relationships (Greenberg, Rosenblum, McInnis & Muzik, 2014), meaning that people with a BD diagnosis tend to experience difficulties with family, marital, work and other social relationships across their lifetime (Robb et al., 1997). Greenberg et al.'s review noted that individuals with a BD diagnosis frequently reported insecure attachment styles in adult relationships, experienced lower levels of social support and that reduced support is associated with adverse outcomes, such as increased symptom severity and impairment. Greenberg et al. also criticise the available literature due to lack of controlling for current mood state, as this may impact one's perceived level of social support. In spite of the important role that belonging plays as a candidate predictor of significant negative outcomes for people with BD diagnosis, there are few studies about the experience of belongingness in this population.

Anxiety and Intolerance of Uncertainty in Bipolar Disorder

As mentioned, there is evidence for a relationship between anxiety and belonging. However, this relationship has not been studied in relation to BD. High levels of anxiety are a prevalent experience in individuals with a BD diagnosis. Research by Kessler et al. (1997) found that 93% of individuals meeting the diagnostic criteria for a bipolar diagnosis in their lifetime, also met the criteria for a lifetime anxiety disorder diagnosis, compared to 25% in the general population. Furthermore, a recent review of the comorbid diagnosis of BD and anxiety found that at least half of individuals with a BD diagnosis are likely to develop an anxiety disorder within their lifetime (Spoorthy, Chakrabarti & Grover, 2019). Considering this, and the clear link between belonging and anxiety, research should address this relationship for people with a BD diagnosis specifically.

Anxiety can be conceptualised and understood in different ways. For example, according to Beck's cognitive model of anxiety (Beck, Emery & Greenberg, 1985) states that there are three core concepts resulting in anxiety; negative schemas about the world (i.e. that the world is a dangerous place), negative automatic thoughts (e.g. that one cannot cope or that other people cannot be trusted) and biases in thinking styles (e.g. catastrophising or jumping to conclusions). In this model it is proposed that individuals who experience anxiety tend to selectively attend to threat based information. Or more recently, the meta-cognitive model (Wells, 1995) has been used to understand anxiety and worry in relation to Generalised Anxiety Disorder. The meta-cognitive model states that not only do anxious individuals fear external events, but posits that 'type 2' worry also exists, where people regard anxiety (or worry) as uncontrollable and harmful, which can further increase anxiety. In this study, we are using the construct of Intolerance of Uncertainty (IU) to conceptualise anxiety. IU compliments previous cognitive models of anxiety and furthers our understanding of the mechanisms involved. IU is described as a dispositional characteristic which rises from a set of negative beliefs about uncertainty and its implications (i.e. uncertainty is distressing and unexpected events should be avoided). IU is thought to be key to the development and maintenance of anxiety (Dugas & Robichaud, 2006), as well as the distress associated with multiple psychiatric diagnoses (Boswell et al., 2013). To date, there is very little research into the role of IU for people with a diagnosis of BD and the current study will seek to address this. A recently published paper by Şen and Yildizhan (2020), which to our knowledge is the first to explore the concept of IU in the context of BD, concluded that individuals with a BD diagnosis who exhibit high levels of IU (alongside anxious attachment styles and increased levels of disability), could be at increased risk of suicide. Considering these findings, it is clearly important to further our understanding in regards to the experience of IU for people with a BD diagnosis.

The Relationship Between Belonging and Intolerance of Uncertainty

It is thought that individuals who are intolerant of uncertainty are more likely to experience worry when presented with uncertainty (Ladouceur, Gosselin, & Dugas, 2000).

Research into IU and social anxiety tells us that as social situations are inherently uncertain, such situations may cause individuals who are intolerant of uncertainty to feel anxious (Katz, Rector & Laposa, 2017). From this, we could infer that if an individual is intolerant of uncertainty, they may withdraw socially and that in turn, reduced social functioning could result in feelings of thwarted belongingness. In other words, an individual's ability to tolerate uncertainty may impact their perception of belongingness. However at present, there is an absence of research into IU for individuals with a BD diagnosis.

There is also evidence in psychosis literature which could help us to understand how IU impacts a person's sense of belonging. There is evidence that IU is related to a jumping to conclusions reasoning style (i.e. individuals make hasty decisions based on limited information) (Broome et al., 2007; Freeman et al., 2014), although there is some conflicting evidence for this relationship (Dudley et al., 2011). In turn, jumping to conclusions has been shown to contribute to persecutory delusions (Peters & Garety, 2006) and IU has been found to be associated with paranoia (Lebert et al., 2021). This could be relevant to belongingness, as we could logically assume that feeling persecuted and paranoid would impact both a person's ability to engage in interpersonal interactions and their sense of belonging (i.e. feeling valued or cared for). We must use this information with caution when applying it to a BD population, as this was not the target population of these studies, however these findings may be applicable to an extent, as psychotic experiences are often reported by people with a BD diagnosis (Goodwin and Jamison, 1990).

The Impact of Stigma on Belonging

Another important factor that could be related with belonging in this population is that of stigma, as individuals with a BD diagnosis often report stigmatisation as a result of their diagnosis (Hawke et al., 2013). Wastler et al. (2019) found that in veterans with a serious mental illness, internalised stigma and thwarted belongingness interact to increase risk of suicide, whilst Treichler and Luckstead (2018) found that a sense of belongingness can protect against internalised stigma in adults with a serious mental illness. These studies recruited participants with a diagnosis of a “serious mental illness”, including BD.

Psychological interventions for individuals with a BD diagnosis are underdeveloped (Jones et al., 2018; Oud et al, 2016), making this a challenging clinical issue. As argued, there is evidence to suggest that both belongingness and IU could contribute to negative outcomes for individuals with a diagnosis of BD, as well as indirect evidence that the two constructs could be related. However, there is no research into the experience of belongingness and IU in individuals with a diagnosis of BD.

In order to address this, we will explore the relationship between belongingness and IU, after controlling for the effect of other relevant factors such stigma and current mood state in the context of BD. In doing so, we can investigate the highly prevalent clinical experience of anxiety in people with a BD diagnosis (conceptualised as IU), and how this might relate to belongingness (which is considered a risk factor for suicide according to the IPTS). We hypothesise that participants who report higher intolerance of uncertainty will report higher levels of thwarted belongingness. If a relationship exists between these two factors over and above other confounders, and for example one’s ability to tolerate uncertainty is related to one’s sense of belongingness, this could benefit practice in clinical psychology, as evidence-based interventions targeting IU are readily available (Robichaud & Dugas, 2006). In turn, this could reduce the negative, sometimes devastating outcomes such as suicide, currently associated with thwarted belongingness and improve quality of life for individuals with a BD diagnosis.

Methods

Participants

Participants were 169 English speaking individuals aged 18+, self-reporting a BD diagnosis, who may or may not have been currently engaging with mental health services. Current mood state (i.e. depressive or (hypo)manic mood states) was not used as an exclusion criterion, however this was measured using mood questionnaires to allow its impact to be accounted for during analyses. Participants were recruited between January 2021 and August 2021.

Recruitment

Recruitment used convenience sampling and took place online, via relevant organisations and/or support groups from English speaking countries (i.e. UK, North America, Canada, New Zealand and Australia). These organisations were contacted directly, provided with details of the study, using a poster and participant information sheet and the researcher requested they disseminate details of the study to any members who would be interested in taking part. Any interested parties were provided with researcher contact details to register their interest or ask questions and were sent an email invitation to complete the study, containing a link to the REDCap survey site (Patridge & Bardyn, 2018) (REDCap was the system used to collect survey data). The link to the study was also circulated using a poster, via professional accounts on Twitter and Facebook.

Of the 169 people who clicked on the link to the survey, 132 consented to participate. Four people did not start the survey (i.e. completed less than one questionnaire) and 26 did not complete the survey (i.e. left one or more questionnaires incomplete), meaning that 102 participants completed the full survey.

Design

A cross-sectional study design was employed. Questionnaires were used to ascertain levels of belongingness, IU and stigma reported by each participant, as well as current mood state. Instruments used in this study are outlined below. All reported values regarding reliability are values for Cronbach's α.

Materials

Demographic Questionnaire. A demographic questionnaire was used to establish population characteristics and other relevant data (Sicilia et al., 2020). Participants were asked to provide details on their age, gender, sexual orientation, ethnicity, country of residence, employment status, current living situation and diagnosis. Within this section was a question asking participants if they were currently feeling very high or very low in mood, to establish whether participants felt they were experiencing a mood episode at the time of completion. This was a single item question which participants were invited to answer yes or no to. As a single question is not a validated measure of mood, however it has been used in previous studies (Sicilia et al., 2020; Lukacs et al., 2021). Furthermore, The 7 Up 7 Down Inventory (Youngstrom, Murray, Johnson & Findling, 2013), which is a validated measure, also asked participants about their mood over the last two weeks.

Interpersonal Needs Questionnaire. Belongingness was measured using the Belongingness subscale from The Interpersonal Needs Questionnaire (INQ) (Van Orden et al., 2012), which contains items such as "These days people care about me" and "These days, I often feel like an outsider in social gatherings". This subscale is composed of 10 items from a pool of the 25-item self-report assessment, designed specifically to measure perceived belongingness and burdensomeness. This subscale has been shown to have good internal consistency (.88) (Hill et al., 2015). The items used in this study were taken from the belonging subscale only. For this reason, a second measure of belongingness was used to evaluate the convergent validity of the INQ subscale. In the sample for this study, Cronbach's α for the INQ belongingness subscale was good at .85.

The Sense of Belongingness Instrument- Psychological State. The Sense of Belongingness Instrument- Psychological State (SOBI-P) (Hagerty & Patusky, 1995) was used to measure belongingness (alongside the 10-items taken from the INQ) and contains items such as "I could disappear for days and it wouldn't matter to my family" and "I would describe myself as a misfit in most social situations". The SOBI-P has been shown to have excellent internal consistency (.93) and good test-retest reliability (.84) when used with a clinical population (Hagerty & Patusky, 1995). In the sample for this study, Cronbach's α for the SOBI-P was .94.

The Intolerance of Uncertainty Scale. Intolerance of uncertainty was measured using 12-item The Intolerance of Uncertainty Scale Short Form (IUS-12) (Carleton, Norton, & Asmundson, 2007a) and contains items such as "Uncertainty keeps me from living a full life" and "Unforeseen events upset me greatly". This is an abbreviated version of the 27-item Intolerance of Uncertainty Scale (Freeston, Rhéaume, Letarte, Dugas, & Ladouceur, 1994). This has been found to have excellent internal consistency (.91) and good test-retest reliability (.74) (Freeston et al., 1994). In the sample for this study, Cronbach's α for the IUS-12 was excellent at .92.

The Inventory of Stigmatising Experiences. The Inventory of Stigmatising Experiences (ISE) was used to measure stigma experiences participants (Stuart, Milev & Koller, 2005). This instrument is comprised of two subscales, the Stigma Experiences Scale which contains items such as "Do you think that people think less of you if they know you have a mental illness?", and the Stigma Impact Scale, which asks how much stigma has affected different areas of a person's life such as family relations or self-esteem. This measure has shown strong reliability (.83 for the Stigma Experiences Scale and .91 for the

Stigma Impact Scale) and has been used to measure stigma in individuals with a diagnosis of Bipolar Disorder (Thomé et al., 2012). In the sample for this study, Cronbach's α for the Stigma Experiences Scale was .79 and for Stigma Impact Scale was .90.

The 7 Up 7 Down Inventory. The 7 Up 7 Down Inventory (Youngstrom, Murray, Johnson & Findling, 2013) was used to measure mood over the two weeks prior to participation. This is a brief 14-item measure of manic and depressive symptoms taken from the full 78-item General Behaviour Inventory (Depue et al., 1981). It is separated into two subscales; the '7 Up' which measures (hypo)manic tendencies and contains items such as "Have there been times lasting several days or more when you felt you must have lots of excitement, and you actually did a lot of new or different things?" and the '7 Down' which measures depressive tendencies and contains items such as "Have there been several days or more when you were so sad that it was quite painful or you felt that you couldn't stand it?". This measure has been shown to have excellent reliability (.83 for the mania items and .95 for depression items) and strong validity across multiple samples (Youngstrom et al., 2013). In the sample for this study, Cronbach's α for the 7 Up and 7 Down was excellent at .91 and .96 respectively.

Procedure

On following the link to the survey, participants were presented with a participant information sheet and asked to electronically sign a consent form if they wished to take part. Once participants had consented to take part they were asked to complete six online questionnaires in the following order; demographic questionnaire, 7 Up 7 Down Inventory, 10-item belongingness scale from the INQ, SOBI-P, IUS-12 and the ISE. Participation in the study took approximately 20 minutes. Following the completion of the questionnaires, debrief information was provided to participants, alongside contact details for both the researcher and sources of support relevant to their country of residence, should they have felt distressed following their participation. Questionnaire responses were downloaded from REDCap by the researcher and stored anonymously on the secure Lancaster University server.

Statistical Analysis

All statistical analysis was carried out using IMB SPSS 26.0 software. Cronbach's alpha was calculated for each of the scales used, in order to determine their internal consistency (reliability). All analyses were adequately powered following an a priori power calculation, which identified that in order to detect a medium effect size in a linear regression with up to six predictors, with a power of .80 and probability of p=.05, a minimum sample size of 98 was required.

Descriptive statistics and frequencies were used to conduct exploratory analyses to provide characteristics of the sample, as well as to identify any influential cases or patterns of missing data. In regards to missing data, analyses were conducted using only participants who had completed the main survey items (i.e. INQ belongingness subscale, SOBI-P and IUS). Demographic comparisons were made between those who had (completers, n=102) and had not completed the main questionnaires (non-completers, n=30). Correlation analyses were conducted to examine the associations between clinical and demographics variables, to inform the final regression model.

To answer the main research question, a linear regression analysis was conducted to test the relationship between thwarted belongingness and IU, after controlling for the effect of stigma and low mood, as well as the demographic variables identified in subsidiary correlational analyses; whether participants were prescribed medication for BD and whether or not they reported experiencing a current mood episode.

Results

Sample Demographic and Clinical Characteristics

A total of 169 participants initiated the questionnaire, 132 consented to take part and 128 of these completed at least the demographics section. Of these 128 individuals, 102 were used as the final sample, as these participants had completed the main questionnaires in relation to our research question. When comparing completers and non-completers in terms of age, no significant differences were found; t(118) = -1.559, *p* = .122. Similarly, no significant differences were found in terms of gender; χ^2(1, N=102)= .401, *p*= .527, or level of education; χ^2(3, N=102)= 2.172, *p*= .538, for these two groups. Demographic and clinical characteristics of the final sample are presented in Table 1. In summary, the mean age of participants was 35.35, and the majority of the sample were female (82.4%), white (89.2%), heterosexual (70.6%), cisgender (98%) and living in the United Kingdom (87.3%).

Correlational analyses were conducted to identify which demographic (Table 2) and clinical variables (Table 3) were associated with the dependent variable, thwarted belongingness. Six variables were found to be correlated with thwarted belongingness; current mood episode (i.e. whether or not participants reported feeling currently very high or very low in mood) (*r*= -.49, *p*< .01), medication (i.e. whether not participants were prescribed medication for BD) (*r*= -.27, *p*< .01), IUS-12 score (*r*= .44, *p*< .01), SOBI-P score (*r*= .77, *p*< .01), SES score (*r*= .34, *p*< .01) and 7 Down score (*r*= .36, *p*< .01).

To explore our main research question, a linear regression analysis was conducted with thwarted belongingness as the dependent variable (i.e. the total summed score on the

INQ belongingness subscale) (Table 4). The model also included potential confounding variables, which were identified as being correlated with thwarted belongingness in prior analysis. SOBI-P was not included in the model as this was used to evaluate the convergent validity of the INQ belongingness subscale. A regression model using the SOBI-P as the dependent variable was used to replicate findings of the model using the INQ belongingness subscale as the dependent variable.

The final, most stringent regression model (with the INQ as the dependent variable) was significant ($F(5,94)= 11.51$, $p< .05$, $R^2 = .38$). The findings indicate that depression, stigma experiences, intolerance of uncertainty, medication and current mood state collectively accounted for 38% of variance in thwarted belongingness. Intolerance of uncertainty (*part*= .263) and current mood episode (*part*= .256) were found to be significant predictors of thwarted belongingness (intolerance of uncertainty: $b= .236$, $t= 3.15$, $p< .05$; current mood episode: $b= 5.26$, $t= 3.23$, $p< .05$). This suggests that a unit increase in intolerance of uncertainty was associated with a .24 unit increase in thwarted belongingness, and a unit increase in current mood episode (i.e. feeling very low or very high in mood at the time of participation) was associated with a 5.26 unit increase in thwarted belongingness.

As a sensitivity analysis, a second regression analysis was conducted using the SOBI-P as the dependent variable, instead of the INQ (Table 5). This model was significant ($F(5,94)= 24.65$, $p< .05$, $R^2 = .57$). The findings indicate that depression, stigma experiences, intolerance of uncertainty, medication and current mood state collectively accounted for 57% of variance in thwarted belongingness, 19% more than the previous model. Again, intolerance of uncertainty (*part*= .345) and current mood episode (*part*= .228) were found to be significant predictors of thwarted belongingness (intolerance of uncertainty: $b= .428$, $t= 5.08$, $p< .05$; current mood episode: $b= 6.16$, $t= 3.37$, $p< .05$), as in the model using the INQ as the dependent variable, alongside depression (7 Down score; $part = .181$; $b = .456$, $t = 2.67$, $p < .05$).

Discussion

The current study aimed to investigate the relationship between intolerance of uncertainty and thwarted belongingness amongst people with a BD diagnosis, to ascertain whether individuals within this population who are intolerant of uncertainty, experience thwarted belongingness. The results of the regression analysis, in which intolerance of uncertainty and experiencing a current mood episode (i.e. very low or very high mood) were found to be significant predictors of thwarted belongingness, when the impact of stigma experiences, depression and medication was controlled for, support the idea that intolerance of uncertainty and one's sense of belonging are associated. Overall results are promising and appear to support our hypothesis, however it is not possible to infer causality from these findings, due to the cross-sectional design of the study.

To our knowledge, this is the first study to examine the relationship between intolerance of uncertainty and belongingness in this group. Our results suggest there could be a social aspect (i.e. affects one's sense of belonging) to an individual's experience of intolerance of uncertainty. Research into social anxiety has found that intolerance of uncertainty explained a significant amount of variance in severity of social anxiety, which supports this idea (Boelen & Reijntjes, 2009; Carleton, Collimore & Asmundson, 2009). It has been suggested that intolerance of uncertainty is central to anxiety (Dugas & Robichaud, 2006) and that for people who are intolerant of uncertainty, unpredictable situations will lead to increased anxiety (Dugas, Gosselin & Ladouceur, 2001). Furthermore it has been shown that inhibitory intolerance of uncertainty (i.e. the inability to act in the face of uncertainty) is significantly associated with several factors associated with social anxiety; social interaction, performance anxiety and social avoidance. Although these studies were conducted in the context of social anxiety, which is not our target population, these findings could support our hypothesis that people who are intolerant of uncertainty are less likely to engage socially (which in turn may impact belonging), particularly as social anxiety has been found to be a significant predictor of thwarted belongingness (Davidson et al., 2011). We should also acknowledge the relationship between paranoia and IU (Lebert et al., 2021), as previously discussed. Although this study did not measure paranoia and so definitive conclusions about this are not possible in the context of this study, it could be that high IU in relation to paranoia could also impact one's sense of belonging.

Sociotropy could also be relevant when interpreting the findings of this study. Sociotropy refers to a strong need to be cared for and approved of by others and is considered a stable personality trait. According to Beck (1983) people with high levels of sociotropy are more dependent on their social connections and view stress on or threats to their interpersonal relationships as a major loss and it has been found that high levels of sociotropy are related to interpersonal sensitivity (Otani et al., 2012). As it has been shown that people with a BD diagnosis exhibit higher levels of sociotropy than healthy controls (Scott et al., 2000), it could be possible that a high level of dependence of others could contribute to feelings of thwarted belongingness, if an individual's social needs are perceived to be unmet. There is no research into the relationship between sociotropy and belongingness in the context of BD, however it has been shown that sociotropy is positively correlated with social anxiety and avoidance (Fistikci et al., 2015), which tells us that people who are high in sociotropy experience anxiety in relation to social situations. Furthermore, Park and Kim (2019) and found a significant interaction between sociotropy and thwarted belongingness in a non-clinical sample of Korean university students, which supports the idea that sociotropy may play a role in one's sense of belongingness.

Recently there has been published research on the relationship between intolerance of uncertainty and loneliness in relation to the COVID-19 pandemic, with other populations. Although the similarities, differences and relationship between loneliness and belongingness is not currently well understood (Lim et al., 2021), current evidence suggests that there are similarities between the two, as they are both considered to relate to the continuum of social connectedness (Mellor et al., 2008). Furthermore, Lim et al. (2021) proposed a Dual Continuum Model of Belonging and Loneliness which provides a framework to understand the relationship between the two. We could therefore, with caution, use this research on intolerance of uncertainty and loneliness to further contextualise the findings of the current study. For example, Parlapani et al. (2020) found that in Greek older adults, loneliness and intolerance of uncertainty were positively correlated (r= .335, p< .01) and that intolerance of uncertainty was a significant predictor of loneliness, during the COVID-19 pandemic. Furthermore, Rehman et al. (2021) found that in university students, during the pandemic, that loneliness mediated the relationship between intolerance of uncertainty and mental wellbeing. In Rehman et al.'s study, it is suggested that loneliness is 'nourished' by uncertainty, leading to poor mental wellbeing, although the mechanisms behind this are not explicated. These findings provide further evidence that there is an existing relationship between intolerance of uncertainty and loneliness (which is thought to exist on the same continuum as belongingness). We should consider the unique challenges brought by a global pandemic, which may not apply specifically to people with a BD diagnosis, for example increased and unexpected levels of uncertainty generally, or specifically the duration of self-isolation or quarantine, which could logically lead to loneliness. That said, this study was conducted in the midst of the COVID-19 pandemic, so could still be relevant to our results.

Despite the recent considerations of intolerance of uncertainty as a transdiagnostic process (Einstein, 2014), it has yet to be studied in detail in regards to people with a BD diagnosis, however our results could suggest that this construct is relevant to such individuals. As it is closely related with worry (Dugas, Schwartz & Francis, 2004), intolerance of uncertainty was previously thought to be specific to Generalised Anxiety Disorder (Sexton et al., 2003), however recent research has found that intolerance of uncertainty is relevant to individuals with other psychiatric diagnoses, including Major Depressive Disorder and Obsessive Compulsive Disorder (Gentes & Ruscio, 2011). If we consider the high levels of anxiety often reported amongst those with a BD diagnosis (Kessler et al., 1997), it seems reasonable to assume that intolerance of uncertainty could also be relevant to BD. A recently published paper (Şen & Yildizhan, 2020), which to our knowledge is the first published research to investigate of intolerance of uncertainty in BD, found that for people with a BD diagnosis who were considered to be in remission, increased intolerance of uncertainty was related with duration of illness, number of previous mood episodes and number of previous hospitalisation. It is possible that IU is associated with these factors via traumatic experiences, as research had found that recurrent BD mood episodes and hospitalisation experiences are traumatic (Cohen, 1994; Strawn et al., 2010) and that traumatic experiences can impact levels of IU (Lytvyn, 2020). Interestingly, Şen and Yildizhan's study also found a relationship between anxious attachment styles and intolerance of uncertainty. It is thought that people with insecure attachment styles are more likely to worry about social relationships and their ability to cope with uncertainty in these relationships, as a result of inconsistent care in early life (Wright et al., 2017). Insecure attachment styles are found more frequently in individuals with a BD diagnosis (Morriss et al., 2009) and so this could provide us with a further framework to understand how intolerance of uncertainty is relevant to people with a diagnosis of BD. Considering the role that attachment can play in intolerance of uncertainty and thwarted belongingness (Venta et al., 2014), understanding the interplay of attachment, intolerance of uncertainty and belongingness should be a focus of future research in regards to BD.

The Impact of Experiencing a Current Mood Episode

The findings of the current study indicated that alongside intolerance of uncertainty, currently experiencing a mood episode (feeling either very high or very low in mood) was significantly associated with thwarted belongingness. This is to be expected, as there is a wealth of research showing that depression is related to feelings of thwarted belongingness (Anestis, Moberg & Arnau, 2014; Davidson et al., 2011; Silva, Ribeiro & Joiner, 2015). More specifically to BD, it has been suggested that symptoms of mania (or hypomania), such as impulsivity, aggression, reduced insight and risky behaviours have negative consequences such as interpersonal alienation, which could lead to thwarted belongingness (Taylor et al., 2016). We should also consider mixed mood states, as these have been shown to be the strongest predictor of suicidal behaviour for individuals with a BD diagnosis (Valtonen et al., 2008), however the role of thwarted belongingness in this relationship is yet to be investigated. The impact of experiencing a mood episode on thwarted belongingness also has clinical importance, particularly considering the increased risk for suicide which is experienced by individuals with a BD diagnosis in comparison to both the general population and other clinical populations (Eroglu, Karakus & Tamam, 2013) and so should be considered when supporting people who are currently experiencing a mood episode.

Strengths and Limitations

This study is not without limitations. Firstly, the sample contained little diversity in terms of location, gender and race. Although this study recruited participants internationally, the majority of our final sample were white females, residing in the UK, which could impact the generalisability of our findings to other populations. We should also consider the lack of diversity in terms of sexual orientation and gender identity, as it has been shown that members of the LGBTQIA+ community experience increased levels of stigma (Gates, 2013) and a lower sense of belongingness, as a result of institutionalised discrimination (Concannon, 2008; Meyer, 2003). Secondly, this study employed a cross-sectional design, which precludes the inference of causality. Thirdly, due to funding, time and study design restrictions, this study relied on participants self-reporting a BD diagnosis. Although items were included in the final survey, which allowed the authors to evaluate the data in regards to the self-reported diagnosis, it is not possible to be certain that all participants met the diagnostic criteria for bipolar disorder, which may impact on the validity of our findings. Future research should seek to address this by recruiting via clinical services for people with an established BD diagnosis. The timing of this study was also not ideal, in that data was collected during the COVID-19 pandemic and so in an unusual and unique context. As a result, our findings should be interpreted with caution, particularly considering how increased self-isolation may affect belongingness (Gratz et al., 2020) and high levels of uncertainty in regards to the pandemic can affect those who are intolerant of uncertainty (Seco Ferreira et al., 2020). A limitation also exists in the fact that listwise deletion was used to manage missing data in this study, rather than approaches such as multiple imputation. It is possible that listwise deletion could lead to bias in the regression analysis. Therefore, results should be interpreted with some caution. Finally, although suicidality is a key element of the IPTS model which we have used to contextualise our research, we did not fully explore or measure suicidality. Measuring suicidality would have enabled us to test the claims of the IPTS and although we believe that issues in which we are interested in are broader than the issue of suicidality, this should be considered a limitation and an area for future research. Despite limitations, this study had some strengths. This study is the first of its kind, in regards to both the constructs of interest, and the population. It therefore furthers our knowledge of both the relationship between intolerance of uncertainty and belongingness, and the experiences of people with a BD diagnosis. Furthermore, Cronbach's alpha for all instruments used ranged from good to excellent, supporting their internal consistency.

Clinical Implications

Our findings have important clinical implications in regards to potential psychological interventions. As previously discussed, psychological interventions are limited for people with BD diagnosis. Considering the growing evidence for intolerance of uncertainty as a transdiagnostic process, it could be that existing interventions which tackle intolerance of uncertainty could be of benefit to people with a BD diagnosis. Furthermore, belongingness is widely acknowledged as being related to mental wellbeing (Cajax & Gill, 2017; Morris, 2021), yet there are currently no interventions which have been evidenced to directly tackle thwarted belongingness. Given the evidence we have found for a relationship between intolerance of uncertainty and belongingness, it is possible that interventions targeting intolerance of uncertainty, will in turn improve one's sense of belonging. This is particularly important considering the evidence that interpersonal relationships can improve engagement in treatment (Ciechanowski et al., 2001) and relapse prevention (Miklowitz et al., 2005) for people with a BD diagnosis, suggesting that interventions which improve one's sense of belonging could lead to other positive outcomes for such individuals.

Recommendations for Future Research

In this study, we hypothesised that intolerance of uncertainty would be associated with belongingness in that uncertainty about social situations could lead to withdrawal and so an increased sense of thwarted belongingness. Although the current study found evidence to support an existing relationship between the two variables, the mechanisms behind this remain unknown. Future research should seek to address this. For example, a longitudinal design would enable the investigation of causality within this relationship and potentially provide evidence that thwarted belongingness is in part caused by intolerance of uncertainty, further contributing to our existing knowledge on this topic. It could also be useful to explore the relationships between IU, thwarted belongingness and early experiences (e.g. trauma, adversity or attachment disruption), considering the evidence for the association between childhood adversity and BD (Palmier-Claus et al., 2016). Furthermore, exploring the role of IU and thwarted belongingness in the context of established models of BD (e.g. Mansell et al., 2007) would be useful. This could allow us to further understand how individuals with a BD diagnosis respond to internal processes such as IU and thwarted belongingness and how this contributes to their difficulties. It is possible that qualitative research could be of use, as it would enable researchers to gain a deeper understanding of the experiences intolerance of uncertainty and belongingness for people with a BD diagnosis (and other populations), the narratives of these individuals may shed light on the processes or themes through which these two constructs are related.

As mentioned above, it is possible that interventions targeting intolerance of uncertainty would be appropriate for people with a BD diagnosis. Future research should evaluate the efficacy of such interventions for people with a BD diagnosis, to ascertain its clinical effectiveness. Similarly, future research could examine the impact of established intolerance of uncertainty interventions on thwarted belongingness.

References

Alloy, L., Abramson, L., Urošević, S., Walshaw, P., Nusslock, R. & Neeren, A. (2005). The psychosocial context of bipolar disorder: Environmental, cognitive, and developmental risk factors. *Clinical Psychology Review, 25*(8), 1043-1075. doi: 10.1016/j.cpr.2005.06.006

Altindag, A., Yanik, M., & Nebioglu, M. (2006). Comorbid personality disorders in subjects with bipolar I disorder. *International Journal of Psychiatry in Clinical Practice, 10*(1), 33–37. doi: 10.1080/13651500500305481

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). doi: 10.1176/appi.books.9780890425596

Anestis, M. D., Moberg, F. B., & Arnau, R. C. (2014). Hope and the interpersonal- psychological theory of suicidal behavior: Replication and extension of prior findings. *Suicide and Life-Threatening Behavior, 44*(2), 175-187. doi: 10.1111/sltb.12060

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117,* 497–529. doi: 10.1037.0033-2909.117.3.497

Baumeister, R. F. , & Tice, D. M. (1990). Anxiety and social exclusion. *Journal of Social and Clinical Psychology* , 9(2), 165–195. doi: 10.1521/jscp.1990.9.2.165

Beck, A. T., Epstein, N., Harrison, R. P., & Emery, G. (1983). Development of the Sociotropy-Autonomy Scale: A measure of personality factors in psychopathology. *Unpublished manuscript, University of Pennsylvania, Philadelphia, 406.*

Beck, A., Emery, G. & Greenberg, R. (1985). *Anxiety disorders and phobias : A cognitive perspective*. New York: Basic Books.

Blank, A., Finlay, L., & Prior, S. (2016). The lived experience of people with mental health and substance misuse problems: Dimensions of belonging. *British Journal of occupational therapy, 79*(7), 434-441. doi: 10.1177/0308022615627175

Boelen, P. A., & Reijntjes, A. (2009). Intolerance of uncertainty and social anxiety. *Journal of anxiety disorders, 23*(1), 130-135. doi: 10.1016/j.janxdis.2008.04.007

Bond, & Anderson, I. M. (2015). Psychoeducation for relapse prevention in bipolar disorder: a systematic review of efficacy in randomized controlled trials. *Bipolar Disorders, 17*(4), 349–362. doi: 10.1111/bdi.12287

Boswell, J. F., Thompson-Hollands, J., Farchione, T. J., & Barlow, D. H. (2013). Intolerance of uncertainty: A common factor in the treatment of emotional disorders. *Journal of clinical psychology, 69*(6), 630-645. doi: 10.1002/jclp.21965

Brietzke, Mansur, R. B., Soczynska, J., Powell, A. M., & McIntyre, R. S. (2012). A theoretical framework informing research about the role of stress in the pathophysiology of bipolar disorder. *Progress in Neuro-Psychopharmacology & Biological Psychiatry, 39*(1), 1–8. doi: 10.1016/j.pnpbp.2012.05.004

Broome, M. R., Johns, L. C., Valli, I., Woolley, J. B., Tabraham, P., Brett, C., ... & McGuire, P. K. (2007). Delusion formation and reasoning biases in those at clinical high risk for psychosis. *The British Journal of Psychiatry, 191*(51), 38-42. doi: 10.1192/bjp.191.51.s38

Carleton, R. N., Collimore, K. C., & Asmundson, G. J. (2010). “It's not just the judgements—It's that I don’t know”: Intolerance of uncertainty as a predictor of social anxiety. *Journal of Anxiety Disorders, 24*(2), 189-195. doi: 10.1016.j.janxdis.2009.10.007

Carleton, R. N., Norton, M. P. J., & Asmundson, G. J. (2007). Fearing the unknown: A short version of the Intolerance of Uncertainty Scale. *Journal of anxiety disorders*, *21*(1), 105-117. doi: 10.1016/j.janxdis.2006.03.014

Caxaj, C. S., & Gill, N. K. (2017). Belonging and mental wellbeing among a rural Indian-Canadian diaspora: Navigating tensions in “finding a space of our own”. *Qualitative health research*, *27*(8), 1119-1132. doi: 10.1177/1049732316648129

Chu, C., Hom, M. A., Rogers, M. L., Stanley, I. H., Ringer-Moberg, F. B., Podlogar, M. C., ... & Joiner, T. E. (2017). Insomnia and suicide-related behaviors: A multi-study investigation of thwarted belongingness as a distinct explanatory factor. *Journal of affective disorders*, *208*, 153-162. doi: 10.1016/j.jad.2016.08.065

Ciechanowski, P., Katon. W., Russo, J. & Walker, E. (2001). The patient-provider relationship: attachment theory and adherence to treatment in diabetes. *The American journal of psychiatry*, *158*, 29-35. doi: 10.1176/appi.ajp.158.1.29

Cohen, L. J. (1994). Psychiatric hospitalization as an experience of trauma. *Archives of Psychiatric Nursing*, *8*(2), 78-81.doi: 10.1016/0883-9417(94)90037-X

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological bulletin*, *98*(2), 310. doi: 10.1037/0033-2909.98.2.310

Concannon, L. (2008). Citizenship, sexual identity and social exclusion. *International Journal of Sociology and Social Policy*, *28*(10), 326–339. doi: 10.1108/ 01443330810900176

Crowe, M., Inder, M., Douglas, K., Carlyle, D., Wells, H., Jordan, J., ... & Porter, R. (2020). Interpersonal and social rhythm therapy for patients with major depressive disorder. *American journal of psychotherapy*, *73*(1), 29-34. doi: 10.1176/appi.psychotherapy.20190024

Crowe, M., Inder, M., Swartz, H. A., Murray, G., & Porter, R. (2020). Social rhythm therapy—a potentially translatable psychosocial intervention for bipolar disorder. *Bipolar disorders*, *22*(2), 121-127. doi: 10.1111/bdi.12840

Davidson, C. L., Wingate, L. R., Grant, D. M., Judah, M. R., & Mills, A. C. (2011). Interpersonal suicide risk and ideation: The influence of depression and social anxiety. *Journal of Social and Clinical Psychology*, *30*(8), 842-855. doi: 10.1521/jscp.2011.30.8.842

Depue, R., Slater, J., Wolfstetter-Kausch, H., Klein, D., Goplerud, E., & Farr, D. (1981). A behavioral paradigm for identifying persons at risk for bipolar depressive disorder: a conceptual framework and five validation studies. *Journal of abnormal psychology*, *90*(5), 381. doi: 10.1037/0021-843X.90.5.381

Dudley, R., Shaftoe, D., Cavanagh, K., Spencer, H., Ormrod, J., Turkington, D., & Freeston, M. (2011). 'Jumping to conclusions' in first-episode psychosis. *Early Intervention in Psychiatry*, *5*(1), 50-56. doi: 10.111/j.1751-7893.2010.00258.x

Dugas, M. J., Gosselin, P., & Ladouceur, R. (2001). Intolerance of uncertainty and worry: Investigating specificity in a nonclinical sample. *Cognitive therapy and Research*, *25*(5), 551-558. doi: 10.1023/A:1005553414688

Dugas, M. J., Schwartz, A., & Francis, K. (2004). Brief report: Intolerance of uncertainty, worry, and depression. *Cognitive Therapy and Research, 28*(6), 835-842. doi: 10.1007/s10608-004-0669-0

Einstein, D. A. (2014). Extension of the transdiagnostic model to focus on intolerance of uncertainty: A review of the literature and implications for treatment. *Clinical Psychology: Science & Practice*, *21*, 280-300. doi: 10.1111/cpsp.12077

Eroglu, M. Z., Karakus, G., & Tamam, L. (2013). Bipolar disorder and suicide. *Dusunen Adam, 26*(2), 139-147. doi: 10.1177/0004867415594428

Fistikci, N., Keyvan, A., Gorgulu, Y., Senyuva, G., Erten, E., & Sungur, M. Z. (2015). Sociotropic personality traits positively correlate with the severity of social anxiety. *South African Journal of Psychiatry*, *21*(2), 54-56. doi: 10.7196/SAJP.550

Frank, E., Kupfer, D. J., Thase, M. E., Mallinger, A. G., Swartz, H. A., Fagiolini, A. M., ... & Monk, T. (2005). Two-year outcomes for interpersonal and social rhythm therapy in individuals with bipolar I disorder. *Archives of general psychiatry*, *62*(9), 996-1004. doi: 10.1001/archpsyc.62.9.996

Frank, E., Swartz, H. A., & Boland, E. (2007). Interpersonal and social rhythm therapy: an intervention addressing rhythm dysregulation in bipolar disorder. *Dialogues in Clinical Neuroscience, 9*(3), 325–332. doi: 10.31887/DCNS.2007.9.3/efrank

Freeman, D., Startup, H., Dunn, G., Černis, E., Wingham, G., Pugh, K., ... & Kingdon, D. (2014). Understanding jumping to conclusions in patients with persecutory delusions: working memory and intolerance of uncertainty. *Psychological medicine*, *44*(14), 3017-3024. doi: 10.1017/S0033291714000592

Freeston, M., Rhéaume, J., Letarte, H., Dugas, M. J., & Ladouceur, R. (1994). Why do people worry? *Personality & Individual Differences, 17*(6), 791–802. doi: 10.1016/0191-8869(94)90048-5

Gates, G. J. (2013). Demographics and LGBT health. *Journal of health and social behavior*, *54*(1), 72-74. doi: 10.1177/0022146512474429

Gentes, E. L., & Ruscio, A. M. (2011). A meta-analysis of the relation of intolerance of uncertainty to symptoms of generalized anxiety disorder, major depressive disorder, and obsessive–compulsive disorder. *Clinical psychology review*, *31*(6), 923-933. doi: 10.1016/j.cpr.2011.05.001

Goodwin, F.& Jamison, K. (1990). *Manic-depressive illness.* Oxford University Press.

Goodwin, F.K., Jamison, K.R. (2007). Manic-Depressive Illness: Bipolar Disorders and Recurrent Depression. 2nd ed. New York: Oxford University Press.

Gratz, K. L., Tull, M. T., Richmond, J. R., Edmonds, K. A., Scamaldo, K. M., & Rose, J. P. (2020). Thwarted belongingness and perceived burdensomeness explain the associations of COVID-19 social and economic consequences to suicide risk. *Suicide and Life-Threatening Behavior*, *50*(6), 1140-1148. doi: 10.1111/sltb.12654

Greenberg, S., Rosenblum, K. L., McInnis, M. G., & Muzik, M. (2014). The role of social relationships in bipolar disorder: A review. *Psychiatry research*, *219*(2), 248-254. doi: 10.1016/j.psychres.2014.05.047

Hagerty, B. M., & Patusky, K. (1995). Developing a measure of sense of belonging. *Nursing research.*

Hagerty, B. M., Lynch-Sauer, J., Patusky, K. L., Bouwsema, M., & Collier, P. (1992). Sense of belonging: A vital mental health concept. *Archives of psychiatric nursing*, *6*(3), 172-177.

Harandi, T. F., Taghinasab, M. M., & Nayeri, T. D. (2017). The correlation of social support with mental health: A meta-analysis. *Electronic physician*, *9*(9), 5212. doi: 10.19082/5212

Harvey, A. G., Soehner, A. M., Kaplan, K. A., Hein, K., Lee, J., Kanady, J., ... & Buysse, D. J. (2015). Treating insomnia improves mood state, sleep, and functioning in bipolar disorder: a pilot randomized controlled trial. *Journal of consulting and clinical psychology*, *83*(3), 564. doi: 10.1037/a0038655

Hawke, L. D., Parikh, S. V., & Michalak, E. E. (2013). Stigma and bipolar disorder: a review of the literature. *Journal of affective disorders*, *150*(2), 181-191. doi: 10.1016/j.jad.2013.05.030

Hill, R. M., Kaplow, J. B., Oosterhoff, B., & Layne, C. M. (2019). Understanding grief reactions, thwarted belongingness, and suicide ideation in bereaved adolescents: Toward a unifying theory. *Journal of clinical psychology*, *75*(4), 780-793. doi: 10.1002/jclp.22731

Hill, R. M., & Pettit, J. W. (2013). The role of autonomy needs in suicidal ideation: Integrating the interpersonal-psychological theory of suicide and self-determination theory. *Archives of Suicide Research*, *17*(3), 288-301. doi: 10.1080/13811118.2013.777001

Hill, R. M., Rey, Y., Marin, C. E., Sharp, C., Green, K. L., & Pettit, J. W. (2015). Evaluating the Interpersonal Needs Questionnaire: Comparison of the reliability, factor structure, and predictive validity across five versions. *Suicide and Life-Threatening Behavior*, *45*(3), 302-314. doi: 10.1111/sltb.12129

Hogan, R. (1982). A socioanalytic theory of personality. In *Nebraska symposium on motivation*. Nebraska: University of Nebraska Press.

Hunter, C. D., Case, A. D., & Harvey, I. S. (2019). Black college students’ sense of belonging and racial identity. *International Journal of Inclusive Education*, *23*(9), 950-966. doi: 10.1080/13603116.2019.1602363

Johnson, S. L., & Roberts, J. E. (1995). Life events and bipolar disorder: implications from biological theories. *Psychological bulletin*, *117*(3), 434.

Joiner, T.E. (2005). *Why people die by suicide*. Cambridge, MA: Harvard University Press.

Jones. (2001). Circadian rhythms, multilevel models of emotion and bipolar disorder-an initial step towards integration? *Clinical Psychology Review, 21*(8), 1193–1209. doi: 10.1016/S0272-7358(01)00111-8

Jones, S. (2004). Psychotherapy of bipolar disorder: a review. *Journal of Affective Disorders, 80*(2-3), 101-114. doi: 10.1016/S0165-0327(03)00111-3

Jones, S. H., Knowles, D., Tyler, E., Holland, F., Peters, S., Lobban, F., ... & Owen, R. (2018). The feasibility and acceptability of a novel anxiety in bipolar disorder intervention compared to treatment as usual: A randomized controlled trial. *Depression and anxiety*, *35*(10), 953-965. doi: 10.1002/da.22781

Katz, D., Rector, N. A., & Laposa, J. M. (2017). The interaction of distress tolerance and intolerance of uncertainty in the prediction of symptom reduction across CBT for social anxiety disorder. *Cognitive Behaviour Therapy*, *46*(6), 459-477. doi: 10.1080/16506073.2017.1334087

Kessler, R. C., Rubinow, D. R., Holmes, C., Abelson, J. M., & Zhao, S. (1997). The epidemiology of DSM-III-R bipolar I disorder in a general population survey. *Psycholgical Medicine, 27*(5), 1079-1089. doi: 10.1017/S0033291797005333

Klerman, G. L., Weissman, M. M., Rounsaville, B., & Chevron, E. S. (1984). *Interpersonal Psychotherapy of Depression.* New York, NY: Basic Books.

Ladouceur, R., Gosselin, P., & Dugas, M. J. (2000). Experimental manipulation of intolerance of uncertainty: A study of a theoretical model of worry. *Behaviour research and therapy*, *38*(9), 933-941. doi: 10.1016/S0005-7967(99)00133-3

Lam, C. & Chung, M-H. (2019). A Meta-Analysis of the Effect of Interpersonal and Social Rhythm Therapy on Symptom and Functioning Improvement in Patients with Bipolar Disorders. *Applied Research in Quality of Life, 16*(1), 153–165. doi: 10.1007/s11482-019-09740-1

Lamis, D. A., & Malone, P. S. (2011). Alcohol-related problems and risk of suicide among college students: The mediating roles of belongingness and burdensomeness. *Suicide and Life-Threatening Behavior, 41*(5), 543-553. doi: 10.1111/j.1943-278X.2011.00052.x

Leahy, R. L. (2007). Bipolar disorder: Causes, contexts, and treatments. *Journal of clinical psychology, 63*(5), 417-424.

Leary, M. R. (1990). Responses to social exclusion: Social anxiety, jealousy, loneliness, depression, and low self-esteem. *Journal of Social and Clinical Psychology* , 9(2), 221–229. doi: 10.1521/jscp.1990.9.2.221

Lebert, L., Turkington, D., Freeston, M., & Dudley, R. (2021). Rumination, intolerance of uncertainty and paranoia in treatment resistant psychosis. *Psychosis*, *13*(1), 65-70. doi: 10.1080/17522439.2020.1798489

Lim, M. H., Allen, K. A., Furlong, M. J., Craig, H., & Smith, D. C. (2021). Introducing a dual continuum model of belonging and loneliness. *Australian Journal of Psychology*, *73*(1), 81-86. doi: 10.1080/00049530.2021.1883411

Lukacs, J., Sicilia, A., Jones, S., & Algorta, G. P. (2021). Interactions and implications of Fuzzy-Trace theory for risk taking behaviors in bipolar disorder. *Journal of Affective Disorders, 293,* 305–313. doi: 10.1016/j.jad.2021.06.035

Lytvyn, S. V. (2020). Tolerance of Uncertainty and Executive Dysfunction in People with Psychological Trauma. *International Academy Journal Web of Scholar*, *6*(48), 3-9. doi: 10.31435/rsglobal_wos/30062020/7125

Mansell, W., Morrison, A., Reid, G., Lowens, I., & Tai, S., & Tai, S. (2007). The Interpretation of and Responses to Changes in Internal States in Bipolar Disorder: An Integrative Cognitive Model. *Behavioural And Cognitive Psychotherapy*, *35*. doi: 10.1017/S1352465807003827

Maslow, A. H. (1954). Motivation and personality. *New York, & Brovers*, 241-246.

Mellor, D., Stokes, M., Firth, L., Hayashi, Y., & Cummins, R. (2008). Need for belonging, relationship satisfaction, loneliness, and life satisfaction. Personality and Individual Differences, 45(3), 213–218. doi: 10.1016/j.paid. 2008.03.020

Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. Psychological Bulletin, 129(5), 674–697. doi: 10.1037/0033-2909.129.5.674

Miklowitz, D., Wisniewski, S., Miyahara, S., Otto, M. & Sachs, G. (2005) Perceived criticism from family members as a predictor of the one-year course of bipolar disorder. *Psychiatry Research, 136*(2), 101-11. doi: 10.1016/j.psychres.2005.04.005

Morris, C. (2021). “Peering through the window looking in”: postgraduate experiences of non-belonging and belonging in relation to mental health and wellbeing. *Studies in Graduate and Postdoctoral Education, 12*(1). doi: 10.1108/SGPE-07-2020-0055

Morriss, R., van der Gucht, E., Lancaster, G. & Bentall, R. (2009) Adult attachment in bipolar 1 disorder. *Psychology and Psychotherapy, 82*(3), 267-77. doi: 10.1348/147608309X415309

Nuechterlein, & Dawson, M. E. (1984). A heuristic vulnerability/stress model of schizophrenic episodes. *Schizophrenia Bulletin, 10*(2), 300–312. doi: 10.1093/schbul/10.2.300

Otani, K., Suzuki, A., Kamata, M., Matsumoto, Y., Shibuya, N., & Sadahiro, R. (2012). Interpersonal sensitivity is correlated with sociotropy but not with autonomy in healthy subjects. Journal of Nervous and Mental Disease, 200(2), 153–155. doi:10.1097/NMD.0b013e3182438cba

Oud, M., Mayo-Wilson, E., Braidwood, R., Schulte, P., Jones, S. H., Morriss, R., ... & Kendall, T. (2016). Psychological interventions for adults with bipolar disorder: systematic review and meta-analysis. *The British Journal of Psychiatry*, *208*(3), 213-222. doi: 10.1192/bjp.bp.114.157123

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. doi: 10.1192/bjp.bp.115.179655

Park, Y., & Kim, H. S. (2019). The interaction between personality and interpersonal needs in predicting suicide ideation. *Psychiatry research*, *272*, 290-295. doi: 10.1016/psychres.2018.12.091

Patridge, E. F., & Bardyn, T. P. (2018). Research electronic data capture (REDCap). *Journal of the Medical Library Association: JMLA*, *106*(1), 142. doi: 10.5195/jmla.2018.319

Perry, A., Tarrier, N., Morriss, R., McCarthy, E., & Limb, K. (1999). Randomised controlled trial of efficacy of teaching patients with bipolar disorder to identify early symptoms of relapse and obtain treatment. *BMJ, 318*(7177), 149–53. Doi: 10.1136/bmj.318.7177.149

Peters, E., & Garety, P. A. (2006). Cognitive functioning in delusions: A longitudinal analysis. Behaviour Research and Therapy, 44, 481–514. doi: 10.1016/j.brat.2005.03.008

Rihmer, Z. (2001). Can better recognition and treatment of depression reduce suicide rates? A brief review. *European Psychiatry*, *16*(7), 406-409. doi: 10.1016/S0924-9338(01)00598-3

Ribeiro, J. D., & Joiner, T. E. (2009). The interpersonal-psychological theory of suicidal behavior: Current status and future directions. *Journal of clinical psychology*, *65*(12), 1291-1299. doi: 10.1002/jclp.20621

Robb, J. C., Cooke, R. G., Devins, G. M., Young, L. T., & Joffe, R. T. (1997). Quality of life and lifestyle disruption in euthymic bipolar disorder. *Journal of psychiatric research*, *31*(5), 509-517. doi: 10.1016/S0022-3956(97)00030-7

Robichaud, M., & Dugas, M. J. (2006). A cognitive-behavioral treatment targeting intolerance of uncertainty. *Worry and its psychological disorders: Theory, assessment and treatment*, 289-304. doi: 10.1080/13607863.2016

Rogers, M. L., Kelliher-Rabon, J., Hagan, C. R., Hirsch, J. K., & Joiner, T. E. (2017). Negative emotions in veterans relate to suicide risk through feelings of perceived burdensomeness and thwarted belongingness. *Journal of Affective Disorders*, *208*, 15-21. doi: 10.1016/j.jad.2016.09.038

Sargent, J., Williams, R. A., Hagerty, B., Lynch-Sauer, J., & Hoyle, K. (2002). Sense of belonging as a buffer against depressive symptoms. *Journal of the American Psychiatric Nurses Association*, *8*(4), 120-129. doi: 10.1067/mpn.2002.127290

Scott, J., Paykel, E., Morriss, R., Bentall, R., Kinderman, P., Johnson, T., Abbott, R., & Hayhurst, H. (2006). Cognitive–behavioural therapy for severe and recurrent bipolar disorders: randomised controlled trial. *The British Journal of Psychiatry*, *188*(4), 313-320. Doi: 10.1192/bjp.188.4.313

Scott, J., Stanton, B., Garland, A., & Ferrier, I. N. (2000). Cognitive vulnerability in patients with bipolar disorder. *Psychological medicine*, *30*(2), 467-472. doi: 10.1017/S0033291799008879

Seco Ferreira, D. C., Oliveira, W. L., Costa Delabrida, Z. N., Faro, A., & Cerqueira-Santos, E. (2020). Intolerance of uncertainty and mental health in Brazil during the Covid-19 pandemic. *Suma Psicológica*, *27*(1), 62-69. doi: 10.14349/sumapsi.2020.v27.n1.8

Sexton, K. A., Norton, P. J., Walker, J. R., & Norton, G. R. (2003). Hierarchical model of generalized and specific vulnerabilities in anxiety. *Cognitive Behaviour Therapy*, *32*(2), 82-94. doi: 10.1080/16506070302321

Sicilia, A. C., Lukacs, J. N., Jones, S., & Perez Algorta, G. (2020). Decision-making and risk in bipolar disorder: A quantitative study using fuzzy trace theory. *Psychology and Psychotherapy: Theory, Research and Practice*, *93*(1), 105-121. doi: 10.1111/papt.12215

Silva, C., Ribeiro, J. D., & Joiner, T. E. (2015). Mental disorders and thwarted belongingness, perceived burdensomeness, and acquired capability for suicide. *Psychiatry Research*, *226*(1), 316-327. doi: 10.1016/j.psychres.2015.01.008

Singhal, A., Ross, J., Seminog, O., Hawton, K., & Goldacre, M. (2014). Risk of self-harm and suicide in people with specific psychiatric and physical disorders: Comparisons between disorders using English national record linkage. *Journal of the Royal Society of Medicine, 107*(5), 194-204. doi: 10.1177/0141076814522033

Smith, D., Jones, I., & Simpson, S. (2010). Psychoeducation for bipolar disorder. *Advances in psychiatric treatment*, *16*(2), 147-154. doi: 10.1192/apt.bp.108.006403

Spoorthy, M. S., Chakrabarti, S., & Grover, S. (2019). Comorbidity of bipolar and anxiety disorders: An overview of trends in research. *World journal of psychiatry*, *9*(1), 7. doi: 10.5498/wjp.v9.i1.7

Steardo, L., Luciano, M., Sampogna, G., Zinno, F., Saviano, P., Staltari, F., ... & Fiorillo, A. (2020). Efficacy of the interpersonal and social rhythm therapy (IPSRT) in patients with bipolar disorder: results from a real-world, controlled trial. *Annals of general psychiatry*, *19*(1), 1-7. doi: 10.1186/s12991-020-00266-7

Strakowski, S. (2014). *Bipolar disorder*. New York: Oxford University Press.

Strawn, J. R., Adler, C. M., Fleck, D. E., Hanseman, D., Maue, D. K., Bitter, S., ... & DelBello, M. P. (2010). Post-traumatic stress symptoms and trauma exposure in youth with first episode bipolar disorder. *Early intervention in psychiatry*, *4*(2), 169-173. doi:10.1111/j.1751-7893.2010.00173.x

Stuart, H., Milev, R., & Koller, M. (2005). The Inventory of Stigmatizing Experiences: its development and reliability. *World Psychiatry*, *4*(1), 35-39.

Taylor, N. J., Mitchell, S. M., Roush, J. F., Brown, S. L., Jahn, D. R., & Cukrowicz, K. C. (2016). Thwarted interpersonal needs and suicide ideation: Comparing psychiatric inpatients with bipolar and non-bipolar mood disorders. *Psychiatry research*, *246*, 161-165. doi: 10.1016/j.psychres.2016.09.025

Taylor, N. J., Mitchell, S. M., Roush, J. F., Brown, S. L., Jahn, D. R., & Cukrowicz, K. C. (2016). Thwarted interpersonal needs and suicide ideation: Comparing psychiatric inpatients with bipolar and non-bipolar mood disorders. *Psychiatry research*, *246*, 161-165. doi: 10.1016/j.psychres.2016.09.025

Thomé, E. S., Dargél, A. A., Migliavacca, F. M., Potter, W. A., Jappur, D. M. C., Kapczinski, F., & Ceresér, K. M. (2012). Stigma experiences in bipolar patients: the impact upon functioning. *Journal of Psychiatric and Mental Health Nursing*, *19*(8), 665-671. doi: 10.1111/j.1365-2850.2011.01849.x

Torgerson, C. N., Love, H. A., & Vennum, A. (2018). The buffering effect of belonging on the negative association of childhood trauma with adult mental health and risky alcohol use. *Journal of substance abuse treatment*, *88*, 44-50. doi: 10.1016/j.jsat.2018.02.005

Treichler, E. B., & Lucksted, A. A. (2018). The role of sense of belonging in self-stigma among people with serious mental illnesses. *Psychiatric rehabilitation journal*, *41*(2), 149. doi: 10.1037/prj0000281

Valtonen, H. M., Suominen, K., Haukka, J., Mantere, O., Leppämäki, S., Arvilommi, P., & Isometsä, E. T. (2008). Differences in incidence of suicide attempts during phases of bipolar I and II disorders. *Bipolar disorders*, *10*(5), 588-596. doi: 10.1111/j.1399-5618.2007.00553.x

Van Orden, K. A., Cukrowicz, K. C., Witte, T. K., & Joiner Jr, T. E. (2012). Thwarted belongingness and perceived burdensomeness: construct validity and psychometric properties of the Interpersonal Needs Questionnaire. *Psychological assessment*, *24*(1), 197. doi: 10.1037/a0025358

Van Orden, K. A., Witte, T. K., Cukrowicz, K. C., Braithwaite, S. R., Selby, E. A., & Joiner Jr, T. E. (2010). The interpersonal theory of suicide. *Psychological review*, *117*(2), 575. doi: 10.1037/a0018697

Van Orden, K. A., Witte, T. K., Gordon, K. H., Bender, T. W., & Joiner Jr, T. E. (2008). Suicidal desire and the capability for suicide: Tests of the interpersonal-psychological theory of suicidal behavior among adults. *Journal of consulting and clinical psychology*, *76*(1), 72. doi: 10.1037/0022-006X.76.1.72

Venta, A., Mellick, W., Schatte, D., & Sharp, C. (2014). Preliminary evidence that thoughts of thwarted belongingness mediate the relations between level of attachment insecurity and depression and suicide-related thoughts in inpatient adolescents. *Journal of Social and Clinical Psychology*, *33*(5), 428-447. doi: 10.1521/jscp.2014.33.5.428

Wastler, H., Lucksted, A., Phalen, P., & Drapalski, A. (2019). Internalized stigma, sense of belonging, and suicidal ideation among veterans with serious mental illness. *Psychiatric rehabilitation journal*, *43*(2), 91-96. doi: 10.1037/prj0000386

Watson, S., & Dodd, A. (2017). Structured group psychoeducation in patients with bipolar disorder delays time to mania and time to any episode compared with a peer support group. *Evidence-Based Mental Health*, *20*(3), e15-e15. doi: 10.1136/eb-2017-102648

Wells, A. (1995). Meta-cognition and worry: A cognitive model of generalized anxiety disorder. *Behavioural and cognitive psychotherapy*, *23*(3), 301-320. doi: 10.1017/S1352465800015897

Wright, C. J., Clark, G. I., Rock, A. J., & Coventry, W. L. (2017). Intolerance of uncertainty mediates the relationship between adult attachment and worry. *Personality and Individual Differences, 112,* 97-102. doi: 10.1016/j.paid.2017.02.039

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 Behavior Inventory. *Psychological assessment*, *25*(4), 1377. doi: 10.1037/a0033975

Tables

Table 1

Demographic and Clinical Characteristics of the Final Sample

Variable	
Age, n, Mean(SD), [Range]	97, 35.35(9.85), [19-66]
Gender, n(%)	
Female	84(82)
Race, n(%)	
White	91(89)
Country of residence	
United Kingdom	89(87)
Sexual Orientation	
Heterosexual	72(70)
Gender Identity, n(%)	
Same as gender assigned at birth	100(98)
Employment, n(%)	
Employed	49(48)
Unemployed	27(27)
Student	14(14)
Retired	2(2)
Education, n(%)	
Secondary school graduate	47(46)
Undergraduate degree	36(35)
Master’s degree (or similar)	13(13)
Other	6(6)
Relationship status, n(%)	
Single	32(31)
Ina relationship	35(34)
Married/civil partnership	27(27)
Divorced/separated	8(8)
Living situation, n(%)	
Living alone	16(16)
Living with partner or spouse	51(50)
Living with family	24(24)
Shared accommodation	5(5)
Homeless	1(1)
Other	5(5)
Diagnosis Type, n(%)	
Bipolar Disorder Type 1	24(24)
Bipolar Disorder Type 2	49(48)
Bipolar Disorder NOS	27(27)

Other	2(2)
Time since diagnosis, n(%)	
Less than a year	15(15)
2-5 years	48(47)
6-10 years	24(24)
11-15 years	9(9)
16+ years	6(6)
Number of BD episodes since diagnosis, n(%)	
0-5 episodes	19(19)
6-10 episodes	27(27)
11-20 episodes	21(21)
20+ episodes	35(34)
Currently engaging in psychological therapy, n(%)	
Yes	33(32)
Currently receiving medication for BD, n(%)	
Yes	90(88)
Currently experiencing a mood episode, n(%)	
Yes	50(49)
Co-morbid psychiatric diagnosis, n(%)	
Yes	59(58)

Table 2

Point Biserial Correlations between INQ Score and Demographic Variables

	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1.	INQ score	1																	
2.	Location	-.082	1																
3.	Gender	-.017	-.290**	1															
4.	Sexual orientation	.021	-.063	.100	1														
5.	Ethnicity	-.020	.591**	-.095	.025	1													
6.	Employment	.161	.045	.099	-.011	.025	1												
7.	Relationship status	-.122	-.068	.054	-.117	-.127	.022	1											
8.	Living situation	.027	-.056	-.040	-.192	.025	.051	-.213*	1										
9.	Education	-.086	-.018	.029	-.096	.002	.156	.059	-.005	1									
10.	English as first language	-.080	-.589**	.072	.104	-.467**	-.048	.029	.010	-.026	1								
11.	Gender identity	.105	-.037	.120	-.109	.041	-.114	.024	.050	-.224*	-.025	1							
12.	Diagnosis	-.064	.158	-.059	-.064	.160	.114	-.059	.015	.081	-.238*	-.062	1						
13.	Time since diagnosis	-.152	.032	-.325**	-.125	-.054	-.065	.014	-.026	.073	.074	.060	-.062	1					
14.	No. of episodes	.158	.047	-.281**	.025	-.157	.067	.059	-.053	.111	.109	-.100	.080	.314**	1				
15.	Engaging in therapy	.097	.052	-.010	-.040	-.077	.105	-.035	.069	.184	-.128	-.204*	-.036	-.072	.050	1			
16.	Medication	.272**	-.421**	.183	-.028	-.227*	.000	.034	.030	.072	.126	-.050	-.060	-.064	.018	.033	1		
17.	Current episode	.492**	-.030	-.005	.107	-.026	-.016	.055	-.109	-.096	-.060	-.001	.001	-.253*	.217*	.028	.217*	1	
18.	Comorbid diagnosis	.155	-.123	.021	.197*	-.076	.009	-.071	.127	-.071	.204*	-.121	-.097	.057	.094	-.131	.027	.132	1

Note: *p<.05 **p<.01

Table 3

Correlations between Clinical Variables

Variables	INQ	IUS	SIS	SES	SOBI-P	Seven Up	Seven Down
INQ	1						
IUS	.444**	1					
SIS	.062	.193	1				
SES	.341**	.293**	.421**	1			
SOBI-P	.769**	.577**	.161	.465**	1		
Seven Up	.055	.151	.043	.158	.157	1	
Seven Down	.358**	.351**	.319**	.543**	.560**	.414**	1

Note: **p<.01

Table 4

Final Regression Model for Variables Predicting Thwarted Belongingness

Source	B	SE B	β	*t*	*p*
(Constant)	3.949	3.344		1.181	.241
Current episode	5.260	1.626	.305	3.236	.002
Medication	4.314	2.304	.157	1.873	.064
7 Down	.065	.152	.045	.430	.668
SES	.453	.329	.134	1.378	.172
IUS	.236	.075	.280	3.157	.002

Note: Overall model F(5,94)= 11.51, $p< .05$, $R^2 = .38$

Table 5

Sensitivity Analysis Regression Model for Variables Predicting Sense of Belonging (SOBI-P)

Source	B	SE B	β	*t*	*p*
(Constant)	4.867	3.765		1.293	.199
Current episode	6.164	1.830	.265	3.368	.001
Medication	.779	2.594	.021	.300	.765
7 Down	.456	.171	.232	2.672	.009
SES	.695	.370	.153	1.879	.063
IUS	.428	.084	.377	5.080	.000

Note: Overall model F(5,94)= 24.65, $p< .05$, $R^2 = .57$

Appendices

Appendix 2-A

Journal of Affective Disorders Guide for Authors

Description

The Journal of Affective Disorders publishes papers concerned with **affective disorders** in the widest sense: **depression, mania, anxiety and panic**. It is interdisciplinary and aims to bring together different approaches for a diverse readership. High quality papers will be accepted dealing with any aspect of affective disorders, including biochemistry, pharmacology, endocrinology, genetics, statistics, epidemiology, psychodynamics, classification, clinical studies and studies of all types of treatment.

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Cancer Research UK, 1975. Cancer statistics reports for the UK. http://www.cancerresearchuk.org/aboutcancer/statistics/cancerstatsreport/ (accessed 13 March 2003).
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[dataset] Oguro, M., Imahiro, S., Saito, S., Nakashizuka, T., 2015. Mortality data for Japanese oak wilt disease and surrounding forest compositions. Mendeley Data, v1. https://doi.org/10.17632/xwj98nb39r.1.
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Section 3: Critical Appraisal

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Doctorate in Clinical Psychology

December 2021

Word Count

Word count for text: 4,722

Word count for references: 1,683

Total word count: 6,405

Critical Appraisal

The previous sections of this thesis have focussed on belongingness in the context of Joiner's Interpersonal Psychological Theory of Suicide (IPTS) (2005). Belongingness is an important issue within mental health research and practice as it has been found to be a risk factor for suicide and other negative psychosocial outcomes (Baumeister et al., 2007) and so this thesis aimed to further our understanding of the nature of belongingness. There is evidence to suggest that childhood adversity (such as childhood abuse) is associated with feelings of thwarted belongingness in adulthood and so the systematic literature review addressed and summarised the existing evidence for the relationship between abuse in childhood and one's sense of belonging, with the aim of understanding more about the child abuse-suicide link. There is also evidence to suggest that people with a diagnosis of bipolar disorder (BD) are susceptible to feelings of thwarted belongingness (Silva, Ribeiro & Joiner, 2015). However, the experience of thwarted belongingness for people with a BD diagnosis has not been extensively investigated and available, evidence-based therapeutic interventions do not directly tackle this issue. Therefore, the empirical research paper investigated the relationship between thwarted belongingness and intolerance of uncertainty (IU), amongst a sample of individuals self-reporting a diagnosis of bipolar disorder (BD), with the aim of understanding if these two constructs are related to inform future research and practice. The findings of both the literature review and empirical research are outlined below.

The systematic literature review highlighted that individuals who experience abuse in childhood report a lower sense of belonging or a reduced sense of social connectedness later in life, across a range of populations. The findings showed that different forms of abuse can impact individuals' sense of belonging (or social connectedness) differently, with emotional abuse appearing to be most frequently related to belonging. The findings also suggest that gender may play a role in the impact of childhood abuse on belonging/social connectedness, however limited data and conflicting findings mean it is not possible to draw definitive conclusion on the role of gender. This review provides us with a broad view of the impact of childhood abuse on belonging (and social connectedness) which was previously unavailable and has highlighted the complex nature of the relationship between childhood abuse and belonging/social connectedness, providing avenues for future research such as the role of potential mediators (e.g. gender and culture) for this relationship. Considering the relationship between childhood abuse and suicidality, these findings are particularly important as they contribute to our knowledge of the role that belonging/social connectedness play in suicidality for individuals who have experienced childhood abuse. This highlights the importance of fostering belonging/social connectedness for individuals who have experienced childhood abuse in clinical practice.

The second section of this thesis, the empirical research paper, focussed on people with a BD diagnosis. The findings provide strong evidence that IU and thwarted belongingness are related in this population, as IU was found to significantly associated with thwarted belongingness, when controlling for other candidate predictors. Experiencing a mood episode (i.e. participants who felt very high or very low in mood at the time of participation) was also found to significantly predict thwarted belongingness, which is a finding supported elsewhere in research literature (Silva, Ribeiro & Joiner, 2015; Valtonen et al., 2008). These findings are important as they provide new evidence for a relationship between IU and thwarted belongingness in the context of BD, something which has not been evidenced elsewhere. These novel findings could inform clinical practice when working with people with BD who present with feelings of thwarted belongingness, as evidenced-based interventions for IU are available and as results suggest, these interventions could in turn be beneficial for tackling thwarted belongingness.

As strengths and limitations of the studies have been presented elsewhere in this thesis, this critical appraisal aims to further discuss the findings of the literature review and empirical paper in relation to attachment, as attachment has been found to be related to the main concepts addressed in this thesis; childhood abuse (Cicchetti & Valentino, 2006), thwarted belongingness (Venta et al., 2014) and intolerance of uncertainty (Wright et al., 2017), as well as the target population of the empirical paper (Morriss et al., 2009). Secondly, reflections on the use of psychiatric diagnosis and its impact on research and clinical practice are presented in relation to BD. Finally, comments on ethical considerations for conducting research during the COVID-19 pandemic are made.

The Role of Attachment

Interestingly, attachment seems to be a theme which is relevant to the findings of both the systematic literature review and the empirical paper. Childhood abuse is thought to affect one’s attachment quality (Cicchetti & Valentino, 2006) in that if a child’s caregiver is abusive or neglectful, insecure attachment styles can develop. This is to be expected, as Bowlby’s theory of attachment (1988) tells us that from an evolutionary perspective, an available attachment figure led to more protection and so an increased likelihood of survival and so as humans we have an innate motivation to form attachments. In instances where attachment is disrupted (for example in the case of childhood abuse), children can learn that others are cruel or hurtful and so avoid seeking help or connection, as an alternative means of survival. It is thought that a disorganised attachment style is often related to childhood abuse (White, Gibson & Wastell, 2019). For example, when a caregiver is seen as the child’s only source of safety but can also be unpredictability harmful and abusive, the child is left in an unsolvable and confusing situation as they cannot predict how the caregiver will respond to their needs. This is where the term ‘disorganised’ originates, as these experiences can lead to a lack of coherence when navigating relationships, where individuals seek love from others, but also may avoid proximity to others, for fear of being harmed. As defined by Bowlby (1982), attachment is a lasting psychological connectedness between human beings and attachment in early life can be a model for future relationships, meaning that disruption to one's attachment in childhood can cause difficulties in relationships throughout a person's life.

If we consider this in the context of the systematic literature review within this thesis, this could lead us to ask how an insecure attachment style, as a result of childhood abuse, could impact one's sense of belonging. Dykas and Cassidy (2011) posit that early experiences which impact attachment lead to the development of attachment-related schemas. They explain that as attachment is an interpersonal concept, these schemas are responsible for processing social information and so information will be processed in a biased way, depending on a person's attachment experiences. This tells us that if an individual has an insure attachment schemas, that social information will be processed in a negatively biased way. It has been suggested by Venta et al. (2014) that these attachment schemas relate to the constructs of Joiner's IPTS (2005), of which thwarted belongingness is one. This seems logical if we consider that thwarted belongingness is the sense that one is not valued or cared for and that insecure attachment styles relate to beliefs and cognitions regarding the lack of care provided by others. Considering this, it could be possible that disrupted attachment as a result of childhood abuse contributes to a low sense of belonging, via attachment related schemas and biased information processing. This idea is supported by the findings of Venta et al.'s study (2014), in which participants' level of maternal attachment security was related to thwarted belongingness and by Yıldız (2016), who also found a significant relationship between (both maternal and paternal) attachment and general belongingness.

If we consider attachment in the context of the empirical paper, it again appears to be a relevant theme. As discussed elsewhere, IU is a construct which is used to conceptualise worry and anxiety (Dugas & Robichaud, 2006). Studies have shown that IU is associated with attachment, for example Wright et al. (2017) found that both attachment anxiety and attachment avoidance were correlated with IU and that IU mediated the relationship between attachment anxiety and worry. Similarly, Clark et al. (2020) found that attachment anxiety was associated with IU and that IU mediated the relationship between attachment anxiety and worry. It is thought that adults with insecure attachment styles experience increased anxiety and/or avoidance in relation to attachment. Attachment anxiety is worry regarding the availability of others and so increased efforts to achieve closeness (Bartholomew & Horowitz, 1991), whilst attachment avoidance refers to a person's attempt to maintain independence in regards to meeting their own needs, as a result of beliefs that others cannot (Mikulincer, 1998). In terms of IU, as individuals with high attachment anxiety have a tendency to actively seek care within their relationships, Wright et al. (2017) hypothesise that this can be understood as attempts to reduce uncertainty as to whether or not their needs will be met, as a result of their attachment beliefs and fear of rejection, which is supported by their finding that attachment anxiety and IU are associated. Furthermore, it has been suggested that individuals who are high in attachment anxiety have a reduced sense of competence in the face of uncertainty (Sanchez et al., 2016) and that abusive parenting can lead to an reduced sense of personal control (Chorpita & Barlow, 1998), which in turn can lead to viewing uncertainty as threatening (Buhr & Dugas, 2006). Similar hypotheses were made by Wright et al. regarding those with high attachment avoidance, in that the avoidance of close relationships is an attempt to reduce uncertainty. However, this was not fully supported by research findings as IU only mediated the relationship between attachment avoidance and when attachment anxiety was not controlled for. Despite this, evidence does support an association between IU and attachment. Furthermore, there is evidence that intolerance of uncertainty is related to having experienced childhood abuse or adversity (Ghaderi et al., 2020; Hayward et al., 2020; Lam, 2015).

If we take a step back, it appears that difficulties with IU or feelings of thwarted belongingness may be a manifestation of insecure attachment styles. It could therefore be possible that when working clinically with clients and conceptualising there difficulties using IU or thwarted belongingness, we can indirectly target attachment related beliefs or schemas. This feels particularly important when we consider psychological formulation, the aim of which is to provide a framework for describing a client's problems, how it developed and is being maintained (Division of Clinical Psychology, 2011). When formulating with clients, we can use early experiences and attachment theory to develop a compassionate understanding of how client's difficulties with IU or belongingness may have developed.

Referring back to the empirical paper, it is also important to consider how the role of attachment is relevant to individuals with a diagnosis of BD. People with a BD diagnosis report increased rates of insecure attachment styles. For example, a study by Morriss et al. (2009) found that 78% of participants with a BD diagnosis reported an insecure attachment style, compared to only 32% in healthy controls. If we assume that attachment is indeed related to IU and belonging, as the research evidence suggests, insecure attachment styles could play a role in the findings of the empirical paper. We should also acknowledge that research has found that people with a BD diagnosis report more frequent childhood abuse experiences than their 'healthy' counterparts (Kefeli et al., 2018; Palmier-Claus et al., 2016) and so could be more susceptible to developing insecure attachment styles.

The Use of Psychiatric Diagnosis

When putting together a proposal for the empirical research project, it became apparent that psychological interventions are underdeveloped for people with a BD diagnosis. If we look at guidance from the National Institute for Health and Care Excellence (NICE, 2020), two suggestions are made regarding psychological interventions in primary care for people with a diagnosis of BD; an evidence based, manualised, psychological intervention which has been specifically developed for BD (although no recommendations or suggestions are made as to which therapy model may be of use), or that individuals with a BD diagnosis are offered a high-intensity therapy which is recommended elsewhere in NICE guidance for individuals with a depression diagnosis (NICE, 2016). These are vague and highlight the lack of psychological interventions available to clinicians when working with people with a BD diagnosis. Furthermore, NICE guidance for the management of BD in secondary care (NICE, 2020), no psychological interventions are recommended for people experiencing hypo(mania) and instead the recommended line of treatment is pharmacological or electro-convulsive therapy. This lack of guidance is likely in part attributable to the current, dominant understanding of the nature of BD. It is still widely regarded as having biological/genetic origins and this is well supported in research literature (Goodwin & Jamison, 2007). Research into BD has therefore focussed on genetics (Scott, 1995) and resulted in pharmacological interventions receiving the most convincing evidence base. Despite this, it has become apparent that pharmacological interventions alone cannot maintain wellbeing for people with a BD diagnosis. For example in one study it was found that despite complying with medication, 40-60% of people with a BD diagnosis found that symptoms recurred within two years (Gitlin, 1995). As a result there has been a push in research to examine the efficacy of psychological interventions for BD and many studies have had positive results (Miklowitz, 2008). However in a review by Jones (2004), the quality of several studies within this area are criticised on a theoretical and methodological basis, bringing their findings into question.

Where does this leave clinicians in regards to offering psychotherapy to people with a BD diagnosis? As evidenced above, research into psychological interventions for BD is still evolving and guidance for clinicians is minimal, yet psychotherapists are expected to offer diagnosis-specific, evidence-based interventions to clients. In other words, diagnosis dictates the treatment options that are available to clients. It has been suggested that this due to the way in which psychiatry is modelled on physical health medicine, whereby accurate diagnosis leads to the correct treatment of an illness or disease (Schlesinger, 1969). However, psychiatry and diagnosis have been widely criticised, which raises questions as to the usefulness of diagnosis led care.

A Brief Critique of Psychiatric Diagnosis

The use of psychiatric diagnosis has long been criticised, particularly since to 1960s (Pilgrim, 2007) and yet remains the most prominent model in mental healthcare. Many critiques of this model are based in the idea that psychological distress and dysfunctional behaviours are responses to living, rather than a diagnosable medical conditions (e.g. Szasz, 1961). It also makes an assumption that all people with a specific diagnosis are relatively similar and that their difficulties can be defined by one term, providing little information on individual experience (MacNeil et al., 2012) or factors precipitating and perpetuating mental ill-health (Kendell & Jablensky, 2003), which feels at odds with the person-centred care we strive to provide. Furthermore, the concept of diagnostic inflation (Frances, 2013) has drawn attention to the way in which the expanding boundaries of diagnostic criteria mean more and more people now meet the criteria for a psychiatric diagnosis (e.g. Attention Deficit and Hyperactivity Disorder; Batstra et al., 2012) casting doubt on the validity of diagnosis. Bentall (2004) has also been highly critical of the predictive power of the diagnosis of psychotic disorders, which is supported by evidence showing that diagnosis does not predict treatment outcomes (Johnstone et al., 1988). He suggests that psychiatric diagnosis be abandoned as it cannot achieve what a medical diagnosis *should* do; distinguish people with one diagnosis from another, be reliably agreed upon by different clinicians or provide useful information about cause, prognosis or treatment options. In regards to client experience of diagnosis, it has been reported that clients can feel disempowered, marginalised and in some cases rejecting the idea of the diagnosis due to it feeling meaningless and without personal context (Perkins et al., 2013).

This is not to say diagnosis has no use. It does allow for ease of communication between professionals due to a general shared understanding of diagnostic language (Vieta & Phillips, 2007) and can give an indication of the types of experiences an individual with a specific diagnosis may have. In terms of client experiences, research has evidenced that service users' experiences of receiving a psychiatric diagnosis have positive, as well as negative implications. For example, in a qualitative study (Horn, Johnstone & Brook, 2007) with individuals who has received a borderline personality disorder diagnosis, participants reported that receiving a diagnosis provided clarity and a framework through which to understand their experiences and an increased sense of control and hope for future change, as well as increased access to services. However this was not a universal experience for the sample and negative experiences were also reported, for example feeling rejected or labelled in a negative way. Similarly, Johnstone (2014) reported that clients express feelings of stigma, shame, hopelessness and worthlessness in response to receiving a psychiatric diagnosis.

Diagnosis of Bipolar Disorder

There exists a lot of controversy around the diagnosis of BD and the validity of this diagnosis has been criticised. In a review by Vieta and Phillips (2007), BD diagnoses are criticised on the basis of content, concurrent, discriminant and predictive validity. In regards to content validity, Vieta and Phillips argue that the diagnostic criteria in the Diagnostic and Statistical Manual of Mental Disorders (DSM) does not account for psychotic experiences as a 'symptom' of BD, nor does it differentiate between depressive symptoms associated with a

BD diagnosis and symptoms associated with unipolar depression. In short, they argue that the diagnostic criteria for BD do not account for the diverse experiences which occur in reality. Issues with concurrent validity come from the reliance on clinical interviews to ascertain a diagnosis, Vieta and Phillips argue that there are other sources of data which could be used in addition to improve the validity of BD diagnoses (e.g. family history, neuropsychological assessments or genetic markers). Finally, discriminant validity is brought into question due to the symptom overlap which is often seen when attempting to discretely categorise disorders (and so is not unique to BD but across many psychiatric diagnoses). They argue that in theory it is possible for one individual to meet the diagnostic criteria for over ten conditions, which in itself raises concerns about the ability of psychiatry to accurately discriminate between different diagnoses. Similarly, Bentall (2006) has criticised the validity of psychiatric classification of psychotic disorders, calling for a focus on understanding the psychology of phenomena (e.g. voice-hearing or delusions) rather than reliance on the vague and poorly defined categories provided by psychiatric classification. More recently a less categorical model of BD diagnosis has been proposed; known as the bipolar spectrum (Akiskal, Hirschfeld & Yerevanian, 1983) following criticism of the dichotomous categorisation of BD (Kukopulos et al., 1980; Koukopulos and Tundo, 1992), to include presentations of BD that were not traditionally defined in the DSM such as people with a family history of BD or (hypo)mania as a result of antidepressant use. The bipolar spectrum has however, been criticised for being vague and overinclusive (Kuiper et al., 2012), further highlighting the complexity of achieving ‘valid’ diagnosis.

As discussed in the systematic literature review, life events can lead to distress in later life (and this distress often leads to the diagnosis of a mental health condition). Something which diagnosis lacks is the acknowledgement of these events as explanatory factors for mental health difficulties, yet it is important to consider origin of people’s distress. There is a wealth of evidence which tells us adverse childhood experiences (ACEs) can have negative effects into adulthood, including a broad range of physical health issues (Hughes et al., 2017), drug use and anti-social behaviour (Schilling, Aseltine & Gore, 2007), mental health difficulties (Edwards et al., 2003) and even suicidal behaviour (Merrick et al., 2017). The term ACEs, as defined by the authors of the Adverse Childhood Experiences Scale (Felitti et al., 1998) includes a range of experiences, including abuse (physical, sexual and psychological abuse) and 'household dysfunction' (exposure to substance abuse, mental illness in the family, violence towards mother and criminal activity in the household). In clinical psychology, we are frequently working with individuals who have experienced ACEs and are experiencing psychological distress as a result, often these individuals have received some sort of psychiatric diagnosis, whether this be from their general practitioner or a psychiatrist. If we consider reported negative client experiences of receiving a diagnosis, it seems somewhat unethical to pathologise understandable reactions to adversity without an acknowledgement of the experience of adversity itself, particularly as the concept of diagnosis itself is questionable.

Formulation as an Alternative to Diagnosis

Kinderman et al. (2013) call for a revision of the way we interpret psychological distress, moving towards an understanding that distress is a part of life and a normal response to challenging circumstances, rather than a diagnosable 'disorder'. They suggest that in mental health care, a summary of a clients experiences, circumstances and context could suffice, in place of a diagnosis, something which is often referred to as formulation in clinical psychology practice (Johnstone & Dallos, 2006). Formulation is a process which aims to provide an understanding of a clients experiences, taking into account their personal history, current circumstances and social context and is now a recommended practice for clinical psychologists (DCP, 2011). If we consider the findings of the systematic literature review and the empirical project, as well as the relevance of attachment, it seems that there could be a better, more process-based way of understanding people’s experiences. The literature review provided evidence that childhood abuse is associated with one’s sense of belonging and the empirical project evidenced that IU (a transdiagnostic process) plays a role in sense of belonging for people with a BD diagnosis. If we were to rely on diagnosis alone to conceptualise people’s difficulties, we are missing pertinent information about the way in which problems can develop and be maintained, as well as potential avenues for intervention. If we refer back to the lack of psychological interventions available for people with a BD diagnosis, taking a more process based approach to understanding distress (such as acknowledging the role of attachment or intolerance of uncertainty) could be of benefit to people with a BD diagnosis, as there are existing evidence-based psychological interventions which can target these mechanisms.

Clinical Implications and Recommendations for Future Research

Considering the evidence outlined above, it appears that for people with a BD diagnosis, clinical practice and research is lacking in its ability to provide care which is entirely person-centred. Despite a move away from diagnosis in clinical psychology practice, the research which influences practice remains in the majority quantitative and diagnosis focussed. For example, randomised controlled trials are viewed as the gold standard research method within clinical psychology when ascertaining the effectiveness of an intervention, and so add substantial credibility to any findings using this method (Simon, 2001). Although experience orientated qualitative research is becoming more widely used (Smith, 2008), this is often seen as inferior by many researchers and has been criticised for a lack of rigour (Sarma, 2015). Because of this, it may be helpful for research in BD (including quantitative research) to take a step back from symptom focussed and consider the mechanisms and processes through which people experience distress. Additionally, more qualitative research in people's experience of BD could highlight important issues for clients, which may be missed by quantitative research. For example, a recent meta-analysis of qualitative research into BD (Warwick et al., 2019) found that important themes for clients were diagnosis, loss, threat, relationships and uncertainty. These findings led to important recommendations for what people with a BD diagnosis may find useful in psychological interventions, rather than a focus on symptom reduction. Similarly, in clinical practice, the use of formulation with clients with a BD diagnosis would allow for a more person-centred approach to intervention by allowing for a compassionate understanding of the processes through which they experience distress.

Ethical Considerations when Conducting Research During the Pandemic

There are always ethical issues to consider when conducting research in clinical psychology, as by nature it often involves personal, psychological information of potentially vulnerable individuals (Rae & Sullivan, 2003). For this reason, there is published guidance available from governing bodies to psychologists regarding both clinical practice and carrying out research, such as The British Psychological Society Code of Human Research Ethics (2014) and The American Psychological Association Ethical Principles of Psychologists and Code of Conduct (2017). Furthermore, according to such guidance, all clinical psychology research proposals should be subject to review by an institutional ethics board for approval before research can start, to minimise the risk of harm to research participants. For example, the empirical research paper within this thesis was approved by the Lancaster University Faculty of Health and Medicine Research Ethics Committee prior to recruitment and data collection.

A recent publication regarding ethical considerations for self-harm and suicide research during the pandemic (Townsend et al., 2020), tells us it is particularly important to consider the ethics of conducting research during the COVID-19 pandemic, as it brings potential for increased experiences of social isolation, financial difficulties, anxiety and uncertainty, which can make people more vulnerable to distress. Although the suggestions by Townsend et al. are specific to suicide and self-harm research and so not directly relevant, the concept of thwarted belongingness is closely related to suicidal behaviour, as modelled by the IPTS (Joiner, 2005) and so should be considered.

In regards to this study, the pandemic was already underway when the proposal was conceived, allowing us to account for reasonably foreseeable ethical issues we may encounter. However, unprecedented circumstances mean that we had limited knowledge as to how research can impact participants during this time. Due to participation taking place online, social distancing measures were not a concern and we were able to contact participants without face-to-face meetings. Despite all efforts to mitigate risk of harm to participants, asking about feelings of thwarted belongingness in times of increased isolation may be particularly distressing for participants. To combat this, participants were provided with signposting information which was appropriate to their location, in the form of phone numbers or online resources, to enable participants to access resources even in cases of self-isolation. Researcher contact details were also provided, for participants who may have experienced distress following participation, however in this case no participants contacted the researcher to report having experienced distress.

Townsend et al. (2020) suggest that a pre- and post-participation measure of mood could further safeguard participants. As psychological distress was not reported to the researcher by anyone who took part in the empirical research within this thesis, we could infer that participation in the study was unlikely to result in distress and so further measures to safeguard participants (e.g. a pre- and post-participation mood measure) were not necessary. However, it is possible that participants may have experienced distress but not informed the researcher. Adding a pre- and post-participation mood measure to the survey could have allowed for more shared responsibility in safeguarding participants, whereby the researcher could have observed any drastic changes in mood during participation. Monitoring mood in this way could also have enhanced our understanding of how responding to questions about our constructs of interest (e.g. sense of belonging) can impact mood. Using a pre- and post-participation mood measure may also have allowed researchers to gain insight into how research participation may affect people during the COVID-19 pandemic, which could have informed recommendations for future research.

Conclusion

This thesis has provided new insight into the experience of belongingness, in the context of Joiner's IPTS (2005). The author has presented a synthesis of evidence for a relationship between childhood abuse and reduced sense of belonging/social connectedness, as well as new evidence for a relationship between IU and thwarted belongingness in people with a BD diagnosis. These findings have been discussed in relation to attachment and have important clinical implications. This thesis has also presented a critique of the use of psychiatric diagnosis and highlighted its impact on client care. As a result of this thesis, recommendations have been made in regards to the acknowledgement of the impact of adverse life experiences on belonging, the use of existing interventions to tackle thwarted belongingness and a call for research to focus on the processes behind distress, rather than symptom reduction.

References

Akiskal, H. S., Hirschfeld, R. M., & Yerevanian, B. I. (1983). The relationship of personality to affective disorders: A critical review. *Archives of general psychiatry*, *40*(7), 801-810.

American Psychological Association. (2017). *Ethical principles of psychologists and code of conduct.* Retrieved from www.apa.org/ethics/code/ethics-code-2017.pdf

Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: a test of a four-category model. *Journal of personality and social psychology*, *61*(2), 226. doi: 10.1037/0022-3514.61.2.226

Batstra, L., Hadders-Algra, M. I., Nieweg, E. D., Van Tol, D., Pijl, S. J., & Frances, A. (2012). Childhood emotional and behavioral problems: reducing overdiagnosis without risking undertreatment. *Developmental Medicine & Child Neurology*, *54*(6), 492-494. doi: 10.111/j.1469-8749.2011.04176.x

Baumeister, R. F., Brewer, L. E., Tice, D. M., & Twenge, J. M. (2007). Thwarting the need to belong: Understanding the interpersonal and inner effects of social exclusion. *Social and Personality Psychology Compass*, *1*(1), 506-520. doi: 10.1111/j.1751-9004.2007.00020.x

Bentall, R. (2004). *Madness explained : Psychosis and human nature*. London: Penguin.

Bentall, R. (2006). Madness explained: why we must reject the Kraepelinian paradigm and replace it with a ‘complaint-orientated’approach to understanding mental illness. *Medical hypotheses*, *66*(2), 220-233. doi: 10.1016/j.mehy.2005.09.026

Bowlby, J. (1982). *Attachment and loss* (2nd ed.). New York: Basic Books.

Bowlby, J. (1988). A secure base: Parent-child attachment and healthy human development. New York: Basic Books.

British Psychological Society. (2014). Code of Human Research Ethics. Retrieved from www.bps.org.uk/sites/www.bps.org.uk/files/Policy/Policy%20-%20Files/BPS%20Code%20of%20Human%20Research%20Ethics.pdf

Buhr, K., & Dugas, M. J. (2006). Investigating the construct validity of intolerance of uncertainty and its unique relationship with worry. *Journal of Anxiety Disorders, 20*(2), 222-236. doi: 10.1016/j.janxdis.2004.12.004

Chorpita, B. F., & Barlow, D. H. (1998). The development of anxiety: the role of control in the early environment. *Psychological Bulletin, 124,* 3-21. doi: 10.1.1.333.8462

Clark, G. I., Rock, A. J., Clark, L. H., & Murray-Lyon, K. (2020). Adult attachment, worry and reassurance seeking: Investigating the role of intolerance of uncertainty. *Clinical Psychologist*, *24*(3), 294-305. doi: 10.111/cp/12218

Division of Clinical Psychology. (2011). *Good practice guidelines on the use of psychological formulation.* Leicester, England: British Psychological Society.

Dykas, M. J., & Cassidy, J. (2011). Attachment and the processing of social information across the life span: Theory and evidence. Psychological Bulletin, 137, 19–46. doi:10.1037/a0021367

Edwards, V. J., Holden, G. W., Felitti, V. J., & Anda, R. F. (2003). Relationship between multiple forms of childhood maltreatment and adult mental health in community respondents: results from the adverse childhood experiences study. *American Journal of Psychiatry*, *160*(8), 1453-1460. doi: 10.1176/appi.ajp.160.8.1453

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American journal of preventive medicine*, *14*(4), 245-258. doi: 10.1016/S0749-3797(98)00017-8

Frances, A. (2013). The past, present and future of psychiatric diagnosis. *World Psychiatry*, *12*(2), 111. doi: 10.1002/wps.20027

Ghaderi, M., Ahi, Q., Vaziri, S., Mansouri, A., & Shahabizadeh, F. (2020). The mediating role of emotion regulation and intolerance of uncertainty in the relationship between childhood maltreatment and nonsuicidal self-injury in adolescents. *International Archives of Health Sciences*, *7*(2), 96. doi: 10.4103/iahs.iahs_21_20

Gitlin M. J., Swendsen, J., Heller, T. L. & Hammen, C. (1995). Relapse and impairment in bipolar disorder. *American journal of psychiatry, 152*, 1635– 1640.

Goodwin, F., & Jamison, Kay R. (2007). *Manic-depressive illness : Bipolar disorders and recurrent depression* (2nd ed.). Oxford: Oxford University Press.

Hayward, L. E., Vartanian, L. R., Kwok, C., & Newby, J. M. (2020). How might childhood adversity predict adult psychological distress? Applying the Identity Disruption Model to understanding depression and anxiety disorders. *Journal of affective disorders*, *265*, 112-119. doi: 10.1016/j.jad.2020.01.036

Horn, N., Johnstone, L., & Brooke, S. (2007). Some service user perspectives on the diagnosis of borderline personality disorder. *Journal of mental Health*, *16*(2), 255-269. doi: 10.1080/09638230601056371

Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., ... & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. *The Lancet Public Health*, *2*(8), 356-366. doi: 10.1016/S2468-2667(17)30118-4

Johnstone, L., & Dallos, R. (2006). *Formulation in psychology and psychotherapy: making sense of people's problems*. London: Routledge.

Johnstone, E., Frith, C., Crow, T., & Owens, D. C. (1988). The Northwick Park" functional" psychosis study: diagnosis and treatment response. *The Lancet*, *332*(8603), 119-125. doi: 10.1017/S0033291700030270

Joiner, T. (2005). *Why people die by suicide*. Cambridge, MA: Harvard University Press.

Jones, S. (2004). Psychotherapy of bipolar disorder: a review. *Journal of Affective Disorders*, *80*(2-3), 101-114. doi: 10.1016/S0165-0327(03)00111-3

Kefeli, M. C., Turow, R. G., Yıldırım, A., & Boysan, M. (2018). Childhood maltreatment is associated with attachment insecurities, dissociation and alexithymia in bipolar disorder. *Psychiatry research, 260*, 391-399. doi: 10.1016/j.psychres.2017.12.026

Kendell, R. & Jablensky, A. (2003). Distinguishing Between the Validity and Utility of Psychiatric Diagnoses. *American journal of psychiatry, 160*(1), 4–12. doi:10.1176/appi.ajp.160.1.4

Kinderman, P., Read, J., Moncrieff, J., & Bentall, R. P. (2013). Drop the language of disorder. *Evidence-based Mental Health, 16*(1), 2-3. doi: 10.1136/eb-2012-100987

Koukopoulos, A., Faedda, G., Proietti, R., D'Amico, S., De Pisa, E., & Simonetto, C. (1992). Mixed depressive syndrome. *Encephale, 18*(1), 19-21.

Kuiper, S., Curran, G. & Malhi, G. S. (2012). Why is soft bipolar so hard to define? *Australian New Zealand Journal of Psychiatry, 46,* 1019-1025. doi: 10.1177/0004867412464063

Kukopulos, A., Reginaldi, D., Laddomada, P., Floris, G., Serra, G., & Tondo, L. (1980). Course of the manic-depressive cycle and changes caused by treatments. *Pharmacopsychiatry*, *13*(4), 156-167.

Lam, S. M. (2015). *Adult outcomes of child maltreatment: the mediating role of intolerance of uncertainty, rumination and attachment*. Hong Kong: The Chinese University of Hong Kong.

MacNeil, C.A., Hasty, M.K., Conus, P. & Berk, M.. (2012). Is diagnosis enough to guide interventions in mental health? Using case formulation in clinical practice. *BMC medicine, 10*(1), 1-3. doi:10.1186/1741-7015-10-111

Merrick, M. T., Ports, K. A., Ford, D. C., Afifi, T. O., Gershoff, E. T., & Grogan-Kaylor, A. (2017). Unpacking the impact of adverse childhood experiences on adult mental health. *Child abuse & neglect*, *69*, 10-19. doi: 10.1016/j.chiabu.2017.03.016

Miklowitz, D. J. (2008). Adjunctive psychotherapy for bipolar disorder: state of the evidence. *American Journal of Psychiatry*, *165*(11), 1408-1419. doi: 10.1176/appi.ajp.2008.08040488

Mikulincer, M. (1998). Adult attachment style and affect regulation: Strategic variations in self-appraisals. *Journal of personality and social psychology*, *75*(2), 420. doi: 10.0022-3514/98/53.00

Morriss, R. K., van der Gucht, E., Lancaster, G., & Bentall, R. P. (2009). Adult attachment in bipolar 1 disorder. *Psychology and Psychotherapy: theory, research and practice*, *82*(3), 267-277. doi: 10.1348/147608309X415309

National Institute for Health and Care Excellence. (2016). *Depression in adults: recognition and management* (Clinical Guidance CG90). Retrieved from www.nice.org.uk/guidance/cg90

National Institute for Health and Care Excellence. (2020). *Bipolar disorder: assessment and management* (Clinical Guidance CG185). Retrieved from www.nice.org.uk/guidance/cg185

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. doi: 10.1192/bjp.bp.115.179655

Perkins, A., Ridler, J., Browes, D., Peryer, G., Notley, C., & Hackmann, C. (2018). Experiencing mental health diagnosis: A systematic review of service user, clinician, and carer perspectives across clinical settings. *The Lancet. Psychiatry, 5*(9), 747-764. doi: 10.1016.S2215-0366(18)30095-6

Pilgrim, D. (2007). The survival of psychiatric diagnosis. *Social Science & Medicine, 65*(3), 536-547. doi: 10.1016/j.socscimed.2007.03.054

Rae, W., & Sullivan, J. (2003). Ethical Considerations in Clinical Psychology Research. In *Handbook of Research Methods in Clinical Psychology* (pp. 52-70). Oxford, UK: Blackwell Publishing. doi: 10.1002/9780470756980.ch4

Robichaud, M., & Dugas, M. J. (2006). A cognitive-behavioral treatment targeting intolerance of uncertainty. *Worry and its psychological disorders: Theory, assessment and treatment*, 289-304. doi: 10.1080/13607863.2016

Sanchez, A. L., Kendall, P. C., & Comer, J. S. (2016). Evaluating the intergenerational link between maternal and child intolerance of uncertainty: a preliminary cross-sectional examination. *Cognitive therapy and research, 40*(4), 532-539. doi: 10.1007/s10608-016-9757-1

Sarma, S. K. (2015). Qualitative research: Examining the misconceptions. *South Asian Journal of Management, 22*(3), 176.

Schilling, E. A., Aseltine, R. H., & Gore, S. (2007). Adverse childhood experiences and mental health in young adults: a longitudinal survey. *BMC public health*, *7*(1), 1-10. doi: 10.1186/1471-2458-7-30

Schlesinger, H. J. (1969). Diagnosis and prescription for psychotherapy. *Bulletin of the Menninger Clinic*, *33*(5), 269.

Scott, J. (1995). Psychotherapy for bipolar disorder. *British Journal of Psychiatry*, *167*(5), 581-588.

Silva, C., Ribeiro, J. D., & Joiner, T. E. (2015). Mental disorders and thwarted belongingness, perceived burdensomeness, and acquired capability for suicide. *Psychiatry Research, 226*(1), 316-327. doi: 10.1016/j.psychres.2015.01.008

Simon, S. D. (2001). Is the randomized clinical trial the gold standard of research?. *Journal of andrology*, *22*(6), 938-943. doi: 10.1002/j.1939-4640.2001.tb03433.x

Szasz, T. S. (1961). The use of naming and the origin of the myth of mental illness. *American Psychologist*, *16*(2), 59-65. doi: 10.1037/h0040842

Townsend, E., Nielsen, E., Allister, R., & Cassidy, S. A. (2020). Key ethical questions for research during the COVID-19 pandemic. *The Lancet Psychiatry*, *7*(5), 381-383. doi: 10.1016/S2215-0366(20)30150-4

Valtonen, H. M., Suominen, K., Haukka, J., Mantere, O., Leppämäki, S., Arvilommi, P., & Isometsä, E. T. (2008). Differences in incidence of suicide attempts during phases of bipolar I and II disorders. *Bipolar disorders*, *10*(5), 588-596. doi: 10.1111/j.1399-5618.2007.00553.x

Venta, A., Mellick, W., Schatte, D., & Sharp, C. (2014). Preliminary evidence that thoughts of thwarted belongingness mediate the relations between level of attachment insecurity and depression and suicide-related thoughts in inpatient adolescents. *Journal of Social and Clinical Psychology*, *33*(5), 428-447. doi: 10.1521/jscp.2014.33.5.428

Vieta, E., & Phillips, M. L. (2007). Deconstructing bipolar disorder: a critical review of its diagnostic validity and a proposal for DSM-V and ICD-11. *Schizophrenia bulletin*, *33*(4), 886-892. doi: 10.1093/schbul/sbm/057

Warwick, H., Mansell, W., Porter, C., & Tai, S. (2019). 'What people diagnosed with bipolar disorder experience as distressing': a meta-synthesis of qualitative research. *Journal of affective disorders*, *248*, 108-130. doi: 10.1016/j.jad.2019.01.024

White, S., Gibson, M., & Wastell, D. (2019). Child protection and disorganized attachment: A critical commentary. *Children and Youth Services Review, 105*. doi: 10.1016/j.childyouth.2019.104415

Wright, C. J., Clark, G. I., Rock, A. J., & Coventry, W. L. (2017). Intolerance of uncertainty mediates the relationship between adult attachment and worry. *Personality and Individual Differences*, *112*, 97-102. doi: 10.1016/j.paid.2017.02.039

Yıldız, M. A. (2016). Serial multiple mediation of general belongingness and life satisfaction in the relationship between attachment and loneliness in adolescents. *Educational Sciences: Theory & Practice*, *16*(2). doi: 10.12738/estp.2016.2.0380

Section 4: Ethics Documentation

Alexandra Ainsworth

Lancaster University

Doctorate in Clinical Psychology

December 2021

Word Count

Word count for text: 4,907

Word count for references and appendices: 4,750

Total word count: 9,657

Confirmation Letter of Ethical Approval

Applicant: Alexandra Ainsworth
Supervisor: Guillermo Perez Algorta
Department: Division of Health Research
FHMREC Reference: FHMREC20031

16 December 2020

Re: FHMREC20031
Relationship between Intolerance of Uncertainty and Belongingness in individuals with a diagnosis of bipolar disorder

Dear Alexandra,

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.

Application for Ethical Approval for Research

Faculty of Health and Medicine Research Ethics Committee Application

Faculty of Health and Medicine Research Ethics Committee (FHMREC)

Lancaster University

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: Relationship between Intolerance of Uncertainty and Belongingness in individuals with a diagnosis of Bipolar Disorder.

Name of applicant/researcher: Alexandra (Rosie) Ainsworth

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/Student Researcher (Doctorate of Clinical Psychology)

2. Contact information for applicant:

E-mail: **Telephone**:

Address:

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

Dr Guillermo Perez Algorta Co-investigator/Research Supervisor Lancaster University	Dr Ian Smith Chief Investigator/Research Director Lancaster University

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 Guillermo Perez Algorta

Dr Ian Smith

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

Dr Guillermo Perez Algorta

Co-investigator/Research Supervisor

Lancaster University

Dr Ian Smith

Chief investigator/Research Director

Lancaster University

SECTION TWO – Not applicable

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):

Belongingness is feeling connected to others and a lack of this can lead to painful emotions . It is unclear what impacts one's sense of belonging, making it difficult to tackle in psychotherapy. People with bipolar disorder (BD) are thought to be susceptible to feeling as though they don't belong.

Individuals with BD can experience increased anxiety. Research tells us that people who feel anxious may struggle with uncertainty. As social situations are often unpredictable, it is possible that difficulties with uncertainty could impact on one's sense of belongingness. This project aims to establish whether one's sense of belongingness is related to ability to tolerate uncertainty. Interventions are readily available for individuals who have difficulties tolerating uncertainty, therefore a relationship between the two could inform psychotherapy.

This study will recruit online, predominantly via relevant organisations/support-groups. Participants will be English speaking, over 18 and self-reporting a diagnosis of BD. Data will be collected using an online survey.

2. Anticipated project dates (month and year only)

Start date: December 2020   End date: March 2021

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 aim to recruit 98-150 participants for this study.

Inclusion Criteria:

- English speaking (due to limited funding and time available for the purpose of translation)

- Aged 18+

- Self-reporting a BD diagnosis (may or may not be currently engaging with mental health services)

Current mood state (i.e. depressive or (hypo)manic mood states) will not be used as an exclusion criterion, however this will be measured using mood questionnaires to allow its impact to be accounted for during analyses.

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).

Recruitment will use convenience sampling and will take place online, via relevant organisations and/or support groups, from English speaking countries (i.e. UK, North America, Canada, New Zealand and Australia). We will contact these organisation directly, provide details of the study (using a poster and participant information sheet, copies of which are provided in the protocol appendices) and request that they disseminate details of the study to any members who would be interested in taking part. Any interested parties will be provided with researcher contact details to register their interest or ask questions. Interested parties will be sent an email invitation to complete the study, containing a link to the REDCap survey site. The link will also be circulated using a poster, via a professional Twitter account.

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

Data will be collected and stored using REDCap (https://redcap.lancaster.ac.uk/). Interested parties will be sent an email invitation to complete the study, containing a link to the REDCap survey site. Participants will then be presented with participant information and asked to electronically sign a consent form if they wish to take part. Once participants have consented to take part they will be asked to complete an online survey. Participation in the study should take approximately 20 minutes. Survey responses will then be downloaded from REDCap by the researcher and stored anonymously on the secure Lancaster University server.

Descriptive statistics will be used to conduct exploratory analyses to provide characteristics of the data, as well as to identify any influential cases or patterns of missing data. To answer the main research question, regression analyses will be conducted to test the relationship between belongingness and IU, after controlling for the effect of stigma, current mood state and other relevant demographic variables identified in subsidiary correlational analyses.

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.

Anonymous survey responses will be downloaded by the researcher, directly from REDCap to the secure Lancaster University server for storage. No data will be stored on personal devices and only myself and my research supervisor will have access to the data. All data will be electronically stored for ten years and will be destroyed after this period of time. The research co-ordinator will be the person responsible for doing this.

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?

All anonymised data will be electronically stored on the Lancaster University secure server for ten years.

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

No

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?
Participants will be presented with participant information and asked to electronically sign a consent form if they wish to take part. Participants will be required to indicate they consent to participate before being able to proceed with the survey. Researcher contact details will also be provided for those who wish to obtain further information on the study prior to providing informed consent.

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.

There is minimal risk anticipated when participating in this study. However, it may be that responding to questionnaires about sensitive, personal experiences results in distress for participants. To address this, participants will be made aware that they can withdraw at any point during the study, without providing a reason, up until February 2021. Details of relevant support resources will be provided to participants (both before and after participation), as well as researcher contact details, to expand on information about resources available online, should people experience distress as a result of participation. Up until February 2021, if a participant wishes to withdraw from the study, the data they have provided will be destroyed and not used in the study. However, after this time, data will be pooled and analysed and therefore it will not be possible to remove individual responses. Participants will be aware of this limitation prior to consenting to take part.

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 recruitment and data collection taking place online, risk to the researcher is minimal. To protect the student researcher’s personal contact details, all correspondence with participants will be via university email.

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.

Although participants may find the study interesting, there are no direct benefits to taking part. However, the results of the study could inform and improve the support available to individuals with a diagnosis of Bipolar Disorder, as well as future research in this area; participants may find contributing to this a positive experience.

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

No incentives will be offered for participation in the study.

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.

Participants will not be required to provide their name or address and will be given an ID number at the start of the study to enable their data record to be identified should they wish to withdraw. In terms of data storage, anonymous participant responses will be stored securely on the Lancaster University server account. Only anonymised data will be used for analysis.

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

Due to time constraints, there has not been opportunity to involve a target participant group in the design of this study.

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

Findings will be presented as part of my DClinPsy thesis. Results of the research may be submitted for publication in an academic journal. A summary of findings will also be available to participants, at their request.

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?

There are no further ethical issues associated with this study that have not been previously noted.

SECTION FOUR: signature

Applicant electronic signature: Alexandra (Rosie) Ainsworth Date 19.10.2020

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 Guillermo Perez-Algorta Date application discussed 19.10.2020

Research Protocol

Relationship between Intolerance of Uncertainty and Belongingness in individuals with a diagnosis of bipolar disorder.

Name of applicant/supervisors

Rosie Ainsworth
Student Researcher/Trainee Clinical Psychologist
Lancaster University
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Introduction

Belongingness refers to the sense that one is part of a valued group and the feeling of being connected to others. According to Maslow's Hierarchy of Needs (1968), love and belongingness are fundamental needs which humans are motivated to achieve. The belongingness hypothesis (Baumeister & Leary, 1995) states that individuals have a desire to form interpersonal relationships, and that threats to one's sense of belongingness can elicit negative emotions. The negative outcomes related with threats to one's sense of belongingness have been associated with potential devastating consequences such as engagement in suicidal behaviours or death by suicide (Joiner, 2005). This relationship between belongingness and suicidal behaviours is a particular important issue for individuals with a diagnosis of bipolar disorder (BD), as they are thought to be at high risk of both self-harm (Singhal, Ross, Seminog, Hawton & Goldacre, 2014) and suicide (Eroglu, Karakus & Tamam, 2013; Goodwin & Jamison, 2007).

It is known from previous studies that individuals with a BD diagnosis are considered particularly susceptible to feelings of thwarted belongingness (Taylor et al., 2016), and there is some evidence that this difficulty could be related with social relationships (Greenberg, Rosenblum, McInnis & Muzik, 2014), where lower perceived social support was associated with adverse outcomes, such as increased symptom severity and impairment for individuals with a BD diagnosis. However, in spite of the important role that belongingness plays as a candidate predictor of significant negative outcomes for people with BD diagnosis, there are few studies about the experience of belongingness in this population.

One aspect that needs attention is the relationship of anxiety and belongingness in BD. High levels of anxiety are a prevalent experience in individuals with a BD diagnosis. Research by Kessler et al. (1997) found that 93% of individuals meeting the diagnostic criteria for a bipolar diagnosis in their lifetime, also met the criteria for a lifetime anxiety disorder diagnosis, compared to 25% in the general population.

In this study, we are interested in the construct of Intolerance of Uncertainty (IU), which is described as a dispositional characteristic which rises from a set of negative beliefs about uncertainty and its implications (i.e. uncertainty is distressing and unexpected events should be avoided). IU is thought to be key to the development and maintenance of anxiety (Dugas & Robichaud, 2006), as well as the distress associated with multiple psychiatric diagnoses.

It is thought that individuals who are intolerant of uncertainty are more likely to experience worry when presented with uncertainty (Ladouceur, Gosselin, & Dugas, 2000). Research into IU and social anxiety tells us that as social situations are inherently uncertain, such situations may cause individuals who are intolerant of uncertainty to feel anxious (Katz, Rector & Laposa, 2017). From this, we could infer that if an individual is intolerant of uncertainty, they may withdraw socially and that in turn, reduced social functioning could result in feelings of thwarted belongingness. In other words, an individual’s ability to tolerate uncertainty may impact their perception of belongingness. However at present, IU has not been studied extensively in individuals with a BD diagnosis.

Another important factor that could be related with belongingness in this population is that of stigma, as individuals with a BD diagnosis often report stigmatisation as a result of their diagnosis (Hawke et al., 2013). Wastler et al. (2019) found that internalised stigma and belongingness interact to increase risk of suicide, whilst Treichler and Luckstead (2018) found that a sense of belongingness can protect against internalised stigma. These studies recruited participants with a diagnosis of a “serious mental illness”, including BD. Considering this previous literature, it would be important to include stigma as part of the model tested in this study, to control for its potential impact on belongingness.

Psychological interventions for individuals with a BD diagnosis are underdeveloped (Jones et al., 2018; Oud et al, 2016), making this a challenging clinical issue. As argued, there is evidence to suggest that both belongingness and IU could contribute to negative outcomes for individuals with a diagnosis of BD, as well as indirect evidence that the two constructs could be related. However, there is no research into the experience of belongingness and IU in individuals with a diagnosis of BD.

In order to address this, we should explore the relationship between belongingness and IU, after controlling for the effect of other relevant factors such stigma in the context of BD. If a relationship exists between these two factors over and above other confounders, and for example one’s ability to tolerate uncertainty can impact one’s sense of belongingness, this could benefit practice in clinical psychology, as evidence-based interventions targeting IU are readily available. In turn, this could reduce the negative, sometimes devastating outcomes currently associated with thwarted belongingness and improve quality of life for individuals with a BD diagnosis.

Research Question

What is the relationship between IU and belongingness, amongst individuals with a diagnosis of BD, after controlling for other relevant predictors such as stigma and other relevant demographic variables?

Hypothesis

In individuals with a diagnosis of BD, a lower ability to tolerate uncertainty will equate to a lower sense of belongingness after controlling for the effect of relevant confounders such as stigma.

Method

Participants

Participants will be English speaking individuals aged 18+, self-reporting a BD diagnosis, who may or may not be currently engaging with mental health services. Current mood state (i.e. depressive or (hypo)manic mood states) will not be used as an exclusion criterion, however this will be measured using mood questionnaires to allow its impact to be accounted for during analyses.

Demographics details will be collected from participants via a questionnaire. Participants will be asked to provide details on their age, sex, ethnicity, country of residence, employment status, current living situation and diagnosis.

The study will aim to recruit 98-150 participants for this study. Following a power calculation to obtain a $\beta=.80$, $\alpha=.05$, assuming a medium effect size (a medium effect size is assumed due to limited previous research and small effect sizes not being deemed significant enough to detect) and a maximum of 6 predictors in the model, the study will require a minimum sample size of $n= 98$.

Design

A within-subjects, cross-sectional study design will be used, where a single group of participants will respond to a set of self-report questionnaires. Questionnaires will be used to ascertain levels of belongingness, IU and stigma reported by each participant, as well as current mood state. To ensure validity, items on the outcome measures will be taken from validated scales and questionnaires.

Materials

Demographic Questionnaire

A demographic questionnaire will be used to establish population characteristics and other relevant data. Participants will be asked to provide details on their age, gender, sexual orientation, ethnicity, country of residence, employment status, current living situation and diagnosis (Appendix C).

Interpersonal Needs Questionnaire

Belongingness will be measured using the Belongingness subscale (Appendix E) from The Interpersonal Needs Questionnaire (INQ) (Joiner, Van Orden, Witte and Rudd, 2009). This subscale is composed of 10 items from a pool of the 25-item self-report assessment, designed specifically to measure perceived belongingness and burdensomeness. This subscale has been shown to have good internal consistency (.88) (Hill et al., 2015). The items used in this study will be those measuring belongingness only. For this reason, a second measure of belongingness will be used to evaluate the convergent validity of the INQ subscale.

The Sense of Belongingness Instrument- Psychological State

The Sense of Belongingness Instrument- Psychological State (SOBI-P) (Hagerty & Patusky, 1995) (Appendix F) will be used to measure belongingness, alongside the 10-items taken from the INQ. The SOBI-P has been shown to have excellent internal consistency (.93) and test-retest reliability (.84) when used with a clinical population.

The Intolerance of Uncertainty Scale

Intolerance of uncertainty will be measured using The Intolerance of Uncertainty Scale Short Form (IUS-12) (Carleton, Norton, & Asmundson, 2007a) (Appendix G). This is an abbreviated version of the 27-item Intolerance of Uncertainty Scale (Freeston, Rhéaume, Letarte, Dugas, & Ladouceur, 1994). This has been found to have excellent internal consistency (.91) and good test-retest reliability (.74) (Freeston et al., 1994).

The Inventory of Stigmatising Experiences

The Inventory of Stigmatising Experiences (ISE) (Appendix H) will be used to measure stigma experiences and impact of participants (Stuart, Milev & Koller, 2005). This measure has shown strong reliability (.83 for the Stigma Experiences Scale and .91 for the Stigma Impact Scale) and has been used to measure stigma in individuals with a diagnosis of Bipolar Disorder (Thomé et al., 2012).

The 7 Up 7 Down Inventory.

The 7 Up 7 Down Inventory (Youngstrom, Murray, Johnson & Findling, 2013) (Appendix D) will be used to measure mood. This is a brief 14-item measure of manic and depressive symptoms taken from the full 78-item General Behaviour Inventory (Depue et al., 1981). This measure has been shown to have excellent reliability (.83 for the mania items and .95 for depression items) and strong validity across multiple samples (Youngstrom et al., 2013).

Procedure

Recruitment will use convenience sampling and will take place online, via relevant organisations and/or support groups (e.g. Bipolar UK and The Depression Bipolar Support Alliance), from English speaking countries (i.e. UK, North America, Canada, New Zealand and Australia). We will contact these organisation directly, provide details of the study, using a poster (Appendix J) and participant information sheet (Appendix A) and request that they disseminate details of the study to any members who would be interested in taking part. Any interested parties will be provided with researcher contact details to register their interest or ask questions. Interested parties will be sent an email invitation to complete the study, containing a link to the REDCap survey site. REDCap is the system which will be used to collect survey data.

The link to the study will also be circulated using a poster, via Twitter. For this, a professional account using the researcher's university email address will be set up.

Participants will be presented with participant information and asked to electronically sign a consent form (Appendix B) if they wish to take part. Once participants have consented to take part they will be asked to complete several online questionnaires in the following order;

1.) Demographic questionnaire
2.) 7 Up 7 Down Inventory
3.) 10-item belongingness scale from the INQ
4.) SOBI-P
5.) IUS-12
6.) ISE

Participation in the study should take approximately 20 minutes. Following the completion of the questionnaires participants will be given debrief information (Appendix I) and provided with contact details for both the researcher and relevant sources of support, should they feel distressed following their participation.

Questionnaire responses will then be downloaded from REDCap by the researcher and stored anonymously on the secure Lancaster University server.

Proposed analysis

Descriptive statistics will be used to conduct exploratory analyses to provide characteristics of the data, as well as to identify any influential cases or patterns of missing data. To answer the main research question, regression analyses will be conducted to test the relationship between belongingness and IU, after controlling for the effect of stigma, current mood state and other relevant demographic variables identified in subsidiary correlational analyses.

Practical issues (e.g. cost/logistics)

Practical issues are minimal due to online recruitment and participation. It is expected that the proposed protocol will minimise potential recruitment difficulties associated with COVID-19. By using online recruitment and participation, increased restrictions in the future, as according to government, local **and Lancaster University** guidelines, should not impact heavily on recruitment or other aspects of this research.

In terms of data storage, participant responses will be anonymised and stored securely and electronically in a password protected file space within the student researcher's university server account. Only the student researcher and research supervisor will have access to this data. The research supervisor will have access to the data in order to provide guidance on the analysis process. All data will be stored electronically for ten years, following which it will be permanently deleted by the programme's research co-ordinator, as outlined in Lancaster University and DClinPsy data storage policies.

Up until February 2021, if a participant wishes to withdraw from the study, the data they have provided will be destroyed and not used in the study. However, after this time, data will be pooled and analysed and therefore it will not be possible to remove individual responses.

Ethical concerns

There is minimal risk anticipated when participating in this study. However, it may be that responding to questionnaires about sensitive, personal experiences results in distress for participants. To address this, participants will be made aware that they can withdraw at any point during the study, without providing a reason. Details of relevant support resources will be provided to participants, as well as researcher contact details, to expand on information about resources available online, should people experience distress as a result of participation.

Due to recruitment and data collection taking place online, risk to the researcher is minimal. To protect the student researcher's personal contact details, all correspondence with participants will be via university email.

References

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497–529.

Eroglu, M. Z., Karakus, G., & Tamam, L. (2013). Bipolar disorder and suicide. *Dusunen Adam, 26*(2), 139-147.

Freeston, M., Rhéaume, J., Letarte, H., Dugas, M. J., & Ladouceur, R. (1994). Why do people worry? Personality & Individual Differences, 17, 791–802.

Goodwin, F.K., Jamison, K.R. (2007). Manic-Depressive Illness: Bipolar Disorders and Recurrent Depression. 2nd ed. New York, NY: Oxford University Press.

Greenberg, S., Rosenblum, K. L., McInnis, M. G., & Muzik, M. (2014). The role of social relationships in bipolar disorder: A review. *Psychiatry research*, *219*(2), 248-254.

Hagerty, B. M., & Patusky, K. (1995). Developing a measure of sense of belonging. *Nursing research.*

Hawke, L. D., Parikh, S. V., & Michalak, E. E. (2013). Stigma and bipolar disorder: a review of the literature. *Journal of affective disorders, 150*(2), 181-191.

Hill, R. M., Rey, Y., Marin, C. E., Sharp, C., Green, K. L., & Pettit, J. W. (2015). Evaluating the Interpersonal Needs Questionnaire: Comparison of the reliability, factor structure, and predictive validity across five versions. *Suicide and Life-Threatening Behavior*, *45*(3), 302-314.

Joiner, T.E. (2005). *Why people die by suicide*. Cambridge, MA: Harvard University Press.

Jones, S. H., Knowles, D., Tyler, E., Holland, F., Peters, S., Lobban, F., ... & Owen, R. (2018). The feasibility and acceptability of a novel anxiety in bipolar disorder intervention compared to treatment as usual: A randomized controlled trial. *Depression and anxiety*, *35*(10), 953-965.

Katz, D., Rector, N. A., & Laposa, J. M. (2017). The interaction of distress tolerance and intolerance of uncertainty in the prediction of symptom reduction across CBT for social anxiety disorder. *Cognitive Behaviour Therapy*, *46*(6), 459-477.

Kessler, R. C., Rubinow, D. R., Holmes, C., Abelson, J. M., & Zhao, S. (1997). The epidemiology of DSM-III-R bipolar I disorder in a general population survey.

Ladouceur, R., Gosselin, P., & Dugas, M. J. (2000). Experimental manipulation of intolerance of uncertainty: A study of a theoretical model of worry. *Behaviour research and therapy, 38*(9), 933-941

Maslow, A. H. (1954). Motivation and personality. *New York, & Brovers*, 241-246.

Oud, M., Mayo-Wilson, E., Braidwood, R., Schulte, P., Jones, S. H., Morriss, R., ... & Kendall, T. (2016). Psychological interventions for adults with bipolar disorder: systematic review and meta-analysis. *The British Journal of Psychiatry, 208*(3), 213-222.

Robichaud, M., & Dugas, M. J. (2006). A cognitive-behavioral treatment targeting intolerance of uncertainty. *Worry and its psychological disorders: Theory, assessment and treatment*, 289-304.

Singhal, A., Ross, J., Seminog, O., Hawton, K., & Goldacre, M. (2014). Risk of self-harm and suicide in people with specific psychiatric and physical disorders: Comparisons between disorders using English national record linkage. *Journal of the Royal Society of Medicine, 107*(5), 194-204.

Stuart, H., Milev, R., & Koller, M. (2005). The Inventory of Stigmatizing Experiences: its development and reliability. *World Psychiatry, 4*(1), 35-39.

Taylor, N. J., Mitchell, S. M., Roush, J. F., Brown, S. L., Jahn, D. R., & Cukrowicz, K. C. (2016). Thwarted interpersonal needs and suicide ideation: Comparing psychiatric inpatients with bipolar and non-bipolar mood disorders. *Psychiatry research*, *246,* 161-165.

Thomé, E. S., Dargél, A. A., Migliavacca, F. M., Potter, W. A., Jappur, D. M. C., Kapczinski, F., & Ceresér, K. M. (2012). Stigma experiences in bipolar patients: the impact upon functioning. *Journal of Psychiatric and Mental Health Nursing*, *19*(8), 665-671.

Treichler, E. B., & Lucksted, A. A. (2018). The role of sense of belonging in self-stigma among people with serious mental illnesses. *Psychiatric rehabilitation journal*, *41*(2), 149.

Wastler, H., Lucksted, A., Phalen, P., & Drapalski, A. (2019). Internalized stigma, sense of belonging, and suicidal ideation among veterans with serious mental illness. *Psychiatric rehabilitation journal*.

Appendices

Appendix 4-A

Participant Information Sheet

Participant Information Sheet

The relationship of Intolerance of Uncertainty and Belongingness in individuals with a diagnosis of Bipolar Disorder.

My name is Rosie Ainsworth and am a student in the Doctorate of Clinical Psychology programme at Lancaster University, England. As part of this, I am conducting a research study which I would like to invite you to take part in. Before you decide whether you would like to participate, it is important to understand why the research is being done and what you will be asked to do, so you can make an informed decision. Please read the following information and feel free to ask any questions before making a decision.

What is the study about?

This research is about people's ability to tolerate uncertain situations and how this might impact on their sense of belonging (or feeling close to others), in particular people with a diagnosis of Bipolar Disorder.

People with a diagnosis of Bipolar Disorder can experience high levels of anxiety. In this research, we are using the idea of 'Intolerance of Uncertainty' as a way to measure anxiety- as psychological theory tells us that people who feel anxious can also struggle with feelings of uncertainty. In particular we will be looking at how this can impact on your sense of belonging.

Previous research tells us that people's experiences with stigma can also impact on their sense of belongingness. Stigma can be described as negative attitudes towards a person who displays a certain characteristic, for example a mental health diagnosis. This study will therefore take your experiences of stigma into account.

It is hoped that the findings of this study will contribute to our current knowledge of these experiences of people with a diagnosis of Bipolar Disorder, to inform future research in this area and the support available to such individuals.

Can I take part?

You can take part if you are an adult who has been given a diagnosis of Bipolar Disorder.

Are there any exclusion criteria?

You should not take part in this study if:

- You cannot speak English
- You are under the age of 18
- You do not have a diagnosis of Bipolar Disorder

What will I be asked to do if I choose to take part?

Once you have given your consent to take part in the study, you will be asked to read some information and answer questions about the following:

- General information about you; including your age, gender, employment status, current living situation and diagnosis
- Your mood and related behaviours during the last two weeks
- How uncomfortable or anxious you feel about uncertain situations
- Your experience of stigma
- To what extent you currently feel connected to the people around you

The whole process should last for about 20 minutes.

Do I have to take part?

No, your participation is entirely voluntary. If you agree to take part, you will be asked to sign a consent form. However, you are still free to change your mind and withdraw from the study without any negative consequences. If you do wish to withdraw, any information you have provided will be destroyed and not be used.

What happens to my information?

The information you provide will be collated with the results from other participants and stored anonymously. The responses you gave in the questionnaires will not be identifiable as yours and will be kept in an encrypted secure server at Lancaster University, only the researchers involved in this study will have access to the information. For further information about how Lancaster University processes personal data for research purposes and your data rights please visit our webpage: www.lancaster.ac.uk/research/data-protection.

These results will then be presented as a report to be submitted to Lancaster University. Results may also be submitted for publication in academic journals. A summary of the findings will also be made available to you, for your own interest.

What if I change my mind?

If you wish to withdraw from the study for any reason, this is absolutely fine. You are free to withdraw from the study at any point up until February 2021. However, after this date all data will be pooled with that of other participants, making it impossible to retrieve individual responses.

If you wish to withdraw from the study, please contact me directly with your ID number and request that your data be removed from the study. Your ID number is [record_id], please make a note of this, in case you decide to withdraw at a later time. Please note that simply not completing the study will not automatically withdraw the information you have already provided.

What are the benefits or risks of taking part?

Although you may find the study interesting, there are no direct benefits to taking part. However, the results of the study could inform and improve the support available to individuals with a diagnosis of Bipolar Disorder, as well as future research in this area.

There are no risks anticipated with participating in this study. However, if you experience distress as a result of taking part, there are details of helplines you may find useful at the end of this page.

Who approved this research?

This study has been reviewed and approved by the Lancaster University Faculty of Health and Medicine Research Ethics Committee.

How can I get involved?

If you would like to be involved, please continue to the next page where you will be asked to provide consent to take part in the study. Alternatively, if you would like more information before making your decision, please feel free to contact myself using the details below.

Where can I obtain further information about the study if I need it?

If you have any questions about the study, please contact:

Rosie Ainsworth
Student Researcher
Lancaster University
a.ainsworth4@lancaster.ac.uk

Complaints

If you wish to make a complaint or raise concerns about any aspect of this study and do not wish to speak me, please feel free to contact my supervisors directly:

Dr Guillermo Perez Algorta
Research Supervisor
Lancaster University

Dr Ian Smith Research Director/Chief Investigator
Lancaster University

If you wish to speak to someone outside of the project team, you may also contact:

Roger Pickup
Associate Dean for Research (until December 2020)
Lancaster University

Jennifer Logue
Associate Dean for Research (from January 2021)
Lancaster University

Dr Bill Sellwood
Programme Director

Lancaster University

Resources in the event of distress:

It is not anticipated that taking part in this study will cause you any distress. However, if you do experience distress following taking part, you are encouraged to contact your GP or mental healthcare provider, who should be able to offer support or guidance.

You are also welcome to inform the researcher, who can signpost you to helpful online resources. There are also resources and helplines you can access in case of distress, please select your country of residence to see further details.

If your country of residence is not listed, please contact your GP for information on resources and helplines available to you.

Please select your country of residence.

United Kingdom:
The Samaritans
Call 116 123
samaritans.org

Crisis Text Line
Text SHOUT to 85258
crisistextline.org

United States:
National Alliance on Mental Illness
Call 1-800-950-6264
info@nami.org

Crisis Text Line
Text HOME to 741741
crisistextline.org

Australia:
Lifeline Australia
Call 13 11 14
www.lifeline.org.au

Australia:
BeyondBlue
Call 1300 22 4636
www.beyondblue.org.au

Canada:
Crisis Services
1-883-456-4566
crisisservicescanada.ca

Crisis Text Line
Text HOME to 686868
crisistextline.org

New Zealand:
Need to Talk
Call 1737
www.1737.org.nz

Lifeline New Zealand
Text HELP to 4357
www.lifeline.org.nz

Thank you for taking the time to read this information sheet. If you would like to take part, please press submit to continue to the next page.

Appendix 4-B

Consent Form

By continuing onto the next page you confirm that:

1. You have read the Participant Information Sheet

2. You have been given opportunity to ask questions and any questions have been answered to your satisfaction

3. You understand that participation is voluntary and that you are free to withdraw at any time without giving any reason and without negative consequences

4. You understand that the information you provide will remain anonymous and that your responses will not be identifiable as your own

5. You consent for the anonymised data to be discussed with my supervisor at Lancaster University

6. You consent to Lancaster University keeping the anonymised data for 10 years after the study has finished

7. You consent to your data being used for these research purposes unless you formally withdraw from the study

8. You consent to taking part in the current study.

I have read the above and consent

Appendix 4-C

Demographic and Clinical Questionnaire

Please answer the following questions about yourself to the best of your ability. If you do not wish to answer a question, feel free to leave it blank. The responses to this questionnaire will be stored anonymously and will not be identifiable as your own.

What is your date of birth? (Please use the format DD/MM/YYYY): ___________________

Which country are you currently residing in?
United Kingdom
United States
Canada
Australia
New Zealand
Other
If other, please specify: ____________________________________

What is your gender?
Male
Female

Is this the gender you were assigned at birth?
No
Yes
Prefer not to say

What best describes your sexual orientation?
Heterosexual
Gay
Lesbian
Bisexual
Pansexual
Other
Prefer not to say
If other, please specify how you describe your sexual orientation: _______________________

Which category best describes your ethnicity?
Black
White
Asian
Mixed
Hispanic
Other
If other, please specify: ____________________________________

What is your current employment status?
Employed

Unemployed
Student
Retired
Other
If other, please specify: ___________________________________

What is your relationship status?
Single
In a relationship
Married/civil partnership
Widowed Divorced/separated

What is your current living situation?
Living alone
Living with partner or spouse
Living with family
Shared accommodation
Homeless
Other
If other, please specify: ___________________________________

What is your highest education level?
Secondary/high school graduate
Undergraduate degree
Masters degree (or similar)
PhD/Doctorate
Other
If other, please specify: ___________________________________

Is English your native language?
No
Yes

Are you fluent in English?
No
Yes

How many years have you spoken English? (Please provide a number, i.e. 6): __________

Please answer the following questions about your diagnosis to the best of your ability. If you do not wish to answer a question, you can leave it blank. The responses to this questionnaire will be stored anonymously and will not be identifiable as your own.

What diagnosis have you received from your doctor?
Bipolar Disorder Type I
Bipolar Disorder Type 2
Bipolar Disorder Not Otherwise Specified
Manic Depression
I don't know

Other

If other, please specify the diagnosis you have received: ______________________________

When did you receive this diagnosis?

The last year

The last 2-5 years

The last 6-10 years

The last 11-15 years

More than 16 years ago

Please specify how long ago you received this diagnosis in numerical years (i.e. 19): _______

When do you think your difficulties with very low or very high mood (or both) started?

When I was 0-5 years old

When I was 6-13 years old

When I was 14-18 years old

When I was 19-25 years old

When I was 26-45 years old

When I was 46 to now

How many episodes of very low or very high mood (or both) have you experienced since you were diagnosed?

Between 0-5 episodes

Between 6-10 episodes

Between 11-20 episodes

More than 20 episodes

Are you currently receiving any psychological intervention or therapy?

No

Yes

If you know the type of intervention or therapy you are receiving, please specify: ______

Are you currently prescribed any medication for bipolar disorder?

No

Yes

If you know the name of the medication you are taking, please specify: ______________

If you know the dose of the medication you are taking, please specify: _______________

Do you currently feel very high or low in mood (or both)?

No

Yes

When did this start?

In the past week

In the past month

In the past 3 months

In the past 6 months

In the past year

Other
If other, please specify when this started: ___________________________________

When did your last episode of very low or very high mood (or both) end?
A week ago
A month ago
3 months ago
6 months ago
A year ago
Other
Please specify when this ended: ___________________________________

Do you have any other mental health diagnoses?
No
Yes
Please specify which other mental health diagnoses you have received? _________________

Thankyou for providing us with this information. Please continue to the next page to complete the next questionnaire.

Appendix 4-D

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.

	Never or hardly ever	Sometimes	Often	Very often or almost constantly
1. Have you had periods of extreme happiness and intense energy lasting several days or more when you also felt much more anxious or tense (jittery, nervous, uptight) than usual (other than related to the menstrual cycle)?	0	1	2	3
2. Have there been several days or more when you were so sad that it was quite painful or you felt that you couldn't stand it?	0	1	2	3
3. Have there been times lasting several days or more when you felt you must have lots of excitement, and you actually did a lot of new or different things?	0	1	2	3
4. Have you had periods of extreme happiness and intense energy (clearly more than your usual self) when, for several days or more, it took you over an hour to get to sleep at night?	0	1	2	3
5. Have there been long periods in your life where you felt sad, depressed, or irritable most of the time?	0	1	2	3
6. Have you had periods of extreme happiness and high energy lasting several days or more when what you heard, smelled, tasted or touched seemed vivid or intense?	0	1	2	3
7. Have there been periods of several days or more when your thinking was so clear and quick that it was much better than most other people's?	0	1	2	3
8. Have there been times of a couple of day or more when you felt that you were a very important person or that your abilities or talents were better than most other people's?	0	1	2	3
9. Have there been times when you have hated yourself or felt that you were stupid, ugly, unlovable or useless?	0	1	2	3
10. Have there been times of several days or more when you really got down on yourself and felt worthless?	0	1	2	3
11. Have you had periods when it seemed that the future was hopeless and things could not improve?	0	1	2	3
12. Have there been periods lasting several days or more when you were so down in the dumps that you thought you might never snap out of it?	0	1	2	3
13. Have you had times when your thoughts and ideas came so fast that you couldn't get them all out, or they came so quickly that others complained they couldn't keep up with your ideas?	0	1	2	3
14. Have there been times when you have felt you would be better off dead?	0	1	2	3

Appendix 4-E

Interpersonal Needs Questionnaire Belongingness Subscale

The following questions ask you to think about yourself and other people. Please respond to each question by using your own current beliefs and experiences, NOT what you think is true in general, or what might be true for other people. Please base your responses on how you've been feeling recently. Use the rating scale to find the number that best matches how you feel and circle that number. There are no right or wrong answers: we are interested in what you think and feel.

	Not at all true for me		Somewhat true for me		Very true for me
1. These days, other people care about me	1	2	3	4	5
2. These days, I feel like I belong	1	2	3	4	5
3. These days, I rarely interact with people who care about me	1	2	3	4	5
4. These days, I am fortunate to have many caring and supportive friends	1	2	3	4	5
5. These days, I feel disconnected from other people	1	2	3	4	5
6. These days, I often feel like an outsider in social gatherings	1	2	3	4	5
7. These days, I feel that there are people I can turn to in times of need	1	2	3	4	5
8. These days, I feel unwelcome in most social situations	1	2	3	4	5
9. These days, I am close to other people	1	2	3	4	5
10. These days, I have least one satisfying interaction every day	1	2	3	4	5

Appendix 4-F

Sense of Belonging Instrument Psychological State

The following questions ask you to think about how connected you feel to those around you. Use the rating scale to indicate to what extent you agree with each statement.

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. I often wonder if there is any place on earth where I really fit in.	1	2	3	4
2. I am just not sure if I fit in with my friends.	1	2	3	4
3. I would describe myself as a misfit in most social situations.	1	2	3	4
4. I generally feel that people accept me.	1	2	3	4
5. I feel like a piece of a jig-saw puzzle that doesn't fit into the puzzle.	1	2	3	4
6. I would like to make a difference to people or things around me' but I don't feel that what I have to offer is valued.	1	2	3	4
7. I feel like an outsider in most situations.	1	2	3	4
8. I am troubled by feeling like I have no place in this world.	1	2	3	4
9. I could disappear for days and it wouldn't matter to my family.	1	2	3	4
10. In general' I don't feel a part of the mainstream of society.	1	2	3	4
11. I feel like I observe life rather than participate in it.	1	2	3	4
12. If I died tomorrow' very few people would come to my funeral.	1	2	3	4
13. I feel like a square peg trying to fit into a round hole.	1	2	3	4
14. I don't feel that there is any place where I really fit in this world.	1	2	3	4
15. I am uncomfortable that my background and experiences are so different from those who are usually around me.	1	2	3	4
16. I could not see or call my friends for days and it wouldn't matter to them.	1	2	3	4
17. I feel left out of things.	1	2	3	4
18. I am not valued by or important to my friends.	1	2	3	4

Appendix 4-G

Intolerance of Uncertainty Scale

You will find below a series of statements which describe how people may react to the uncertainties of life. Please use the scale below to describe to what extent each item is characteristic of you. Please circle a number (1 to 5) that describes you best.

	Not at all characteristic of me	A little characteristic of me	Somewhat characteristic of me	Very characteristic of me	Entirely characteristic of me
1. Unforeseen events upset me greatly.	1	2	3	4	5
2. It frustrates me not having all the information I need.	1	2	3	4	5
3. Uncertainty keeps me from living a full life.	1	2	3	4	5
4. One should always look ahead so as to avoid surprises.	1	2	3	4	5
5. A small unforeseen event can spoil everything, even with the best of planning.	1	2	3	4	5
6. When it’s time to act, uncertainty paralyses me.	1	2	3	4	5
7. When I am uncertain I can’t function very well.	1	2	3	4	5
8. I always want to know what the future has in store for me.	1	2	3	4	5
9. I can’t stand being taken by surprise.	1	2	3	4	5
10. The smallest doubt can stop me from acting.	1	2	3	4	5
11. I should be able to organize everything in advance.	1	2	3	4	5
12. I must get away from all uncertain situations.	1	2	3	4	5

Appendix 4-H

Inventory of Stigmatising Experiences

Stigma Experiences Scale

The following questions will ask you about your experience of stigma. Please respond to the questions with either 'yes' or 'no', depending on whether they apply to you.

1. Do you think that people think less of you if they know you have a mental illness?
2. Do you think that the average person is afraid of someone with a serious mental illness?
3. Have you ever been teased, bullied or harassed because you have a mental illness?
4. Have you felt that you have been treated unfairly or that your rights have been denied because you have a mental illness?
5. Have your experiences with stigma affected your recovery?
6. Have your experiences with stigma caused you to think less about yourself or your abilities?
7. Have your experiences with stigma affected your ability to make or keep friends?
8. Have your experiences with stigma affected your ability to interact with your family?
9. Have your experiences with stigma affected your satisfaction or quality of life?
10. Do you avoid situations that may be stigmatizing to you?

Stigma Impact Scale

1. On a ten-point scale, where 0 is the lowest possible amount, and 10 is the highest possible amount, how much has stigma affected you personally with respect to:

   Quality of Life
   Social Contacts
   Family Relations
   Self-esteem

2. On a ten-point scale where 0 is the lowest possible amount, and 10 is the highest possible amount, how much as stigma affected your family as a whole with respect to:

   Quality of Life
   Social Contacts
   Family Relations

Appendix 4-I

Debrief Information

Thank you for taking the time to take part in this study, we really appreciate it.

Please find below some further information about the purpose of the study and details of resources in the event of distress.

It is thought that people with a diagnosis of Bipolar Disorder experience high levels of anxiety. In this study anxiety was conceptualised using Intolerance of Uncertainty, as research tells us people who feel anxious can also struggle in uncertain situations and therapeutic interventions are widely available to support such individuals. The purpose of this study was to investigate the relationship between Intolerance of Uncertainty and a sense of belonging, as it has been suggested that difficulties with uncertainty can cause anxiety in social situations, which could lead to feeling less connected to those around us.

A sense of belonging is important, as research tells us a lack of this can lead to painful emotions. The experience of belongingness is not yet fully understood, making it difficult to tackle in therapy. The purpose of this research was therefore to establish whether a relationship exists between Intolerance of Uncertainty and belongingness, to inform future available therapeutic interventions.

All information collected for this study will be anonymous and there will be no way of identifying your responses as your own in the dataset.

If you have any questions about the study please do not hesitate to contact me or my supervisor (Dr Guillermo Perez-Algorta) via email on a.ainsworth4@lancaster.ac.uk or g.perezalgorta@lancaster.ac.uk and we will be happy to answer any of your queries.

Resources in the event of distress:

If you experience distress following taking part in this study, you are encouraged to contact your GP or mental healthcare provider, who should be able to offer support or guidance.

There are also resources and helplines you can access in case of distress, please select your country of residence to see further details.

If your country of residence is not listed, please contact your GP for information on resources and helplines available to you.

Please select your country of residence.

United Kingdom:
The Samaritans
Call 116 123
samaritans.org

Crisis Text Line
Text SHOUT to 85258
crisistextline.org

United States:
National Alliance on Mental Illness
Call 1-800-950-6264
info@nami.org

Crisis Text Line
Text HOME to 741741
crisistextline.org

Australia:
Lifeline Australia
Call 13 11 14
www.lifeline.org.au

BeyondBlue
Call 1300 22 4636
www.beyondblue.org.au

Canada:
Crisis Services
1-883-456-4566
crisisservicescanada.ca

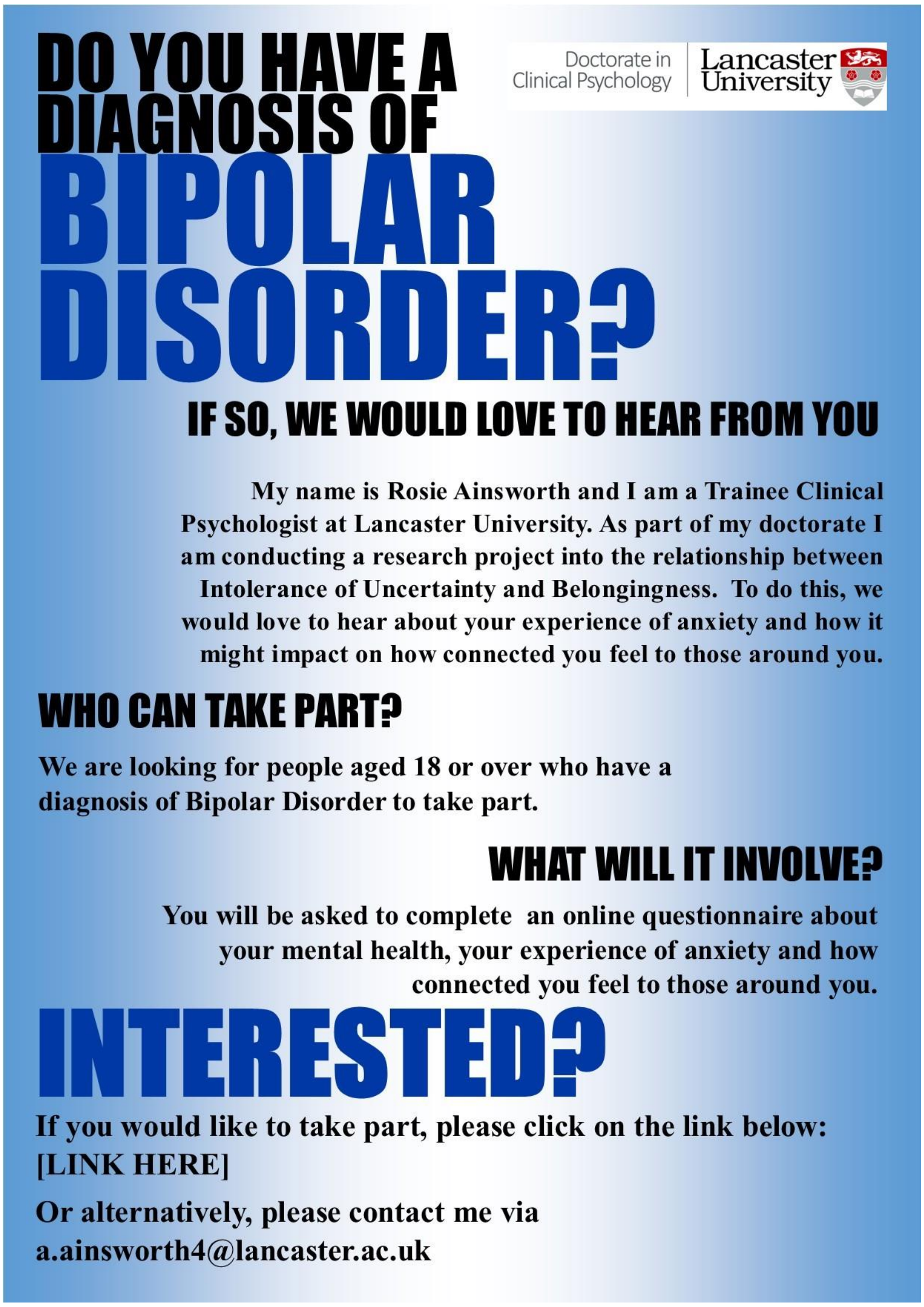
Crisis Text Line
Text HOME to 686868
crisistextline.org

New Zealand:
Need to Talk
Call 1737
www.1737.org.nz

Lifeline New Zealand
Text HELP to 4357
www.lifeline.org.nz

Appendix 4-J

Recruitment Advertisement



DO YOU HAVE A DIAGNOSIS OF BIPOLAR DISORDER?

IF SO, WE WOULD LOVE TO HEAR FROM YOU

My name is Rosie Ainsworth and I am a Trainee Clinical Psychologist at Lancaster University. As part of my doctorate I am conducting a research project into the relationship between Intolerance of Uncertainty and Belongingness. To do this, we would love to hear about your experience of anxiety and how it might impact on how connected you feel to those around you.

WHO CAN TAKE PART?

We are looking for people aged 18 or over who have a diagnosis of Bipolar Disorder to take part.

WHAT WILL IT INVOLVE?

You will be asked to complete an online questionnaire about your mental health, your experience of anxiety and how connected you feel to those around you.

INTERESTED?

If you would like to take part, please click on the link below:
[LINK HERE]

Or alternatively, please contact me via
a.ainsworth4@lancaster.ac.uk