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Improving access to treatment for anxiety and depressive disorders in adolescents by understanding barriers to seeking help and developing a short screening questionnaire

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Declaration

I confirm that this is my own work and the use of all material from other sources has been properly and fully acknowledged.

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July 2020

Contribution to papers

The conceptual framework and the outline of the thesis (i.e. a systematic review on barriers and facilitators, a qualitative study with adolescents and a scale development study) was developed by Dr Polly Waite (PW), Dr Tessa Reardon (TR) and Prof Cathy Creswell (CC).

I (JR) was the lead researcher for all research reported in the papers included in this thesis. With regular input from my supervisors (PW, TR and CC), I led planning for each of the papers, data collection and data analysis. I submitted and revised ethics applications and wrote first drafts of each paper. I prepared and submitted all papers for publication, and led revisions of manuscripts following reviewers' comments. My contribution and other researchers' contribution to each paper are outlined below.

Paper 1: Systematic Review

The review's framework, including the broader research question, search terms, data extraction forms and quality rating scales were developed by TR, CC and Prof Kate Harvey, prior to me starting my PhD.

I led planning for the systematic review, revised the research question, and adapted data extraction forms and quality rating scales. I led the assessment of full-text papers identified in the review by TR et al. I ran the updated search, screened all abstracts, led data extraction and quality assessments. I worked together with three independent reviewers (CT, PL and GEB), and discussed any discrepancies with TR and PW. I also led the review's data analyses and regularly discussed results with TR, PW and CC. I

wrote the first draft of the manuscript and revised it after receiving feedback from other co-authors.

My estimated percentage contribution to this paper is 85%.

Paper 2: Qualitative Study

I led planning for the qualitative study, including designing the research question, developing recruitment protocol, and selecting screening measures and diagnostic tools. I regularly discussed these issues with PW, TR and CC. I also planned and led the recruitment for qualitative study. I contacted schools and parents, and obtained parental consent for diagnostic assessments and qualitative interviews. I conducted all diagnostic assessments and was supervised throughout by Dr Faith Orchard (FO) I also transcribed and coded all adolescent and parent qualitative interviews. I developed preliminary themes, and revised them during meetings with PW, TR and CC. I wrote the first draft of the manuscript and revised it after receiving feedback from co-authors.

My estimated percentage contribution to this paper is 85%.

Paper 3: Screening Measure Study

I led the development of the study's protocol, including the research question, recruitment strategy and data analysis plan, and regularly discussed all of these matters with TR, PW, CC, FO and Prof Susan Spence (SS). I contacted schools and parents, distributed the questionnaires, entered and scored the questionnaires responses in the community sample and led the statistical analyses. Two MSc students on placement (BW and SY) helped with questionnaire administration and data entering. I regularly

discussed study results with TR, PW, CC, FO and SS. I also led PPI activities and sought advice with educational and health professionals. I wrote the first draft of the manuscript and revised it after receiving feedback from co-authors.

My estimated percentage contribution to this paper is 85%.

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Abstract

Anxiety and depressive disorders are the most common mental health disorders in adolescents. However, only a minority of those affected access evidence-based professional help. Understanding the reasons for not seeking or accessing professional help from the perspectives of young people is crucial to address this treatment gap. The aims of this thesis were to 1) identify the most common reasons that stop young people from seeking and accessing help (Paper 1), 2) explore barriers and facilitators to help-seeking/accessing among adolescents who met diagnostic criteria for anxiety and/or depressive disorders and were identified in a community (Paper 2), and 3) identify ways to reduce barriers to seeking/accessing treatment for anxiety and depressive disorders in adolescents (Papers 2 and 3). A multiple methods approach was chosen to fully address the complexity of the thesis aims. Findings identified a large number of barriers and facilitators that influence adolescents' help-seeking behaviour. Notably, barriers and facilitators were identified at the level of adolescents, their support network, professional services and the broader context. The findings have clear implications for reducing barriers to adolescent mental health treatment. Firstly, mental health knowledge among young people and surrounding adults (parents and professionals) needs to improve. Brief and accurate identification tools, such as a set of 11 RCADS items developed in this thesis, have the potential to help various stakeholders identify adolescents with anxiety and/or depressive disorders in community settings. Secondly, adolescents', parents' and broader societal negative attitudes and views towards mental health and help-seeking need to be reduced. Finally, efforts need to be made to enable adolescents and their families to access evidence-based support. Future research should focus on developing developmentally appropriate interventions to improve treatment

rates for anxiety and depressive disorders in adolescents. Including young people in each step of the research will be essential.

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Chapter 1: General Introduction

Anxiety and depressive disorders are the most common mental health disorders in children and adolescents (Polanczyk et al., 2015; Sadler et al., 2018), and their prevalence and comorbidity significantly increase from childhood to adolescence (e.g. Merikangas et al., 2010). Although these disorders are associated with a high individual, family and societal burden, only a minority of affected children and adolescents seek and access professional help, and only a few percent access evidence-based support (e.g. CBT) (Lawrence et al., 2015; Merikangas et al., 2010; Sadler et al., 2018; Reardon et al., 2019). Understanding the reasons for low treatment utilisation is crucial to address this treatment gap.

The following chapter provides an overview of anxiety and depressive disorders in children and adolescents and treatment access for these difficulties. Developmental differences between children and adolescents are explored in the context of help-seeking before outlining the structure of this thesis, details on funding and contribution and ethical considerations.

1.1.Anxiety and depressive disorders in children and adolescents

1.1.1. Anxiety disorders

Anxiety disorders have the highest lifetime prevalence of all mental health disorders at 28.8% (Kessler et al., 2005). They are also the most common mental health problems in children and young people, with an estimated worldwide prevalence of 4.7 to 9.1% (Polanczyk et al., 2015). Although cross-sectional studies report higher overall levels of anxiety disorders in adolescents compared to preadolescent children (Ford et al., 2003; Sadler et al., 2018), results of longitudinal studies seem to be slightly less

conclusive and sometimes even report reduced levels of anxiety disorders at the beginning of adolescence (ages 11-12) (Copeland et al., 2014; Costello et al., 2003). However, a steady increase of anxiety disorders from the beginning of adolescence to young adulthood has been consistently reported (Beesdo et al., 2009). For instance, results from the most recent national survey of child and adolescent mental health in England suggest that more than 13% of older adolescents, aged 17-19, meet the criteria for anxiety disorder, compared to less than 8% of younger adolescents (Sadler et al., 2018).

Anxiety disorders are characterised by excessive fear and anxiety, and related behavioural disturbances (e.g. avoidance). These disorders differ from one another in the type of objects or situations that induce fear, anxiety, avoidance and cognitive ideation. The most recent edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (American Psychiatric Association [APA], 2013) describes the following anxiety disorders: separation anxiety disorder, selective mutism, specific phobia, social anxiety disorder, panic disorder, agoraphobia, generalised anxiety disorder, substance/medication induced anxiety disorder, and anxiety disorder due to another medical condition. In contrast to the previous edition – DSM-IV-TR (APA, 2000) – post-traumatic stress disorder, acute distress disorder and obsessive compulsive disorder are no longer included under anxiety disorders.

Many anxiety disorders have an early onset and usually begin in childhood or early adolescence (De Lijster et al., 2017; Kim-Cohen et al., 2003). Overall, the median age of onset for an anxiety disorder is between 11 and 19 years (Bonnewyn et al., 2007; Cía et al., 2018; Kessler et al., 2005). However, there is a considerable variability in the age of onset among different anxiety disorders. For instance, separation anxiety disorder and specific phobias usually begin in childhood, whilst social anxiety and generalised

anxiety disorder tend to begin in adolescence (Bonnewyn et al., 2007; De Lijster et al., 2017; Kessler et al., 2007).

1.1.2. Depressive disorders

Although less common than anxiety disorders in children and young people, depressive disorders represent another major category of common mental health disorders. Epidemiological studies suggest that the worldwide prevalence of any depressive disorder in children and adolescents is between 1.7 and 3.9% (Polanczyk et al., 2015). Compared to childhood, depressive disorders are up to five times more common in adolescence (Merikangas et al., 2010). In the UK, the results of the most recent national cross-sectional survey of child and adolescent mental health in England suggest that only 0.3% of pre-adolescent children meet the criteria for a current depressive disorder compared to up to 4.8% of adolescents (Sadler et al., 2018).

Depressive disorders are characterised by feelings of sadness, emptiness or irritability, which is accompanied by physical and cognitive changes that significantly affect an individual's capacity to function. In addition to major depressive disorder, this category of mental health disorders includes disruptive mood dysregulation disorder, persistent depressive disorder (dysthymia), premenstrual dysphoric disorder, substance/medication-induced depressive disorder, depressive disorder due to another medical condition, other specified depressive disorder and unspecified depressive disorder (APA, 2013). Unlike the DSM-IV-TR (APA, 2000), depressive disorders are now described separately from 'bipolar and related disorders'.

1.1.3. Comorbidity of anxiety and depressive disorders in young people

Anxiety and depressive disorders often occur simultaneously. Due to later onset of depressive disorders (median 30 years; Kessler et al., 2007), comorbidity rates for

anxiety and depressive disorders are lower in children in adolescents than adults, and increase from childhood to adolescence (Garber & Weersing, 2010). Research suggests that between 25 and 50% of depressed adolescents meet criteria for at least one anxiety disorder and between 10 to 15% of anxious adolescents for at least one depressive disorder (Axelson & Birmaher, 2001; Essau, 2003). Higher comorbidity of anxiety and depressive disorders in adolescents compared to preadolescent children highlights the need for assessing both anxiety and depressive symptoms when 1) identifying adolescents who would benefit from further professional help, and 2) developing psychological interventions for these young people (Essau, 2003).

There are several possible reasons for an overall increase in prevalence and comorbidity of anxiety and depressive disorders from childhood to adolescence. Firstly, certain brain regions and structures (e.g. amygdala) demonstrate increased levels of activity in adolescence compared to childhood, and this is believed to be associated with the development of anxiety (Paus et al., 2008) and depressive disorders (Kerestes et al., 2014). In addition, hormonal changes in adolescence are likely to contribute to the development of anxiety and depressive disorders. In fact, pubertal status predicts the sex difference in prevalence rates better than age, which clearly indicates the role of sex hormones in the development of anxiety/depressive disorders (Hayward & Sanborn, 2002; Patton et al., 1996). Finally, genetic factors can also explain higher increased prevalence and comorbidity of anxiety and depressive disorders in adolescents. Overall, the hereditability of anxiety and depressive symptoms increases from childhood to adolescence and early adulthood (Bergen et al., 2007). Indeed, it seems that new genetic influences, especially those related to the development of depressive disorders, come 'online' during puberty. Compared to childhood, anxiety and depressive disorders in adolescence share a common genetic vulnerability, which further contributes to the

higher prevalence and comorbidity of these disorders in adolescence (Rice, 2010; Waszczuk et al., 2014).

Anxiety and depressive disorders in children and adolescents are distressing, impairing and interfere with family life, interpersonal relationships, academic achievement, and increase the likelihood of suicide and other psychopathology (Birmaher & Brent, 2007; Bitsko et al., 2018; Copeland et al., 2014; Smith & Smith, 2010). Finally, untreated anxiety and depressive disorders in children and adolescents lead to high economic cost for families (Smith & Smith, 2010) and society (Gore et al., 2011). High prevalence and negative impact of these debilitating mental health disorders in children and adolescents emphasise the need for their early identification and treatment.

1.2.Professional help for anxiety and depressive disorders in children and adolescents

Psychological approaches are the treatment of choice for anxiety and depressive disorders in children and young people. In particular, cognitive behavioural therapy (CBT) has good evidence for its effectiveness in children and adolescents with anxiety and/or depressive disorders (Arnberg & Öst, 2014; James et al., 2013, 2015; Oud et al., 2019; Reynolds et al., 2012). Besides CBT, interpersonal therapy (IPT) shows comparable efficacy to CBT in treating depression in young people (Duffy et al., 2019; Zhou et al., 2015). Certain pharmacological treatments, especially the selective serotonin reuptake inhibitors (SSRIs), such as sertraline, can also help reduce the symptoms of anxiety disorders (Ipser et al., 2009) and depressive disorders (Maag et al., 2014). However, due to relative small effects of pharmacological treatments (Vitiello & Ordóñez, 2016) and parental preference for psychological treatment (Brown et al., 2007) clinical guidelines suggest psychological treatments as the first line treatments for

the majority of anxiety and/or depressive disorders in children and young people (NICE, 2005, 2013). In fact, there are currently no medicines licensed for use with anxious children and young people in the UK.

Although effective treatments for children and adolescents with anxiety and depressive disorders exist, relatively low percentage of young people and their families successfully access specialist mental health services (Lawrence et al., 2015; Merikangas et al., 2010; Sadler et al., 2018; Zwaanswijk et al., 2005). In the UK, around a quarter of children and adolescents with any anxiety and/or depressive disorder reported accessing specialist support within the last 12 months (Sadler et al., 2018). The percentage of families that access evidence-based treatments, such as CBT, is reportedly even lower - e.g. less than 3% for families of primary-school aged children with an anxiety disorder (Reardon et al., 2019). Children and adolescents with anxiety and/or depressive disorders are in general less likely to use services compared to children and adolescents with behavioural disorders or attention deficit hyperactivity disorder (ADHD) (Chavira et al., 2004; Merikangas et al., 2010; Sadler et al., 2018; Zwaanswijk et al., 2003). Between anxiety and depressive disorders, service use rates seem to be lower for anxiety disorders (Essau, 2005; Lawrence et al., 2015; Merikangas et al., 2010).

Besides specialist mental health services, children and adolescents with anxiety and/or depressive disorders and their families can seek and access professional help from a wide range of other sources, for instance from primary health care professionals, school and educational professionals and social workers. However, service use rates are still relatively low across all service providers. The most recent data for the UK shows that roughly two thirds (63.5%) of families with a child/adolescent (aged 5-19) with an anxiety and/or depressive disorder contacted a professional for help with for their child's difficulties. Families reported most commonly turning to school staff (45.7%)

and primary health care professionals (33.1%) for support. Just over a quarter (27.4%) of children and adolescents with anxiety and/or depressive disorders and their families reported contacting mental health specialists (e.g. psychologists), and a similar proportion (25.7%) reported not contacting any professional for help (Sadler et al., 2018). Similar patterns of contact with professional services have been reported in other countries. In Australia, 61.4% of children and adolescents aged 4-17 with the diagnosis of an anxiety disorder and nearly 80% with the diagnosis of major depressive disorder reported using a service in the past 12 months (Lawrence et al., 2015). In the United States, between 32.2% (for anxiety disorders) and 43.8% (for mood disorders) of children and adolescents aged 8 to 15 reported using services in the past 12 months (Merikangas et al., 2010).

Low service use rates for children and adolescents with anxiety and depressive disorders and other common mental health difficulties have prompted a range of initiatives designed to increase the availability and accessibility of support. This includes efforts to improve access to specialist mental health services (e.g. Children and Young People's Improving Access to Psychological Treatment (CYP-IAPT) Programme in the UK, KidsMatter in Australia), support within schools (Department of Health & Department of Education, 2017, 2018) and public resources (e.g. YoungMinds, ReachOut). In particular, the role of schools in identifying and supporting children and adolescents with mental health difficulties has been recognised as vital, as young people spend most of their time in schools and many of their mental health problems are school-related (Department of Health & Department of Education, 2017; Humphrey & Wigelsworth, 2016; Husky et al., 2011).

Despite from various efforts to improve treatment rates for anxiety and depressive disorders in children and adolescents, the existing treatment gap warrants

further examination. One approach to try to understand reasons for low rates of service use among this particular group of young people is to examine factors associated with service use.

1.2.1. Factors associated with treatment access for anxiety and depressive disorders in children and adolescents

Several studies have investigated factors associated with service use specifically among children and adolescents with anxiety and/or depressive disorders (Chavira et al., 2009; Essau, 2005; Reardon et al., 2019; Wu et al., 2001). Although findings vary, studies illustrate differences in use of services according to demographic, family and clinical characteristics. For example, a large American study of anxious children and adolescents, aged 6-18, found a variation in factors associated with the use of services across different types of services. While use of non-speciality services (e.g. physical, emergency room visits) was positively associated with caregiver strain, there were no significant associations between caregiver strain or any other variables (e.g. age, gender, comorbidity) and outpatient or school service use (Chavira et al., 2009). A large UK community-based study of pre-adolescent children with an anxiety disorder, aged 7-11, identified a number of clinical and family characteristics associated with parental help-seeking for their child's anxiety. For instance, higher parent and teacher-reported level of anxiety symptoms, impairment and symptom impact, parental perceived need for support for their child and parent self-reported mental health symptoms were all positively associated with help-seeking (Reardon et al., 2019). Essau (2005) conducted a large study with adolescents, aged 12 to 17 years, in Germany and identified a number of clinical, demographic and family characteristics associated with the mental health service use. For instance, a past suicide attempt, parental anxiety, parental depression, older age and presence of comorbid disorder (only in adolescent males) were all

positively associated with mental health service use in adolescents with an anxiety disorder diagnosis. Mental health service use in adolescents with a depressive disorder diagnosis, on the other hand, was only associated with a past suicide attempt. Similarly, in the study by Wu et al., (2001) including 206 children and adolescents, aged 9 to 17 years, with a depressive disorder diagnosis identified demographic, clinical and family characteristics associated with service use. Participants were more likely to receive professional help if they had a larger number of depressive symptoms and were more impaired, and less likely if they were African American (compared to other ethnicities). In addition, girls were more likely to receive professional help than boys, and children and adolescents with comorbid disruptive behaviour were less likely to receive help than those without. Participants were also more likely to receive help if their parents reported the need for professional support, which highlights the role of parental perceptions and behaviours in the process of help-seeking.

These studies highlight the potential role of demographic, family and clinical characteristics in seeking/accessing help for anxiety and depressive disorders in children and young people. However, there is considerable variation among factors identified in each study. In addition, a large proportion of the variability in service use often remains unexplained, which highlights the role of other factors (e.g. attitudes, beliefs, past experience) in seeking/accessing professional help. In order to improve access to mental health services, we need a comprehensive understanding of the process of help-seeking/accessing and the barriers and facilitators that young people and their families face when accessing services.

1.2.2. Models of help-seeking in children and adolescents

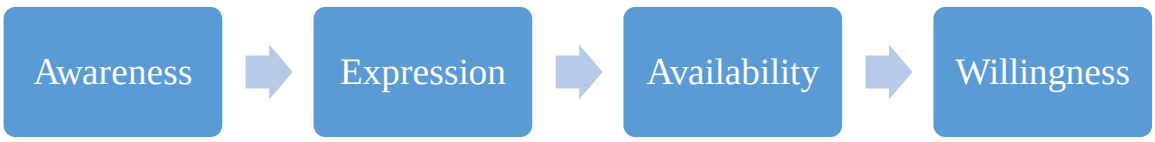
Models of help-seeking and broader health behaviours provide useful frameworks for identifying the various elements of the help-seeking process, and

potential barriers children and young people and their families may face during this process. These models can be broadly categorised into theories emphasising specific constructs (e.g. Self-Determination Theory; Deci and Ryan, 1985), stage models of help-seeking (e.g. Stage of Change Model; Prochaska and DiClemente, 1982), and social cognition models (e.g. Health Belief Model; Rosentock, 1966) (Ogden, 2012). However, all these models have been developed primarily for explaining help-seeking and health behaviours in adults. Consequently, the evidence supporting these models in the context of child and adolescent help-seeking behaviour is limited to a few studies (e.g. Clark et al., 2018; Pailler et al., 2009; Wilson & Deane, 2012), which highlights the need for help-seeking models focused on young people.

To overcome the disadvantages of adult-focused help-seeking models, Rickwood et al. (2005) proposed an alternative model, which specifically considers the needs of young people. This model conceptualises help-seeking as a process, in which personal (i.e. a young person's experience of psychological distress) becomes increasingly interpersonal (i.e. a young person actively seeking out and utilising informal or formal social relationships). The model proposes four stages of help-seeking (see Figure 1).

Figure 1

The Model of Help-Seeking for Mental Health Problems in Young People (Rickwood et al., 2005)



According to the model, help-seeking starts with a young person's awareness of the symptoms of mental health problems and appraisal of having problems that might require intervention. This awareness and appraisal must then be expressed in a way that can be understood by others and in which a young person feels comfortable expressing. Sources of help then need to be available and accessible for a young person. The process ends with a young person's willingness to disclose their inner state to the nominated source of help (Rickwood et al., 2005). In comparison to the majority of traditional help-seeking models which often focus on social and economic factors that affect access to services (Pescosolido & Boyer, 1999), this help-seeking model for young people provides additional information by focusing on individual and psychological factors that facilitate or prevent young people's help-seeking behaviour. Rickwood et al. (2005)'s model provides a conceptual framework which allows the examination of specific factors (i.e. barriers and facilitators) that impact young people's help-seeking behaviour at each stage of the help-seeking process. The framework has been applied in a few studies, which provide evidence for its appropriateness in explaining young people's help-seeking behaviour (Best et al., 2016; De Anstiss & Ziaian, 2010; Pretorius et al., 2019). However, this model was developed using data from adolescents and young adults, aged 14-24 years, and therefore might not fully address the needs of children and adolescents under 18 years. In particular, children and adolescents' dependency on adults around them, especially their parents and teachers, to successfully seek and access professional help is likely to differ from those over 18. In addition, this model does not capture barriers and facilitators for young people with specific mental health difficulties, such as anxiety and/or depressive disorders. Knowledge about the barriers experienced by children and adolescents themselves, those experienced by 'informal' sources of help (e.g. parents) and 'formal' sources of

help (e.g. medical professionals), is needed to fully understand the process of help-seeking specifically among children and adolescents.

1.2.3. Barriers and facilitators as perceived by parents and professionals

Parents play an important role when it comes to seeking and accessing professional help for mental health problems in children and adolescents. A recent systematic review of parent-perceived barriers and facilitators to seeking and accessing professional help (Reardon et al., 2017) for mental health problems in their children and adolescents identified that parents experience 1) systemic-structural barriers and facilitators (e.g. demand on services, cost of services), 2) barriers/facilitators related towards service providers and psychological treatment (e.g. perceived effectiveness of treatment, other people's views and perceptions), 3) barriers/facilitators related to knowledge and understanding of mental health problems and the process of help-seeking (e.g. recognising mental health problems, knowing where to get help) and 4) barriers/facilitators related to family circumstances (e.g. other responsibilities, support network). Similarly, primary care practitioners (GPs) , who often act as 'gatekeepers' between families and specialist mental health services, commonly report barriers related to identifying and managing mental health problems (e.g. lack of time, specific mental health knowledge) and making successful referrals for treatment (e.g. lack of providers and resources) (O'Brien et al., 2016). A lack of specific mental health knowledge and skills to help students with emotional and behavioural problems has also been reported by school teachers (e.g. Reinke et al., 2011). However, these studies addressed help-seeking for mental health problems in children and adolescents more broadly so it is possible that they do not capture most pertinent barriers in the context of seeking help specifically for anxiety and depressive disorders. Furthermore, as help-seeking and accessing for these mental health difficulties is not yet fully understood, qualitative

approaches can provide rich and meaningful insights.

A recent qualitative study with parents of anxious preadolescent children (Reardon et al., 2018) identified barriers and facilitators related to recognition of anxiety symptoms (e.g. parental views of anxiety), recognition of need for professional help (e.g. parental willingness to seek help), contacting professional help (e.g. parental knowledge of available help for anxiety disorders) and receiving support (e.g. limited service provision). In addition, anxiety specific barriers were identified, such the perception that anxiety is a personality trait or a common childhood experience. Similarly, GPs reported feeling ill equipped to support childhood anxiety disorders, which influenced their ability to successfully identify, manage and refer children with anxiety disorders to appropriate services. It seems that in anxiety disorders specifically, GPs often feel uncertain around the diagnosis and tend to prioritise physical illnesses over mental health illnesses (O'Brien et al., 2017). However, these two studies focused only on help-seeking for anxiety (and not depressive) disorders and on preadolescent children. As adolescents can take a more active role in help-seeking, particularly when they get older (Gasquet et al., 1997), it is important to also address help-seeking from their own perspectives.

1.2.4. Barriers and facilitators as perceived by children and adolescents

A systematic review of qualitative and quantitative studies on young people's perceived barriers and facilitators to seeking help for mental health problems identified perceived stigma and embarrassment, poor mental health literacy, and preference for self-reliance as the most commonly reported barriers. Young people's positive past experiences of professional help and support from others were, on the other hand, most commonly reported facilitators to seeking and accessing professional help (Gulliver et al., 2010). However, notably, this review included studies with children, adolescents

and young adults up to age 25 (i.e. university students) and therefore, it was not possible to establish what are the most common barriers and facilitators for under 18s. Moreover, this review only included studies published prior to 2009, and may therefore not capture barriers and facilitators that are relevant in more recent times.

Only a few studies to date have investigated barriers and facilitators to seeking help reported by children and adolescents with anxiety or depressive disorder diagnoses specifically (Clark et al., 2018; Meredith et al., 2009; Wu et al., 2016). A large quantitative study with clinically anxious children and adolescents, aged 7-13, identified barriers related to concerns about the duration and effectiveness of treatment for anxiety disorders, whilst participants were least concerned about the impact of treatment on their relationships with significant others (Wu et al., 2016). A qualitative study with 29 adolescent males, aged 12-18, with (n = 8) and without (n = 21) anxiety disorders identified barriers related to perceived stigma, limited knowledge of anxiety, reluctance to disclose their feelings to other people and lack of motivation. On the other hand, accessibility of fast, informal and formal help-seeking options and use of less formal/diagnostic-driven vocabulary by the source of professional help were most commonly endorsed facilitators (Clark et al., 2018). Similarly, a mixed-method study with depressed (n = 170) and non-depressed (n = 167) teenagers, aged 13-17, found 1) a higher level of perceived barriers among depressed teenagers compared to their non-depressed peers, and 2) a lack of time, perceived stigma, limited accessibility of professional help and difficulties with adhering to pharmacological treatment as the most common barriers to seeking/accessing help among subsample of adolescents with depression (Meredith et al., 2009).

However, the studies above focused on children and adolescents across broad age ranges (Wu et al., 2016); only male participants (Clark et al., 2018) or participants

with either an anxiety or depressive disorder diagnosis (e.g. Meredith et al., 2009). In addition, studies were conducted in different countries (e.g. Australia, United States) and all young people with the diagnosis of anxiety and/or depressive were identified through mental health services. To my knowledge, there is currently no data on barriers and facilitator to seeking and accessing professional help as perceived by young people who meet the diagnostic criteria for an anxiety/depressive disorder identified and are identified in the community (i.e. before reaching mental health services) in the UK. Indeed, based on the current data, we can only understand what are potential barriers for those young people and families who successfully accessed the services.

1.2.5. Developmental considerations in help-seeking for anxiety and depressive disorders in children and adolescents

The existing help-seeking studies with children and adolescents lack information on age-specific barriers and facilitators to seeking/accessing professional help. Whilst help-seeking/accessing for mental health problems in preadolescent children depends on parental/professionals' ability to identify mental health problems and initiate service use (Sayal, 2006), adolescents may take a different and more active role in the help-seeking process than preadolescent children due to many biological, cognitive and social changes that are typical for this developmental stage (e.g. Arain et al., 2013). In order to fully understand the process of help-seeking in adolescents with anxiety and/or depressive disorder, it is important to understand how adolescents and preadolescent children differ, and how these differences influence adolescent help-seeking behaviour.

1.3.Help-seeking in the context of adolescent developmental factors

Several key developmental changes that occur in adolescence may influence their experience of help-seeking/accessing for anxiety and depressive disorders.

1.3.1. Developmental changes that might enable adolescents to take more active role in help-seeking compared to preadolescent children

Adolescence is characterised as a period of multiple rapid neurodevelopmental changes, which are closely linked to the development of certain cognitive skills and socioemotional changes. Understanding the specifics of adolescents' development can help us explain why adolescents can more actively and independently seek help to preadolescent children.

Firstly, changes in the adolescent brain lead to the development and strengthening of certain cognitive skills involved in help-seeking, for instance problem-solving, information processing, short- and long-term memory (Arain et al., 2013; Steinberg, 2005). These changes are regulated by the complex and inter-related production of a number of hormones, in particular sex steroid hormones (Rogol et al., 2002). The most profound brain changes from childhood to adolescence are an overall decrease in cortical grey matter and an increase in white matter (Giedd et al., 1999; Lenroot & Giedd, 2006). In addition, the adolescent brain undergoes a 'rewiring' process accomplished by dendritic pruning and myelination, which provides the basis for adolescents' optimal cognitive functioning (Arain et al., 2013).

Neurodevelopmental changes described above are closely related to socioemotional changes in adolescence (Blakemore, 2018). In terms of help-seeking, the most important socioemotional change is adolescents' susceptibility to the opinion of other people, in particular their peers (Steinberg & Silverberg, 1986). In fact, adolescence is a period when peer acceptance (and therefore the opinions of peers) becomes more important for the first time than the opinions of family members (Larson et al., 1996). This might explain why adolescents are more likely than preadolescent children to turn to peers when experiencing mental health difficulties (Hart et al., 2018).

1.3.2 Developmental changes that might interfere with adolescents' ability to seek help

The neurodevelopmental characteristics may create particular barriers to help seeking among adolescents. For instance, different regions of the adolescent brain develop at different rates and whilst some brain regions (e.g. limbic structures) develop relatively quickly, the prefrontal cortex, an area of the brain involved in executive functioning (e.g. behavioural inhibition, planning, working memory), shows most striking and prolonged changes that last until late adolescence or early adulthood (Anderson, 2002; Luciana et al., 2005). Slower development of the prefrontal cortex and executive functions in adolescents might lead to adolescents' difficulties with making decisions about seeking help for their mental health problems (Levesque, 2011). Furthermore, adolescents' decision making seems to be swayed by their emotions, which can be explained by different brain regions developing at different rates (Arain et al., 2013). This might help us understand why adolescents, especially those with anxiety and/or depressive disorders, tend to use less adaptive coping strategies (e.g. reappraisal, rumination, emotional suppression) (Compas et al., 2017), and lead to a reluctance and inability to seek professional help. Finally, adolescents' increased susceptibility to peer-rejection might act as a barrier to seeking help. Adolescents seem to be more sensitive to social exclusion than preadolescent children (Silk et al., 2011), and, as such, the perceived social consequences of help-seeking (e.g. stigma and embarrassment) may play a more important role in help-seeking in adolescents compared to preadolescent children.

1.4.Summary and aims of this thesis

Anxiety and depressive disorders are the most common mental health disorders in children and adolescents, yet only a minority of affected young people seek and

access professional help. Detailed understanding of help-seeking in children and adolescents is crucial to address this treatment gap.

There are many different reasons why young people do not seek and access professional help for their mental health problems (Reardon et al., 2017; O'Brien et al., 2016). Parents and professionals report a wide range of barriers, which can be broadly classified as related to 1) difficulties identifying mental health problems in young people and 2) limited availability of professional help. However, little is known about the barriers experienced by children and adolescents themselves and there is limited up-to-date evidence on the experience of barriers and facilitators to seeking and accessing support for mental health problems specifically among young people under 18 years. Moreover, very few studies have focused on young people's experiences of help-seeking specifically in the context of anxiety and/or depressive disorders. As adolescence is associated with marked developmental changes, which might enable adolescents to take a more active role in the process of help-seeking compared to preadolescent children, but might also act as barriers to help-seeking, it is important to explore help-seeking from adolescents' perspectives.

This thesis aims to improve our understanding of seeking and accessing professional help for mental health problems in young people, aged under 18, by focusing on young people's own views and experiences. In particular, the thesis aims to develop understanding of barriers and facilitators to seeking and accessing professional help as experienced by adolescents with anxiety and/or depressive disorders themselves. Furthermore, the thesis aims to identify ways to minimise barriers to adolescent mental health treatment in order to improve treatment utilisation rates for this particular group of young people.

For the purpose of this thesis, the term 'young person' refers to a child and

adolescent, the term ‘adolescent’ refers to a young person, aged 11 to 18 (secondary school age), and the term ‘professional help’ to any professional support provided by school staff, a GP, mental health professional or non-mental health professional (e.g. youth worker). The processes of seeking and accessing professional help are conceptualised as contacting a professional for help (seeking professional help) and successfully receiving professional help (accessing professional help).

1.5.Outline of papers

This thesis consists of three papers: 1) a systematic review of barriers and facilitators to seeking and accessing professional help as perceived by young people (under 18s), 2) a qualitative study of barriers and facilitators to seeking and accessing professional help as perceived by adolescents with anxiety and/or depressive disorders, and 3) a quantitative study to develop a brief screening questionnaire tool to identify adolescents with anxiety and/or depressive disorders.

The aims of each paper are outlined below and in Figure 2 (page 23). Figure 2 also outlines the relationship between each paper as well as the overall aim of this PhD and its contribution to the broader research topic of improving access to treatment for mental health difficulties in children and adolescents.

1.5.1. Paper 1: Why do children and adolescents (not) seek and access professional help for their mental health problems? A systematic review of quantitative and qualitative studies

Understanding the reasons for (not) seeking and accessing professional help for their own mental health problems is crucial to improve treatment utilisation rates for children and adolescents. Whilst previous research has focused on the views of parents, and some professionals (e.g. GPs), the perceptions of young people themselves remain

unclear; in particular, there is limited understanding of the most common barriers and facilitators among under 18s. Paper 1 systematically reviewed all quantitative and qualitative studies addressing child and/or adolescent perceived barriers and facilitators to seeking and accessing professional help for their mental health problems. To fully address the complexity of the process of help-seeking and accessing, quantitative and qualitative studies were combined and analysed. The review included studies that addressed help-seeking for various mental health problems (e.g. anxiety, substance abuse, suicidality) and with different sources of professional help (e.g. help in school, specialist mental health services).

1.5.2. Paper 2: Adolescents' perceived barriers and facilitators to seeking and accessing professional help for anxiety and depressive disorders: A qualitative interview study

Amongst other findings, Paper 1 highlighted that 1) there is a lack of understanding of barriers and facilitators to seeking and accessing professional help experienced by young people with specific mental health disorders (e.g. anxiety and depressive disorders), and 2) it is unclear what barriers and facilitators to seeking and accessing professional help are typically experienced by adolescents, who are developmentally different and more engaged in help-seeking than preadolescent children. In addition, the majority of studies identified in the systematic review did not use standardised diagnostic assessments to identify participants, making it hard to generalise their findings to young people who meet the diagnostic criteria for a mental health disorder. Paper 2 aimed to address this gap by conducting in-depth qualitative interviews with adolescents with diagnoses of anxiety and/or depressive disorders identified in the community. Adolescents' parents were interviewed as well for the purpose of data triangulation. Besides developing understanding of barriers and

facilitators that adolescents with anxiety and/or depressive disorders face when seeking/accessing professional help, this study also aimed to identify practical ways to reduce these barriers. As there is currently little understanding of the topic of help-seeking and accessing in these young people, a qualitative approach was chosen to explore this from young people's perspective.

1.5.3. Paper 3: Using the 11-item Version of the RCADS to Identify Anxiety and Depressive Disorders in Adolescents

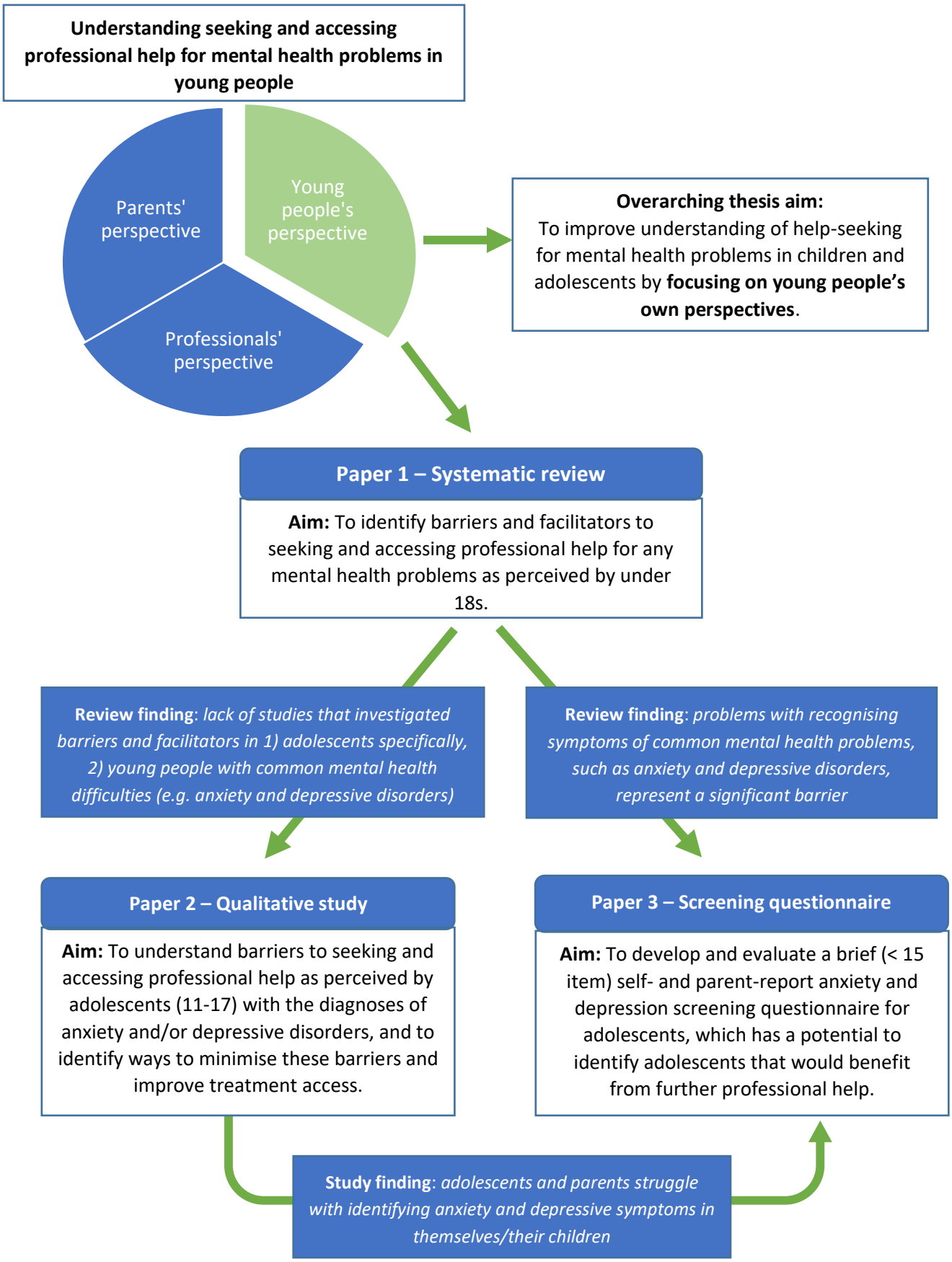
The results of the systematic review (Paper 1) suggest that young people struggle with identifying symptoms of common mental health problems, such as anxiety and depressive disorders. Similarly, young people with the diagnoses of anxiety and/or depressive disorders and their parents (Paper 2) reported barriers related to difficulties with identifying these disorders in themselves/their children. Adolescents suggested that screening for anxiety and depressive disorders in everyday settings, such as in school or primary care, could help themselves and professionals identify those adolescents who would benefit from further professional help. Although questionnaire measures for anxiety and depressive symptoms in children and adolescents exist, they are often 1) too long to be used for screening purposes, 2) difficult to administer and interpret, 3) not specifically designed for adolescents, 4) consistent with DSM-IV, rather than DSM-5 diagnostic criteria, and 5) do not consider the impact of anxiety/depressive symptoms on adolescents' lives or suicidal ideation, which is a common symptom of depression in adolescents. Paper 3 aimed to address the above limitations of existing questionnaire measures by developing and psychometrically evaluating a brief (< 15 item) self- and parent-report screening questionnaire of anxiety and depressive symptoms in adolescents that would meet all of the above criteria.

1.6. Methodologies used

A range of different methods were used to address research questions in this thesis. As the studies identified in the systematic review were highly heterogenous and more than half of the studies were qualitative (i.e. providing descriptive rather than numerical results), we conducted a narrative synthesis (Popay et al., 2006). Results of the systematic review identified the current lack of understanding of adolescents' experiences of seeking and accessing professional help for anxiety and depressive disorders. To explore adolescents' experiences, views and meanings and to comprehensively address the complexity of help-seeking in young people, a qualitative approach was chosen (Pope & Mays, 1995). In particular, reflexive thematic analysis was used as it allows researchers to identify patterns of meaning across the dataset that provide an answer to the research question. In addition, we chose this approach as it is theoretically flexible and provides a rich and complex account of data (Braun & Clarke, 2006, 2019). Among other recommendations, adolescents in the qualitative study suggested regular screening for anxiety and depressive disorders in schools. As there is currently a lack of short screening questionnaires for adolescents, Study 2 aimed to develop and evaluate a brief set of screening questions to be used with adolescents in everyday settings (e.g. schools and primary care). For this purpose, a quantitative approach was chosen and within that, two large (> 200) samples (a community and a clinic-referred) of adolescents and their parents were compared in order to identify a brief set of items that accurately discriminated between both samples. The receiver operating characteristic (ROC) analyses were performed to statistically appraise the brief item set's performance at classifying adolescents into groups correctly (i.e. clinic vs. community sample) (Youngstrom, 2014).

Figure 2

Outline of the Thesis



1.7.Funding and contributions

This thesis was funded by the University of Reading Anniversary Stipend awarded to me (JR) in 2017. I came to the University of Reading in September 2017. Prior to that, I was working in child and adolescent mental health services in Slovenia and was particularly interested in adolescent mental health. This PhD provided me with the opportunity to improve and further develop my research skills, in particular, skills in qualitative research which I had not been familiar with before starting the PhD. As this PhD involved a lot of direct work with adolescents with anxiety and/or depressive disorders and their families, this PhD also provided me with an opportunity to enhance my clinical skills. Furthermore, I was able to gain additional clinical experience through my regular work within the AnDY Research Clinic (first and second year of the PhD) and within the Anxiety and Depression Pathway – Berkshire Healthcare Foundation Trust (third year of the PhD). My ongoing clinical work also provided context to my research by gaining a better understanding of adolescent mental health and pathways to care.

The broad outline of this PhD (i.e. a systematic review (Paper 1), a qualitative study (Paper 2) and potential screening questionnaire study (Paper 3)) were developed with Dr Polly Waite, Dr Tessa Reardon and Prof Cathy Creswell. I led the detailed planning for each of these studies/papers and prepared ethics applications, gained ethics approvals, led participant recruitment, and supervised two MSc students who helped with the data collection/entering for the brief anxiety and depression screening questionnaire (Paper 3). The only data in this PhD which I did not collect directly was the questionnaire data from clinic-referred participants used in Paper 3, which was routinely collected in the AnDY Research Clinic. In addition to the above, I led and facilitated patient and public involvement (PPI) activities (see Appendix 6) to address

questions related to the development of a brief screening questionnaire. I also contacted all school and families, conducted all diagnostic assessments with identified adolescents, conducted and transcribed all adolescent and parent qualitative interviews, and led all quantitative and qualitative analyses. Finally, I wrote the first drafts of the research papers, reported in my thesis, and other chapters of the thesis.

1.8.Ethical considerations

Both empirical studies (Paper 2 and Paper 3) were approved by the University of Reading Research Ethics Committee (UREC 18/28). Permission to retrospectively use data collected from the clinic-referred sample (Paper 3) was obtained from the Berkshire Healthcare NHS Foundation Trust (project number 5491). Ethical concerns associated with each study are outlined below. All three researchers involved in the data collection (i.e. myself and two MSc students) were subject to disclosure and baring checks and received approval for working with children and adolescents. I received regular clinical supervision from Dr Faith Orchard and Dr Polly Waite diagnostic assessments and qualitative interviews.

1.8.1. Paper 2: Adolescents' perceived barriers and facilitators to seeking and accessing professional help for anxiety and depressive disorders: A qualitative interview study

The qualitative study involved diagnostic assessments with adolescents identified as a part of two large whole-school screenings for anxiety and depressive disorders (Paper 3). Out of 1,165 adolescents screened, 417 adolescents had at least one clinically significant elevation on either of the questionnaires used. However, due to lack of resources (i.e. all assessments were delivered by me) and to avoid false positive identification, only 52 families were invited to take part in the diagnostic assessment.

Therefore, not all adolescents with anxiety and/or depressive disorders were given the same opportunity to take part in the assessment. However, the purposes of screening and assessments were clarified to participating schools, parents and adolescents in initial and follow-up information leaflets (see Appendix 2). In addition, parents and adolescents were provided with the information resources on anxiety and depressive disorders and available help. Families were also encouraged to contact the researchers if they had any further questions regarding the project or accessing professional help for anxiety and/or depressive disorders in young people.

Adolescents who took part in the diagnostic assessments were asked a large number of sensitive questions about their fears, worries and mood. During the assessment, each adolescent was also asked questions to assess the risk of suicide/self-harm, risk from others and risk to others. Although adolescents were familiar with the nature of the questions asked prior to the assessment and were asked to provide informed consent, it is possible that some questions caused distress to them. If an adolescent became upset at any point during the assessment, they were encouraged to take a break and reminded that they could withdraw from the study at any point. If any risks were identified during the assessment, these were reported to the school's safeguarding team immediately, following a prior agreement and risk management plan between the researchers and participating schools. After the diagnostic assessment, each family received a report summarising assessment findings with recommendations for further professional support. Each family also received additional information resources. If applicable, I offered families to directly refer them to specialist mental health services.

Similar to the diagnostic assessments, some questions during the qualitative interviews could cause distress to adolescents and parents. If a participant became upset,

they were encouraged to take a break and reminded that they could withdraw from the study at any point. If participants' responses raised any risks or concerns, these were again reported to schools' safeguarding teams (after interviews with adolescents) or Dr Polly Waite (after interviews with parents).

1.8.2. Paper 3: Using the 11-item Version of the RCADS to Identify Anxiety and Depressive Disorders in Adolescents

Adolescents in the brief questionnaire development study were recruited using the opt-out approach. Only adolescents whose parents had completed opt-out forms prior to the whole-school screening for anxiety and depressive disorders were excluded from the screening stage. This approach raises some ethical issues, particularly in the context of new data protection regulations (GDPR) introduced in 2018. However, research suggests that using active consent ('opt-in') in child and adolescent mental health research can result in significant participation bias by systematically excluding certain demographic and high-risk groups (Liu et al., 2017) which in itself poses ethical issues (see Appendix 5). In addition, adolescents and their parents were still asked to provide assent/consent prior to completing the questionnaires. Therefore, Paper 3 includes only questionnaire responses for which each participant (adolescent or parent) provided active consent.

Questionnaires administered in this study asked adolescents and their parents a wide range of questions about their/their child's fears, worries, mood and suicidal thoughts/plans. It is possible that these questions caused distress to some participants. As with the diagnostic assessment, each participant was allowed to withdraw from the study at any point. Prior to the questionnaire completion, adolescents and parents were also given information leaflets with information resources and contact details of the researchers. Once adolescents completed the questionnaires, all questionnaire forms

were manually checked by researchers, and any responses that indicated any risk were reported to the school's safeguarding teams immediately.

The following chapters will present these three papers followed by a discussion chapter which reflects on the overall thesis findings, limitations, implications and the future direction of research.

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Chapter 2: Paper 1

Why do children and adolescents (not) seek and access professional help for their mental health problems? A systematic review of quantitative and qualitative studies

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REVIEW

Why do children and adolescents (not) seek and access professional help for their mental health problems? A systematic review of quantitative and qualitative studies

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Abstract

Mental health disorders in children and adolescents are highly prevalent yet undertreated. A detailed understanding of the reasons for not seeking or accessing help as perceived by young people is crucial to address this gap. We conducted a systematic review (PROSPERO 42018088591) of quantitative and qualitative studies reporting barriers and facilitators to children and adolescents seeking and accessing professional help for mental health problems. We identified 53 eligible studies; 22 provided quantitative data, 30 provided qualitative data, and one provided both. Four main barrier/facilitator themes were identified. Almost all studies (96%) reported barriers related to young people's individual factors, such as limited mental health knowledge and broader perceptions of help-seeking. The second most commonly (92%) reported theme related to social factors, for example, perceived social stigma and embarrassment. The third theme captured young people's perceptions of the therapeutic relationship with professionals (68%) including perceived confidentiality and the ability to trust an unknown person. The fourth theme related to systemic and structural barriers and facilitators (58%), such as financial costs associated with mental health services, logistical barriers, and the availability of professional help. The findings highlight the complex array of internal and external factors that determine whether young people seek and access help for mental health difficulties. In addition to making effective support more available, targeted evidence-based interventions are required to reduce perceived public stigma and improve young people's knowledge of mental health problems and available support, including what to expect from professionals and services.

Keywords Children · Adolescents · Mental health · Barriers · Facilitators · Professional help

Introduction

Almost one in seven young people meet diagnostic criteria for a mental health disorder [1]. Untreated mental health disorders in children and adolescents are related to adverse health, academic and social outcomes, higher levels of drug abuse, self-harm and suicidal behaviour [2–4] and often persist into adulthood [5]. Indeed, half of the lifetime mental health problems start by the age of 15 and nearly three quarters by the age of 18 [6], creating a substantial global socioeconomic burden [7]. These short and longer term negative outcomes associated with youth mental health problems emphasise the importance of early detection and prompt access to professional treatment.

Effective, evidence-based treatments for mental health disorders in young people exist [8]. However, less than two-thirds of young people with mental health problems and their families access any professional help [9]. In general,

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young people are more likely to get professional help if they are older (i.e. adolescents more likely than children), Caucasian, experiencing more than one mental health problem and suffering from behavioural rather than emotional disorders [10, 11]. Besides from factors associated with treatment utilisation (e.g. gender and race), a detailed understanding of the reasons that young people (rather than parents or professionals) do not seek and access professional help is crucial to address the gap between the high prevalence of mental health disorders in young people and low treatment utilisation. A recent systematic review of parent-reported barriers to accessing professional help for their child's mental health problems identified barriers related to systemic/structural obstacles (e.g. costs, waiting times), attitudes towards the service providers and psychological treatment (e.g. trust and confidence in professionals, the perceived effectiveness of treatment), knowledge and understanding of mental health problems and the help-seeking process (e.g. recognition of the problem, knowing where to get help) and family circumstances (e.g. other responsibilities and family's support network) [12]. Amongst general practitioners (GPs), who often act as 'gatekeepers' between families and specialist services, commonly perceived barriers include difficulties identifying and managing mental health problems (e.g. confidence, time, lack of specific mental health knowledge) and making successful referrals for treatment (e.g. lack of providers and resources) [13].

As young people can take an active role in help-seeking, particularly as they get older, it is important to ascertain their own views on the barriers to seeking and accessing help for their mental health problems. A previous systematic review that focused on young people's views found that young people most commonly fail to seek help because of stigma, embarrassment, difficulties with recognising problems and a desire to deal with difficulties themselves [14]. However, this review only considered help-seeking for anxiety, depression and general 'mental distress' and, therefore, does not capture barriers in the context of other mental health disorders, or more recent literature published since 2009. Furthermore, the review included samples of young adults (e.g. university students), making it hard to know the degree to which the reported barriers/facilitators are relevant for children and adolescents specifically.

It is now widely recognised that high demands on specialist services, limited available provision and long waiting lists present key barriers to accessing child and adolescent mental services [15]. This has prompted a range of recent initiatives designed to increase the availability and accessibility of specialist services (e.g. Children and Young People's Improving Access to Psychological Treatment (CYP-IAPT) Programme in the UK, KidsMatter in Australia), support within schools [16, 17], and public resources (e.g. YoungMinds, ReachOut). However, it is critical that efforts to improve access to support and services consider young people's views on help-seeking, and by doing so address the barriers that are pertinent to them.

This study provides an up-to-date systematic review of all studies where children and adolescents were asked about barriers and facilitators to help-seeking and accessing professional support in relation to a wide range of mental health difficulties, to inform ongoing and future interventions designed to improve treatment access. To fully address the complexity of the process of seeking and accessing professional help in young people, results from quantitative and qualitative studies were analysed and combined. By focusing on children and adolescents with a mean age of 18 years or younger (and excluding any studies which only included young adults over 21 years) findings will be especially relevant to the school context, and youth services for under 19s.

Methods

A systematic review was conducted following PRISMA guidelines [18] and was registered in the international prospective register of systematic reviews (PROSPERO), number 42018088591, on 13/02/2018. A PRISMA checklist is provided in Online Resource 1.

Literature search

The initial search strategy and preliminary inclusion/exclusion criteria followed a recent review of parent-perceived barriers and facilitators to help-seeking and accessing treatment for their children [12]. The search terms captured four major concepts: (1) barriers/facilitators, (2) help-seeking/accessing, (3) mental health, and (4) children/adolescents and parents (see Online Resource 2 for details of the search strategy). The original search was launched in October 2014 [12] and replicated using the same strategy in October 2016 and in February 2018. We used the NHS Evidence Healthcare database, combining Medline, PsycINFO and Embase, and the Web of Science Core Collection separately. Additionally, we used hand-search methods to check the reference list of articles included in the full text screening stage, and performed backward and forward reference searching of key papers to identify further studies of interest.

Eligibility criteria

A study was included if child and/or adolescent (mean sample age up to 18) participants reported barriers and/or facilitators to seeking and accessing professional help for mental health problems. Studies reporting only parental/caregiver's perceived barriers and facilitators, and studies including

only young adults (e.g. university students) were excluded. Similarly, studies that only reported factors associated with treatment utilisation and studies reporting barriers/facilitators related to ongoing treatment engagement (not initial access to treatment) were excluded. The full list of inclusion/exclusion criteria is available in Online Resource 3.

Study selection

We selected the studies for the current review through an initial search in October 2014 conducted within the Reardon et al. [12] review, and two updated searches using the same search terms (October 2014–October 2016; and October 2016–February 2018). In total, 3682 studies published since October 2014 were identified from database searches and hand searching. After duplicates were removed, two independent reviewers from the team (JR, CT, GEB, and PL) screened 2582 abstracts, and 385 full texts. In cases of disagreement, a third reviewer was consulted (TR) to reach a final decision. In total, 53 studies were included in the current review. Thirty studies provided qualitative data, 22 provided quantitative data and one study provided both. For two included studies, relevant results were reported in two separate papers, which were all included in a current review [19–22].

The full process of study selection is presented in the PRISMA flowchart (Fig. 1).

Data extraction

We used the data extraction form developed by Reardon et al. [12], with minor amendments to reflect the fact that study participants were children/adolescents rather than parents. The form included the following information: (1) methodology used (qualitative, quantitative or mixed methods), (2) country of study, (3) study setting (e.g. school, mental health clinic), (4) child/adolescent characteristics, including age range, gender, ethnicity, area of living (e.g.

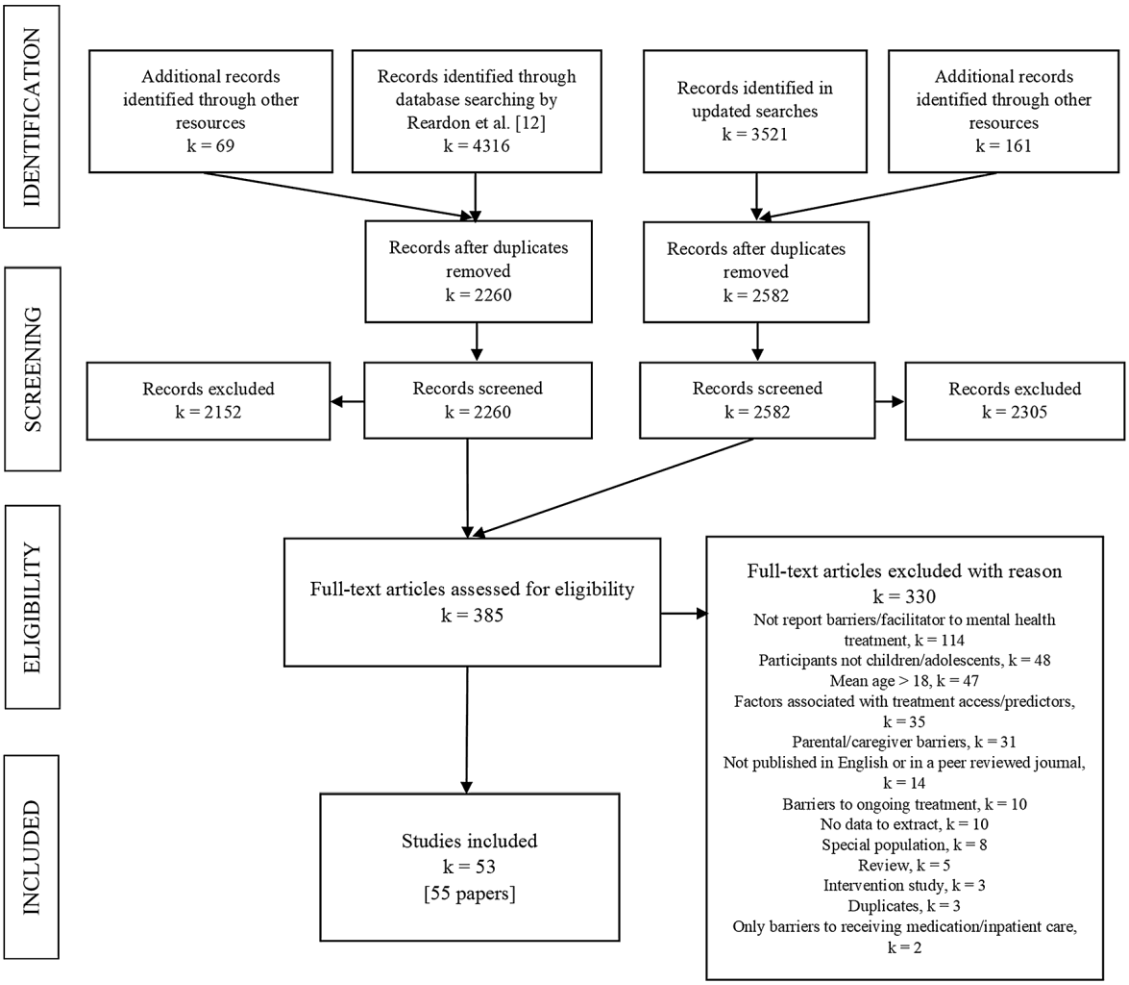

Fig. 1 PRISMA flowchart of study selection process

rural, urban), (5) type of mental health problem addressed/focus of the study and method of mental health assessment, (6) characteristics related to service use, and (7) key findings relating to perceived barriers and facilitators, supported by quantitative or qualitative evidence. Where applicable, details regarding barrier/facilitator measures were recorded for quantitative studies. For qualitative studies, we recorded details about the methods used (e.g. focus groups, interviews) and the areas of relevant questioning. Data extraction was undertaken by two independent reviewers (JR and GEB/PL/TR).

Quality rating

In line with the approach used by Reardon et al. [12], we used two adapted versions of quality rating checklists developed by Kmet et al. [23]. One checklist was used to evaluate the quality of quantitative studies and another to evaluate the quality of qualitative studies. Quality checklists addressed the research question, study design, sampling strategy and data analysis. The quantitative checklist also addressed the robustness of the barrier/facilitator measure, and the qualitative checklist addressed the credibility of the study's conclusions (see Online Resource 4). The quality of the study that provided qualitative and quantitative data [24] was assessed using both scales. Two independent reviewers (JR and GEB/PL/TR) assessed the quality of each included study. Based on the total score, each study was classified as 'low' (0–12 for quantitative and 0–11 for qualitative studies), 'moderate' (13–16 for quantitative and 12–15 for qualitative studies) or 'high' (17–20 for quantitative and 16–18 for qualitative studies) quality. Discrepancies between the reviewers were discussed with a third reviewer (TR/CC). Each study was included in the review, regardless of its quality.

Data synthesis

We conducted a narrative synthesis following ESRC guidance [25], which outlines three main steps of analysis: (1) developing a preliminary synthesis, (2) exploring relationships between and within studies, and (3) assessing robustness of the synthesis. We chose this approach because of the high methodological variability across studies and the predominantly descriptive nature of the results. Consequently, statistical meta-analysis was not feasible.

A preliminary synthesis was done separately for quantitative and qualitative studies Each individual perceived barrier or facilitator reported in each quantitative study was assigned a code, and we reorganised the data according to these initial codes (e.g. 'assured confidentiality', 'concerns around confidentiality', 'worrying that information about me will be shared with others'). We then used an iterative process to refine codes, to group codes into families of codes (e.g. 'perceived confidentiality'), and finally to group families of codes into overarching barrier/facilitator themes (e.g. 'relationship factors'). Extracted qualitative data were coded and organised following the same procedure. Next, we developed a single-coding framework capturing barriers and facilitators across quantitative and qualitative studies. Codes generated in the preliminary synthesis of qualitative and quantitative studies were combined and refined in this step, and organised into 22 subthemes and 4 themes. To address the heterogeneity of the quantitative studies and to facilitate comparison across studies, we 'transformed' the data [25]. In line with the ESRC guidance, we developed a 'common rubric' to summarise the quantitative data. After examining the percentages of participants who endorsed each specific barrier/facilitator across studies, we categorised each barrier/facilitator into one of three groups ['low' (endorsed by 0–10% of participants), 'medium' (endorsed by 10–30% of participants) and 'high' (endorsed by more than 30% of participants)]. These groups reflect the relative distribution of the percentage of respondents who endorsed each barrier/facilitator across studies. Where applicable, Likert-scale responses were converted into 'percentage endorsed' by summing positive responses (e.g. 'agree' and/or 'strongly agree') before categorisation. Three studies reported only means and standard deviations for each barrier/facilitator and no frequencies. In these cases, we applied data standardisation and categorised responses into the three corresponding categories using percentile and z scores. To minimise the impact of barriers/facilitators reported by only a small minority (< 10%) of participants, barriers/facilitators categorised as 'low' frequency were not included in subsequent analyses. As results from qualitative studies were descriptive (non-numerical), this kind of data transformation was not appropriate for qualitative studies.

We used graphical methods to present the percentage of included studies that reported each specific barrier/facilitator, and the corresponding percentage for qualitative and quantitative studies separately. Next, we explored the relationship between study characteristics (e.g. qualitative/quantitative methodology, country, use of a mental health assessment to identify participants) and sample characteristics (e.g. mental health status, gender, area of living), and barrier/facilitator themes and subthemes. Where we identified a pattern related to study/sample characteristics, details are reported below.

We performed a sensitivity analysis to establish the review's robustness by examining the impact of 'low' quality studies on the findings. These studies were removed and results related to themes, subthemes and conclusions

re-examined to determine whether they stayed the same or not.

All analyses were led by the primary author (JR), with regular discussions with other reviewers (TR/PW/CC) to agree with the interpretation of codes and themes.

Results

Study description

In total, 53 studies were included in the review, with 22 providing quantitative data, 30 providing qualitative data, and 1 study providing both [24]. Therefore, the total number of studies and corresponding percentages in the results refer to 54 included samples (23 quantitative and 31 qualitative). Study characteristics are provided in Tables 1 and 2.

Studies varied widely on sample size (from 6 to 10,123), participants' age (from 7 to 21 years), country (with 48% of studies conducted in North America, 24% in Europe, 20% in Australia and 8% in Asia), demographic profiles (with 20% of studies focused on specific ethnic/gender groups and others with more varied samples), recruitment setting (with 72% of studies conducted in schools, 17% in (mental) health settings, and the others in varying community settings) and the type of mental health problem that was a focus of the study (with 30% of studies focused on mental health in general and the remaining studies focused on specific mental health problems, such as depression, anxiety, suicidal ideation and ADHD). In half of the studies participants' mental health was assessed (all of these studies assessed young people's mental health using questionnaire measures, with the exception of four studies that used a standardised diagnostic assessment). Similarly, studies addressed various types of professional support, with some (9%) focused on school-based (mental health) services and the majority of remaining studies focused on any professional help (50%) or on support available in a specific (mental) health setting (40%). In 41% of studies, participants' service use was not reported or assessed, and in others, some (2–57%) or all participants had received professional help for their mental health problems.

In quantitative studies, young people were most commonly asked to endorse the presence or absence of barriers from a list, or rate barriers using a 4–7 point Likert response scale. Three quantitative studies asked open questions about help-seeking [26–28]. Less than a third (30%) of quantitative studies reported facilitators to help-seeking, with two of those studies reporting facilitators only [29, 30].

The majority of qualitative studies used one-to-one interviews (45%), focus groups (32%), or both (16%) to collect data, with the exception of two studies where they applied a qualitative approach to analyse responses to open-ended survey questions [19, 20, 31]. Unlike quantitative studies, more than a half (58%) of qualitative studies reported facilitators to help-seeking, as well as barriers.

Quality ratings

Overall, the quality of the studies varied, ranging from 'low' to 'high', with 65% of quantitative and 52% of qualitative studies rated as 'high' quality, and 4% of quantitative and 13% of qualitative studies rated as 'low' quality. The weak aspects of qualitative studies tended to relate to methodological issues, such as clarity and appropriateness of sampling strategy (e.g. insufficient detail on how study participants were selected), data collection and analysis methods (e.g. only a very brief description of data analysis), whereas quantitative studies most commonly failed to describe the barrier/facilitator measure's robustness (e.g. no details given about the measure's psychometric characteristics).

Barrier/facilitator themes

Four barrier/facilitator themes were identified from both the qualitative and quantitative studies. The themes relate to (1) young people's individual factors, (2) social factors, (3) factors related to the relationship between the young person and the professional and (4) systemic and structural factors. Barrier and facilitator themes and subthemes are summarised below. Barrier and facilitator themes and subthemes identified in each study are available in Online Resource 5.

1. Young people's individual factors

The majority (96%) of studies reported barriers and facilitators related to individual factors. Subthemes and their distribution across all studies, and across qualitative and quantitative studies separately are outlined in Fig. 2.

Barriers and facilitators related to knowledge about mental health and mental health services were reported in more than half (53%) of the studies, and with high endorsement rates (> 30% of participants). Young people reported not knowing where to find help and/or whom to talk to [20, 34, 37, 38, 42–46, 64, 65, 69, 73, 74] and failing to perceive a problem as either serious enough to require help [20, 63] or mental health related [32]. Young people's broader perceptions of help-seeking were reported as barriers in 39% of studies, and as facilitators in 4%. This subtheme captured young people's general attitudes towards mental health and help-seeking [31, 49, 53, 55, 59], help-seeking expectations [20, 27, 31, 33, 37, 38, 46, 48, 54, 59, 68, 75] and perceptions about how help-seeking reflects on their character, such as perceiving help-seeking as a sign of weakness [21, 49, 54, 60, 63, 73, 75]. The latter was reported in all studies that included male-only samples. Young people commonly (in 39% of the studies) endorsed the barrier of refusing to

Table 1 Characteristics of quantitative studies

References	Number of participants reporting barriers/facilitators	Age (range)	Country	Ethnicity	Females (%)	Area of living	Setting	Focus of the study	Mental health assessment	Source of professional help	Service use	Barrier/facilitator measure—details	Quality assessment
Boyd et al. [26]	201	11–18	Australia	No information	63%	Rural	School	Anxiety and Depression	CES-D SAS[a]	Any professional help	No information	Open-ended question about barriers to seeking professional help	17 (high)
Chandra and Minkovitz [32]	274	13–14	USA	46% white, 27.4% black, 9.5% Asian, 4.7% Hispanic and 9% multiracial	50%	Suburban	School	Emotional concerns	Not assessed	Mental health services	15.9% received psychological services or counselling (past year)	Ten barriers to help-seeking and 'no barriers' option	17 (high)
Cigularov et al. [33]	854	14–18	USA	78.3% Caucasian, 10.2% Hispanic, 2% Asian/Pacific, 1.7% Native American, 0.8% African American, 6.6% Other	47%	No information	School	Depression and suicidality	Not assessed	Any professional help	No information	26 barriers to help-seeking; 6-point Likert scale	18 (high)

Table 1 (continued)

References	Number of participants reporting barriers/facilitators	Age (range)	Country	Ethnicity	Females (%)	Area of living	Setting	Focus of the study	Mental health assessment	Source of professional help	Service use	Barrier/facilitator measure—details	Quality assessment
D'Amico et al. [29]	2883	14–18	USA	69% Caucasian, 13% Hispanic, 5% Asian American/Pacific Islander, 2% American Indian/Alaskan Native, 1% African American, 10% 'other'	50%	No information	School	Alcohol related problems and concerns	Adapted questionnaire to assess drinking habits (6.7% 'heavy drinkers' and 21% 'problem drinkers')	Alcohol related services	No information	14 facilitative factors; 5-point Likert scale	16 (moderate)
Freedenthal and Stiffman [27]	101 (out of 356 screened for suicidal thoughts)[b]	15–21	USA	American Indians	72%	51.5% lived on the reservation, 48.5% in urban areas	Participant home	Suicidality	Questions about suicidality (100% ever thought of/attempted suicide; 59.4% suicidal thoughts, 24% multiple suicide attempts, 10% one suicide attempt, 6% number of attempts not given), YSR	Any professional help	40.59% saw a MH professional; 12.87% consulted a school counsellor or teacher.	Open-ended question about barriers to seeking professional help with suicidal thoughts or behaviour.	17 (high)

Table 1 (continued)

References	Number of participants reporting barriers/facilitators	Age (range)	Country	Ethnicity	Females (%)	Area of living	Setting	Focus of the study	Mental health assessment	Source of professional help	Service use	Barrier/facilitator measure—details	Quality assessment
Gould et al. [34]	519	13–19	USA	78% white, 3% African American, 13% Hispanic, 1% Asian, 4% other	50%	Urban and rural	School	Feeling very upset, stressed or angry	BHS (10% above threshold) CIS (28% above threshold)	Any professional help including hotlines	Hotline/substance programme/other health professional: 1.7–3.1 (last year), 2.1–3.3 (ever): School counsellor/MH professional: 21.1–22-3(last year), 29.5–29.8 (ever)	16 barriers to help-seeking	17 (high)
Gould et al. [35]	24 (out of 317 identified 'at risk' and who did not seek help after referral at baseline)[b]	13–19	USA	58.3% white, 20.8% Hispanic, 12.5% Asian, 8.3% other	54%	No information	School	Suicidality	SIQ-JR (33% serious suicidal ideation), seven questions about suicide attempt history (25% past suicidal attempts), BDI-IA (58.3% depression), DUSI, CIS (37.5%)[c]	Mental health services	None	HUQ	17 (high)

Table 1 (continued)

References	Number of participants reporting barriers/facilitators	Age (range)	Country	Ethnicity	Females (%)	Area of living	Setting	Focus of the study	Mental health assessment	Source of professional help	Service use	Barrier/facilitator measure—details	Quality assessment
Guo et al. [36]	865 Latin American	$M = 12.6$, SD = 1.96	USA	Latin American	51%	No information	School	Internalising and externalising problems	SDQ (20.3% elevated symptoms) and CIS	SBMHS	12.9% referred to SBMHS (past academic year)	Nine reasons for not seeking help	15 (moderate)
	936 Asian American			Asian American					SDQ (13.9% elevated symptoms) CIS		3.2% referred to SBMHS (past academic year).		
Guterman et al. [37]	858 Arab	14–17	Israel	46.7% Arab and 53.3% Jewish	57.9%	No information	School	Emotional distress—exposure to community violence	Adapted version of My ETV (87% witnessed ≥ 1 act of community violence (past year)	Any Professional Help	11.5% sought help from MH professional, 10% from youth group or religious leader, 9.2% from teacher and 8.7% from medical professional	16 reasons for not seeking help	18 (high)
	977 Jewish	14-17			54.5%				Adapted version of My ETV (92.5% witnessed ≥ 1 act of community violence (past year)		4.1% sought help from MH professional, 3.5% from youth group or religious leader, 2.7% from teacher and 2.1% from medical professional		

Table 1 (continued)

References	Number of participants reporting barriers/facilitators	Age (range)	Country	Ethnicity	Females (%)	Area of living	Setting	Focus of the study	Mental health assessment	Source of professional help	Service use	Barrier/facilitator measure—details	Quality assessment
Haavik et al. [38]	1249	$M = 17.6$, SD = 1.15	Norway	No information	56%	Rural and urban	School	MH in general	Not assessed	MH Services	School-based MH services: 11–29.8%, Specialist MH services: 9.7–10.5%, Youth health station/GP: 16.2–32.9%	Nine barriers to help-seeking; 5-point Likert scale	18 (high)
Khairani et al. [39]	21 (out of 215 screened for depression symptoms)[b]	13–20	Malaysia	99.1% Malays, 0.9% Indians	57%	Rural	Primary care clinic	Depression	Structured self-report questionnaire with ten questions on depressive symptoms based on the DSM-IV (100% met criteria for depression)	Medical professionals	9.5% of those reporting significant depressive symptoms had sought medical help for these	No details about the barrier measure	15 (moderate)
Kuhl et al. [40]	280	14–17	USA	84% Caucasian, 9.8% Asian American, 4% Hispanic, 0.4% African American, 2.1% no ethnicity specified.	50%	No information	School	MH in general	50-item measure of physical and psychiatric symptoms developed by Dubow[a]	Any professional help	30% of participants were currently or previously in therapy	BASH	16 (moderate)

Table 1 (continued)

References	Number of participants reporting barriers/facilitators	Age (range)	Country	Ethnicity	Females (%)	Area of living	Setting	Focus of the study	Mental health assessment	Source of professional help	Service use	Barrier/facilitator measure—details	Quality assessment
Lubman et al. [41]	2456	14–15	Australia	84.2% born in Australia; 1.9% in New Zealand, 1.4% in the United Kingdom, 1.1% in India and 1.0% in China	50%	Rural and urban	School	Depression and alcohol abuse; any professional help	Not assessed	Any professional help	30% sought help for MH problems from teachers or health professionals	BASH-B	20 (high)
Meredith et al. [24]	184 depressed[b] 184 non-depressed[b]	13–17	USA	14.2% White, 32.7% Black, 49.3% Hispanic, 3.8% Other	78%	No information	Primary care clinic	Depression	DISC—depression module (100% of 'depressed' and 0% of 'non depressed' sample met the diagnostic criteria for depressive disorder in last 6 months)	Any professional help	55% reported receiving depression counselling (6 months after depression was identified) No information	Seven barriers; 5-point Likert scale	20 (high)
Muthupalaniappen et al. [42]	131 smokers 268 non-smokers	13–17	Malaysia	No information	No information	No information	School	Emotional and behavioural problems	YSR[a]	Primary care providers	5.3% sought help No information	16 reasons for not seeking help	15 (moderate)

Table 1 (continued)

References	Number of participants reporting barriers/facilitators	Age (range)	Country	Ethnicity	Females (%)	Area of living	Setting	Focus of the study	Mental health assessment	Source of professional help	Service use	Barrier/facilitator measure—details	Quality assessment
Samargia et al. [43]	497 (those who reported having foregone mental health care from 878 screened)	16	USA	86.9% White, 0.9% African American, 3.2% Native American, 6.1% multiracial, 1.7% Asian, 1.1% Hispanic	65%	Rural and urban	School and community centres	Psychological or emotional problems	DHS and DHHS[a]	Mental health services	100%	11 reasons for not seeking help	17 (high)
Sharma et al. [44]	354	13–17	India	No information	48%	Urban	School	Depression	Not assessed	Any professional help	No information	No details about the barrier measure	9 (low)
Sheffield et al. [45]	254	15–17	Australia	89.7% Australian and 10.3% from other countries (mainly Asia, Europe, and the United Kingdom)	51%	No information	School	MH in general	The DASS-21[a]	Any professional help	9.1% sought help for a mental illness; 31.2% for a personal, emotional or behavioural problem (past 12 months)	Nine barriers to help-seeking	17 (high)

Table 1 (continued)

References	Number of participants reporting barriers/facilitators	Age (range)	Country	Ethnicity	Females (%)	Area of living	Setting	Focus of the study	Mental health assessment	Source of professional help	Service use	Barrier/facilitator measure—details	Quality assessment
Sylwestrzak et al. [46]	10,123	13–18	USA	65.6% non-Hispanic whites, 15.1% non-His- panic blacks, and 14.4% Hispanics	49%	Rural and urban	Household and school	Emotional and behavioural problems and coping with stress	As a part of NCS-A Study they were asked about MH symptoms[a]	Any professional help	> 63% reported seeking treatment to manage and cope with emotions; 11.6% to help with controlling problem behaviours and 6.9% to help cope with stress	14 reasons for not seeking help	14 (moderate)
Wilson and Deane [47]	1037	13–21	Australia	95% Australian, remaining 5% European, Asian, North or South American, Middle Eastern, and 'other'	59%	Urban	School and youth community groups	Psychological problems	Not assessed	MH Services	No information	BASH-B	18 (high)
Wilson et al. [28]	1184	11–17	Australia	No information	50%	Urban	School	Depression	CES-D (10.5% with moderate–severe depression symptoms)	MH Services	No information	Open-ended question about perceived barriers to seeking professional help	16 (moderate)

Table 1 (continued)

References	Number of participants reporting barriers/facilitators	Age (range)	Country	Ethnicity	Females (%)	Area of living	Setting	Focus of the study	Mental health assessment	Source of professional help	Service use	Barrier/facilitator measure—details	Quality assessment
Wilson et al. [30]	173 (trial)	14–16	Australia	88% Australian, 6% European, 2% Asian	58%	No information	School	Psychological problems	Not assessed	Help-seeking with GPs	6.9–8.1% had ≥ 1 consultation with GP about psychological health	BETS	18 (high)
	118 (comparison group)			86% Australian, 9% European, 2% Aboriginal	60%						1.7–4.2% had ≥ 1 consultation with GP about psychological health		
Wu et al. [48]	119	7–13	USA	82% White, 12% African American, 3% Asian, 3% other	50%	No information	Community mental health centres	Paediatric anxiety	MASC, CAIS-C/P, CDI, PARS, ADIS-IV-C/P (66% GAD, 43% Social Phobia, 41% ADHD, 39% Separation Anxiety, 29% Specific Phobia)	MH Services	100%	TAQ-CA	20 (high)

CAIS-C/P Child Anxiety Impact Scale-Child/Parent Report, *CDI* Children's Depression Inventory, *CES-D* Centers for Epidemiologic Studies Depression Scale, *CIS* Columbia Impairment Scale, *DASS-21* Depression Anxiety Stress Scale, *DHS* Minnesota Students Survey, *DHSS* Youth Risk Behaviour Survey, *DISC* Diagnostic Interview Schedule for Children, *DUSI* Drug Use Screening Inventory, *HUQ* Help-Seeking Utilization Questionnaire, *MASC* Multidimensional Anxiety Scale for Children, *MH* mental health, *My ETV* My Exposure to Violence Scale, *PARS* Pediatric Anxiety Rating Scale, *SAS* Self-rating Anxiety Scale, *SBMHS* school-based mental health services, *SDQ* Strengths and Difficulties Questionnaire, *SIQ-JR* Suicidal Ideation Questionnaire, *TAQ-CA* Treatment Ambivalence Questionnaire-Child (Anxiety) Version, *YSR* Youth Self-Report

[a]Results of MH assessment not reported. *ADIS-IV-C/P* Anxiety Disorders Interview Schedule for DSM-IV-Child and Parent Versions, *BASH* Barriers to Adolescents Seeking Help, *BASH-B* the brief version of the Barriers to Adolescents Seeking Help scale

[b]Mental health assessment used to identify participants. *BETS* Barriers to Engagement in Treatment Screen, *BDI-IA* Beck Depression Inventory, *BHS* Beck Hopelessness Scale

[c]The same methods were used in baseline screening

Table 2 Characteristics of qualitative studies

References	Number of participants reporting barriers/facilitators	Age (range)	Country	Ethnicity	Females (%)	Area of living	Setting	Focus of the study	Mental health assessment	Source of professional help	Service use	Barrier/facilitator measure—details	Quality Assessment
Balle Tharaldsen et al. [49]	8	17–18	Norway	88.5% Norwegian, 12.5% immigrant background.	75%	No information	School	MH in general	No previous MH problems[b]	Any professional help	0% current, 25% previous contact with professional help.	Interviews	17 (high)
Becker et al. [50]	13	12–17	USA	Majority Caucasian	38%	No information	Community—outreach and support programmes for military families	MH in general	Not assessed	MH services	No information	Interviews and focus groups	16 (high)
Breland-Noble et al. [51]	29	11–17	USA	African American	No information	Rural, urban and suburban	No information.	Depression	Not assessed	Any professional help	No information	Interviews and focus groups	12 (moderate)
Bullock et al. [52]	15	14–18	Canada	100% Canadian with heterogeneous ethnicities (i.e. mixed European, Aboriginal). One youth was a 2nd generation migrant.	87%	No information	The Depressive Disorders (outpatient) Program of a psychiatric hospital	Suicidality	K-SADS-PL, SCID-II (53% depressive disorder, 33% cluster B personality disorder) questions about suicidality (60% lifetime suicide attempt, 40% multiple attempts)	Any professional help	100%	Interviews	12 (moderate)
Bussing et al. [31]	148	14–19	USA	No information	59%	Rural and urban	School	ADHD	Screening questions with parents and CASA (74% ADHD high risk).	Psychiatric/medical and psychological help	57% had a previous ADHD treatment	Open-ended survey questions	14 (moderate)

Table 2 (continued)

References	Number of participants reporting barriers/ facilitators	Age (range)	Country	Ethnicity	Females (%)	Area of living	Setting	Focus of the study	Mental health assessment	Source of professional help	Service use	Barrier/ facilitator measure—details	Quality Assessment
Chandra and Minkovitz [53]	57	13–14	USA	30% African American	74%	Suburban	School	MH in general	Not assessed	MH services	38.6% within and 10.5% outside the school	Interviews	16 (high)
Clark et al. [54]	29	12–18	Australia	No information	0%	Rural and urban	School and MH Clinic	Clinical anxiety	28% history of anxiety diagnosis[b]	Any professional help	28% had previously sought professional help	Interviews and focus groups	17 (high)
De Anstiss and Ziaian [55]	85	13–17	Australia	100% refugees of mixed ethnic backgrounds	56%	No information	Community—refugee centres,programmes, schools	MH in general	Not assessed	MH services	Not clear	Focus groups	15 (moderate)
Del Mauro and Jackson Williams [56]	31	7–18	USA	87.1% Caucasian, 3.2% African American, 3.2% Asian, 3.2% Hispanic, 3.2% not reported	71%	Rural and urban	Community	MH in general	Not assessed	Psychological help	19.4% ≥ 1 therapy session	Focus groups	15 (moderate)
Doyle et al. [57]	35	16–17	Ireland	No information	66%	Urban	School	MH in general	Not assessed	Help-seeking in schools	No information	Focus groups	12 (moderate)

Table 2 (continued)

References	Number of participants reporting barriers/ facilitators	Age (range)	Country	Ethnicity	Females (%)	Area of living	Setting	Focus of the study	Mental health assessment	Source of professional help	Service use	Barrier/ facilitator measure—details	Quality Assessment
Fleming, Dixon and Merry [58]	39	13–16	New Zealand	49% Maori, 38% Pacific Islands, 10% New Zealand European	26%	No information	School—alternative schooling programmes for students excluded or alienated from mainstream education	Depression	Not assessed	Health providers and computer-based help	No information	Focus groups	16 (high)
Fornos et al. [59]	65	13–18	USA	89% Mexican–American	No information	Urban	School	Depression	Not assessed	Any professional help	No information	Focus groups	10 (low)
Fortune et al. [19, 20]	2954 (out of 6020 screened)[c]	15–16	UK	82% White, 12% Asian, 3% Black and 3% Other	54%	No information	School	Self-harm and suicidality	Questions about self-harm (10% lifetime self-harm) and scales to measure depression, impulsivity, anxiety and self-esteem[a]	Any professional help	No information	Open-ended survey questions	13 (moderate)

Table 2 (continued)

References	Number of participants reporting barriers/facilitators	Age (range)	Country	Ethnicity	Females (%)	Area of living	Setting	Focus of the study	Mental health assessment	Source of professional help	Service use	Barrier/facilitator measure—details	Quality Assessment
	332 who did not seek help before self-harm (out of 593 with a lifetime history of self-harm)[c] 412 who did not seek help after self-harm (out of 593 with a lifetime history of self-harm)[c]	15–16	UK	88% White	Around 75%	No information	School	Self-harm	Questions about self-harm (100% lifetime history of self-harm) and scales to measure depression, impulsivity, anxiety and self-esteem[a]	Any professional help	14% got help before the episode of self-harm 1.4% got help after the episode of self-harm	Open-ended survey questions	13 (moderate)
Francis et al. [60]	52	14–16	Australia	No information	71%	Rural	School	MH in general	Not assessed	Any professional help	No information	Focus groups	16 (high)
Gonçalves et al. [61]	16	12–17	Portugal	25% Portuguese (African descendent)25% Cape Verde, 18.8% Brasil, 18.8% Angola, 12.5% Other	31%	No information	School	MH in general	Not assessed	Any professional help	31.3% had previous psychologist visit	Focus groups	14 (moderate)

Table 2 (continued)

References	Number of participants reporting barriers/ facilitators	Age (range)	Country	Ethnicity	Females (%)	Area of living	Setting	Focus of the study	Mental health assessment	Source of professional help	Service use	Barrier/ facilitator measure—details	Quality Assessment
Gronholm et al. [62]	29[c]	12.2–18.6	UK	65.5% White, 31% Black, 3.4% Asian	65.50%	Urban	School	Inter-/externalising disorder and risk of developing psychotic disorder	SDQ (100% borderline or clinical level of inter-/externalising disorder PLE (100% ≥ 1 'yes' response to question regarding psychotic-like experiences)	Any professional help	No information	Interviews	18 (high)
Hassett and Isbister [63]	8[c]	16–18	UK	No information	0%	No information	Clinic—CAMHS	Self-harm and suicidality	≥ 2 episodes of self-harm (past 12 months)[b]	MH services	100%	Interviews	17 (high)
Huggins et al. [64]	6	18	USA	No information	No information	Rural and urban	School	MH in general	Not assessed	School-based mental health services	No information	Interviews	17 (high)
Kendal et al. [65]	23	11–16	UK	No information	65%	Urban	School	Emotional difficulties	Not assessed	School-based pastoral support	39% had used the MH service in school	Interviews	15 (moderate)
Klineberg et al. [66]	30	15–16	UK	40% Asian, 23% Black, 20% Mixed ethnicity, 13% White British and White Other	80%	Urban	School	Self-harm	Adapted version of A-Cope (33% never self-harmed, 30% self-harmed once, 37% more than once)	Any professional help	No information	Interviews	16 (high)

Table 2 (continued)

References	Number of participants reporting barriers/facilitators	Age (range)	Country	Ethnicity	Females (%)	Area of living	Setting	Focus of the study	Mental health assessment	Source of professional help	Service use	Barrier/facilitator measure—details	Quality Assessment
Leavey, Rothi and Paul [67]	48	14–15	UK	No information	50%	Urban	School	Emotional and mental health problems	Not assessed	Primary care providers	No information	Focus groups	11 (low)
Lindsey, et al. [68]	16	11–14	USA	100% African American	50%	Urban	School	MH in general	Not assessed	MH services	44% received school-based counselling	Focus groups	17 (high)
Lindsey et al. [21, 22]	18[c]	14–18	USA	100% African American	0%	Urban	Community based mental health centres and after-school programs for youth	Depression	CES-D (100% elevated levels of depression symptoms)	MH services	55% of them were in treatment	Interviews	16 (high)
Mcandrew and Warne [69]	7[c]	13–17	UK	100% White British	100%	No information	n/a	Self-harm and suicidality	100% experienced self-harm and/or suicidal behaviour[b]	Any professional help	No information	Interviews	13 (moderate)
Meredith et al. [24]	16[c]	13–17	USA	No information	No information	No information	Primary care clinic	Depression	Diagnostic Interview Schedule for Children—depression module (100% met criteria for depression)	Any professional help	Not clear	Interviews	10 (low)
Mueller and Abrutyn [70]	10	No information	USA	Upper middle class community	No information	Suburban	Community	Suicidality	Not assessed	Any professional help	No information	Interviews and focus groups	11 (low)

Table 2 (continued)

References	Number of participants reporting barriers/facilitators	Age (range)	Country	Ethnicity	Females (%)	Area of living	Setting	Focus of the study	Mental health assessment	Source of professional help	Service use	Barrier/facilitator measure—details	Quality Assessment
Pailler et al. [71]	60	12–18	USA	65% African American, 27% White, 8% multiracial	52%	Urban	Tertiary care children's hospital	Depression	Not assessed	MH services	No information	Interviews	18 (high)
Prior [72]	8	13–17	UK (Scotland)	No information	75%	No information	School	MH in general	Not assessed	School counselling	100% received school counselling	Interviews	15 (moderate)
Timlin-Scalera et al. [73]	26	14–18	USA	100% White	15%	Suburban	School	MH in general	Not assessed	Any professional help	Not clear	Interviews	17 (high)
Wilson and Deane [74]	23	14–17	Australia	91% Australians of European descent, 4% Aboriginal, 4% Pakistani	52%	Urban	School	MH in general	Not assessed	Any professional help	No information	Focus groups	16 (high)
Wisdom et al. [75]	22	14–19	USA	90% White (non-Hispanic), other people with African, Hispanic, and Asian heritage	59%	No information	School and MH Clinic	Depression	Assessed by primary care providers[a]	Primary care providers	Not clear	Interviews and focus groups	16 (high)

CASA Child and Adolescent Services Assessment, *CES-D* Centers for Epidemiologic Studies Depression Scale, *K-SADS-PL* Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version, *MH* mental health, *SCID-II* Structured Clinical Interview for DSM-IV Axis II

[a]Study does not provide results of MH assessment

[b]Study does not provide information on how MH was assessed

[c]Mental health assessment used to identify participants

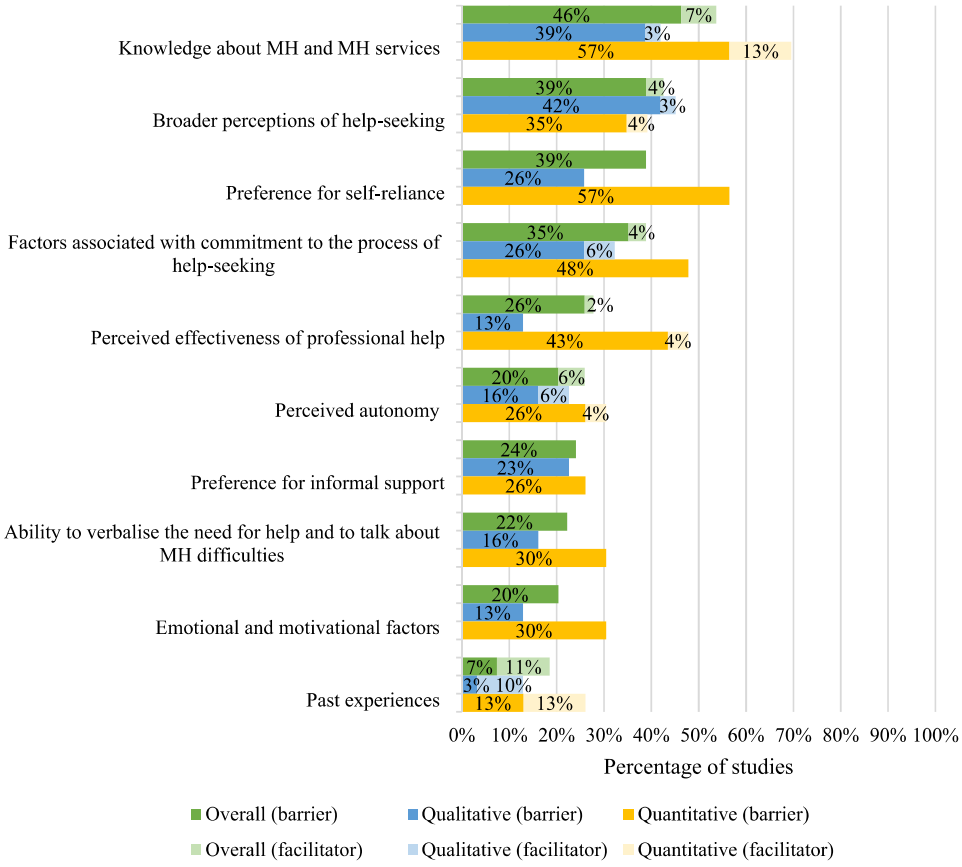

Fig. 2 Percentage of all (percentage of 54 included samples that reported barrier/facilitator), qualitative (percentage of 31 included qualitative samples that reported barrier/facilitator) and quantitative (percentage of 23 included quantitative samples where a 'large' (> 30) or 'medium' (10–30) percentage of participants endorsed the barrier/facilitator) studies reporting barriers and facilitators relating to young people's individual factors

seek help because of a desire to cope with their problems on their own [20, 21, 24, 26–28, 33, 34, 37, 40–42, 45–47, 50, 54, 56, 61, 68, 73]. This subtheme was reported in nearly all studies that included young people with elevated levels of depression symptoms or experiences of self-harm, and mostly in quantitative studies with high rates of endorsement. In 35% of the studies, young people reported barriers related to uncertainty about whether problems were serious enough to require help [34, 35, 37, 40, 42, 62, 66, 73, 74] and expectations that the problems would improve on their own [33–35, 40, 42, 43, 46]. Young people also endorsed barriers which related to a reluctance to attend appointments and adhere to recommended treatments [24, 71]. Factors associated with commitment to the process of help-seeking were usually endorsed with a high frequency within quantitative studies. Around a quarter of studies reported the perceived effectiveness of professional help to be the reason for (not) seeking professional help, with most studies reporting that young people were doubtful about the effectiveness of professional help [31–35, 37, 40, 42, 44–46, 48, 50, 67, 72]. This reason was endorsed by young people with or without previous experience of professional help. Notably, perceived effectiveness was more commonly reported in quantitative studies than qualitative studies. The extent to which young people perceive help-seeking as their own decision was reported in a quarter of the studies. Young people reported that they were more likely to seek help if they perceived it to be their own choice [65, 72] and less likely to seek help if they perceived it as their parents'/teachers' choice [48, 61, 67]. A preference for informal support was reported as a barrier to seeking professional help in 24% of studies; young people reported that they would prefer to discuss their mental health difficulties with family members and friends than professionals [22, 26, 34, 40, 42]. The subtheme of young people's ability to verbalise the need for help and to talk about mental health difficulties was the next most common barrier to help-seeking, and endorsed by young people in 22% of studies overall, and more commonly reported in quantitative than qualitative studies. One-fifth of the studies reported emotional and motivational factors related to the nature of their problem, such as anxiety [39–41, 43, 47, 69] and depression symptoms [20, 27, 33, 40], and a lack of motivation [54, 58] as barriers to seeking professional help. Unsurprisingly, anxiety and depression symptoms were most frequently reported as posing barriers in the studies that included participants with elevated levels of psychological distress. This subtheme only captured barriers and was more frequently reported in the quantitative studies than qualitative studies. Young people also reported past experiences to be both facilitators [26, 40, 47, 53, 73, 74] and barriers

[35, 40, 46, 53] to seeking professional help for their mental health problems. Past positive experience was the most commonly reported facilitator, reported in 15% of studies.

2. Social factors

The second theme describes barriers and facilitators related to social factors and this theme was reported in 92% of studies. Subthemes in this category are outlined in Fig. 3.

The vast majority of studies reported barriers (76% of studies) related to perceived stigma [19–21, 26, 27, 31, 32, 49, 50, 54–62, 64, 68, 69, 72, 73] and young people's experienced and/or anticipated embarrassment as a consequence of negative public attitudes [20, 22, 27, 28, 32, 33, 36, 37, 40–42, 44, 47–49, 58, 61, 64, 69], and these barriers were usually reported by a high percentage of young people within studies. Reduced public stigma and public normalisation of help-seeking were reported as related facilitators in four (13%) qualitative studies [57, 63, 72, 74]. Views and attitudes towards mental health and help-seeking within young people's support networks, such as family, friends, teachers and GPs, were reported as barriers in 17% of studies, and as facilitators in 19% of studies. In most of these studies, these barriers/facilitators were reported by a high percentage of participants. Notably, positive views and encouragement from young people's support networks were commonly reported facilitators (26% of qualitative and 9% of quantitative studies) [21, 32, 52, 59, 61, 63, 72, 73]. This subtheme was more frequently reported in studies including ethnically diverse samples, ethnic minorities or only male participants than studies with predominantly Caucasian, and mixed-gender samples. Anticipated consequences of help-seeking on young people's social network included the fear of being taken away from their parents [59], fear of losing status in a peer group [49] and making their family angry or upset [48] and were reported as barriers in 29% of qualitative and 13% of quantitative studies.

3. Relationship factors

A large proportion of studies (68%) reported barriers and facilitators related to the relationship between the young person and a mental health professional. The distribution of subthemes across studies overall, and among qualitative and quantitative studies, is outlined in Fig. 4.

Issues related to perceived confidentiality were reported as barriers in 28% and facilitators in 6% of the studies [19, 29, 33, 36, 37, 39, 45, 47, 50, 56, 57, 59, 62, 64–66, 69, 73, 74]. Young people also reported concerns regarding disclosing personal information to a person they do not know well [22, 26, 28, 32, 33, 35, 42, 57, 58, 65, 68, 72, 74]. Barriers and facilitators related to young people's perceptions of contact with professionals were reported in one-fifth of the studies (20%). Young people reported that they are more likely to seek help if they feel respected [63, 66], listened to [29, 30, 69] and not judged [69], and less likely if they feel they are being judged or not taken seriously [20, 37, 38, 56, 69]. Lastly, young people endorsed barriers and facilitators related to similarities/differences between them and professionals in 13% and 6% of studies, respectively. This subtheme was most frequently reported in qualitative studies that included ethnically diverse samples, ethnic minorities and only male participants, and included references to the gender [63], ethnicity/race [21] and age [40, 47] of professionals.

4. Systemic and structural factors

Barriers and facilitators related to systemic and structural factors were reported by 58% of studies overall. We identified six subthemes which are outlined in the Fig. 5.

Logistical factors, such as lack of time [24, 35, 40, 42], interference with other activities [24, 48], transportation difficulties [36, 42, 45] and costs associated with mental health services [24, 31, 35, 36, 38, 40–43, 45, 46, 50, 59, 61, 71] were reported in a large proportion of studies, and

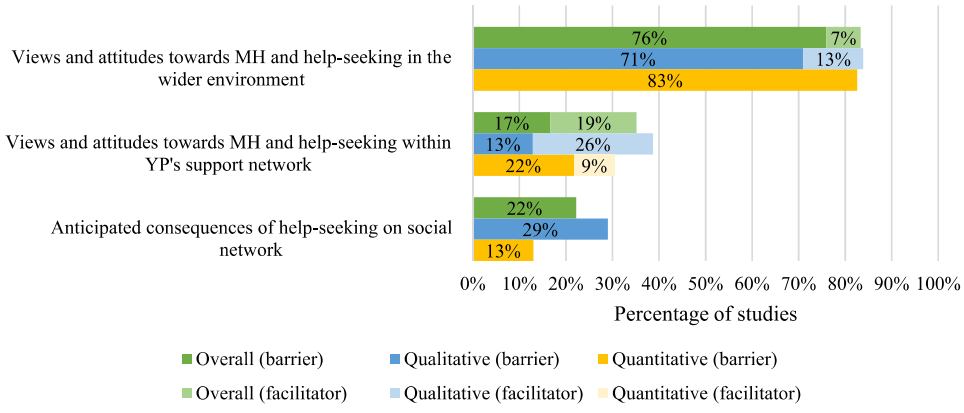

Fig. 3 Percentage of overall (percentage of 54 included samples that reported barrier/facilitator), qualitative (percentage of 31 included qualitative samples that reported barrier/facilitator) and quantitative (percentage of 23 included quantitative samples where a 'large' (> 30) or 'medium' (10–30) percentage of participants endorsed the barrier/facilitator) studies reporting barriers and facilitators relating to social factors

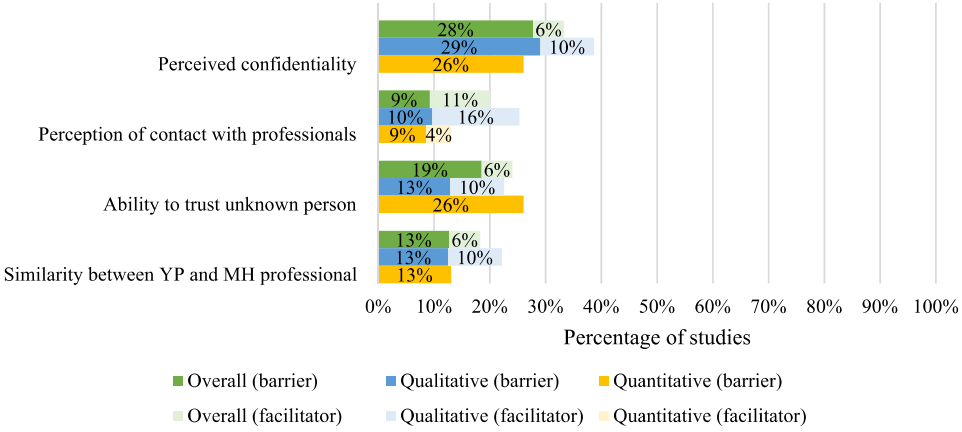

Fig. 4 Percentage of overall (percentage of 54 included samples that reported barrier/facilitator), qualitative (percentage of 31 included qualitative samples that reported barrier/facilitator) and quantitative (percentage of 23 included quantitative samples where a 'large' (> 30) or 'medium' (10–30) percentage of participants endorsed the barrier/facilitator) studies reporting barriers and facilitators relating to relationship factors

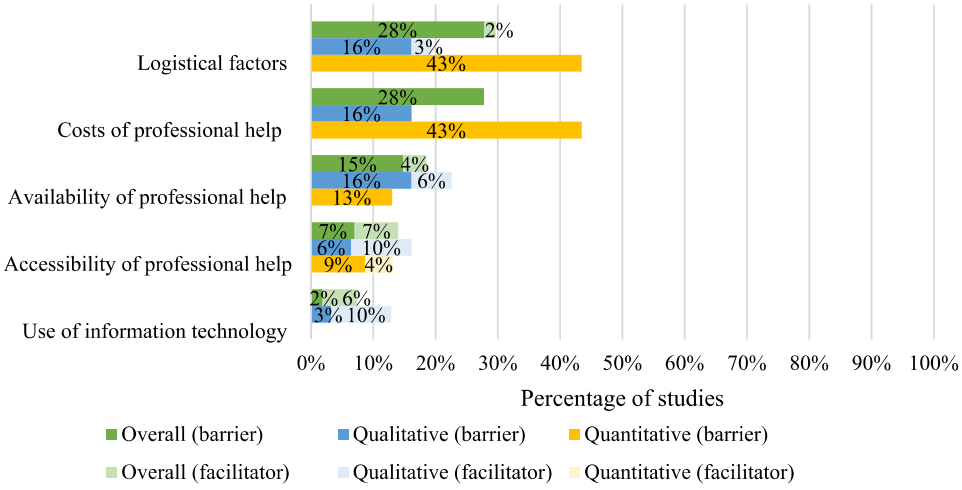

Fig. 5 Percentage of overall (percentage of 54 included samples that reported barrier/facilitator), qualitative (percentage of 31 included qualitative samples that reported barrier/facilitator) and quantitative (percentage of 23 included quantitative samples where a 'large' (> 30) or 'medium' (10–30) percentage of participants endorsed the barrier/facilitator) studies reporting barriers and facilitators relating to systemic and structural factors

predominantly in quantitative studies. Two-thirds of studies reporting costs as a barrier to professional support were American and studies reporting transportation difficulties were more commonly conducted in rural areas than in cities. Young people also frequently reported barriers (15% of the studies) and facilitators (4% of the studies) related to the availability of professional help. Limited availability of professional services and excessive waiting times were the most commonly reported barriers within this subtheme [24, 26, 38, 54, 60, 68, 73]. Studies also reported barriers related to difficulties accessing or reaching support, for example, difficulties making an appointment or the attitude of staff towards them [19, 24, 33, 67]. The last subtheme captured young people's perceptions of the role of information technology in help-seeking. In 10% of qualitative studies, young people identified opportunities to communicate distress and attend treatment via digital tools as facilitators to seeking/accessing treatment [54, 58, 63, 67]. All of these studies were conducted in the UK, Australia or New Zealand.

Robustness of data synthesis

Sensitivity analysis was performed by excluding four 'low quality' studies (three qualitative and one quantitative) and re-examining the distribution of themes and subthemes among the remaining studies. There was minimal change in relation to the distribution of barrier/facilitator subthemes across qualitative and quantitative studies, and the overall results remained similar and conclusions unchanged.

Discussion

This review identified 53 studies addressing barriers and facilitators to seeking and accessing professional help for mental health problems as perceived by children and adolescents. We identified four themes across the studies. Barriers and facilitators related to young people's individual factors and to social factors were identified in the vast majority of the studies. Young people also commonly reported barriers

and facilitators related to the relationship between them and professionals and to systemic and structural factors.

Among barrier/facilitator subthemes, young people most frequently endorsed barriers and facilitators related to societal views and attitudes towards mental health and help-seeking, such as perceived public stigma and embarrassment associated with mental health problems. Young people also often perceived a lack of knowledge about mental health and the available help as a barrier to help-seeking. Young people with a prior experience of mental health difficulties reported that, during their difficulties, they had not recognised the need for professional help and had not perceived their problems as not serious enough to require help. Young people's negative expectations and attitudes towards professionals, and perceiving help-seeking as a sign of one's weakness, were commonly reported across studies as well. The latter subtheme was almost always reported in studies which included only male participants, highlighting potential gender differences in perceived barriers [54]. Adolescents also often endorsed a preference to rely on themselves when facing mental health difficulties rather than seeking professional help, which was again especially prominent in studies where participants had previous experience of mental health difficulties. Notably, this subtheme was far more commonly reported in quantitative than qualitative studies. Compared to qualitative studies, quantitative studies also more commonly reported barriers and facilitators related to a commitment to the process of help-seeking, such as not perceiving a problem as serious enough and waiting for the problem to improve on its own. Lastly, the extent to which young people believed information shared between them and professionals would be treated as confidential seemed to play a significant role in whether young people decide to seek help or not.

This review's findings are broadly consistent with the previous review by Gulliver and colleagues that focused on young people's help-seeking for anxiety, depression and distress [14]. Our review makes a significant further contribution to the existing literature by including young people's perceived barriers for a wider range of mental health difficulties. In line with our findings, Gulliver et al. [14] identified that the most common barriers and facilitators related to public, perceived and self/stigmatising attitudes, mental health knowledge, young people's preference for self-reliance and perceived confidentiality. However, Gulliver et al. [14] reported that structural factors (e.g. logistical factors and costs related to professional help), anxiety symptoms, and characteristics of mental health service providers were more common than we found in this review. Furthermore, while Gulliver et al. [14] found that past positive experiences of help-seeking was the most frequently reported facilitator across studies, we found that (1) positive attitudes and encouragement from young people's support network and (2) positive perceptions of the contact between them and professionals were the most commonly reported facilitators. These observed differences are likely to reflect the larger number of studies included in the current review than the previous review, with nearly two-thirds of included studies published since the review by Gulliver et al. [14]. Furthermore, the current review excluded studies with only young adult participants (e.g. university students), who may well perceive different barriers and facilitators to seeking help than younger adolescents.

Implications

Our findings highlight many potential ways to improve access to treatment for young people experiencing mental health difficulties. First, the review highlights the ongoing need to minimise perceived mental health stigma among young people. There are a growing number of large-scale public health initiatives (e.g. *Time to Change* in the UK and *Opening Minds* in Canada) and school-based interventions [76] that are designed to reduce stigma and improve young people's mental health and help-seeking literacy. Once the effectiveness of such programmes has been demonstrated, widespread dissemination is critical, making constructive conversations about mental health a part of the daily school routine. Our findings indicate that these interventions should focus on improving young people's knowledge and understanding of mental health problems, [54], equipping young people with self-help skills and strategies [34], normalising mental health problems and the process of help-seeking [63, 74], 'demystifying' professional help [72], explaining which problems require help and which may not [20], and informing young people about where to find help and what to expect from it [30, 40], including explaining the therapeutic 'ground rules' (e.g. confidentiality). If we want to close the gap between high prevalence of mental health disorders and low treatment utilisation, sufficient service provision and professional support must be widely available for young people. Providing services within the school environment could address the systemic and structural barriers by minimising the effort required to access youth mental health services. Further, this could help reduce the barriers related to logistical factors, such as lack of time and transportation difficulties. Indeed, hundreds of schools in the UK already work collaboratively with local child and adolescent mental health services to offer specialist support and treatments to young people, teachers and parents at school [77]. With careful implementation, this may also be less stigmatising than a clinic environment [16], potentially helping greater numbers of young people to seek and access evidence-based treatments [78]. In addition, young people should be as equipped as possible to help themselves. Digital tools might be a means to increase access to support

for mental health problems, and young people in studies in our review identified benefits of, for example, text messages [63, 67] to self-refer and to communicate with professionals directly Similarly, young people suggested using computerised psychological treatments [58], which might be especially appropriate for those who find it hard to talk about their feelings in person, and may help improve young people's perceived independence. Equally, ensuring services are free at the point of use would minimise financial barriers to help-seeking/accessing. As young people's support networks, especially families, seem to play the most important facilitative role in their process of help-seeking/accessing, professionals should be mindful about seeking appropriate family involvement, whilst balancing this against young people's desire to make their own decisions about receiving help. It is clear that wherever interventions are provided, they must promise young people privacy [65] and promote their agency, control and self-determination [72].

Strengths and limitations

This review provides a comprehensive overview of the most common reasons given by young people about why they may or may not seek and access professional help when experiencing mental health difficulties. The inclusion of qualitative studies provided additional contextual information and more detailed insight into young people's experiences than was commonly captured in quantitative studies. By including all recent studies focusing on a wide range of mental health difficulties, it provides an update to and extension of the previous review published nearly a decade ago. Although the eligibility criteria for this review were narrower (i.e. excluding the studies with only young adults), there were twice as many studies included in this review as in the previous one, highlighting the rapid development of this field and the need for an updated review. Finally, the review was conducted using rigorous and systematic methodology. Nevertheless, the review has some limitations. Due to the high variability of included studies it was not possible to carry out detailed group comparisons in relation to the type of mental health problem, source of professional help, study setting and participants' treatment utilisation. Furthermore, only four studies used a standardised diagnostic assessment to assess participants' mental health, and many studies did not report/assess participants' mental health at all, making it hard to perform reliable comparisons of findings among adolescents with different mental health problems. Another limitation relates to the fact that the review only includes studies published in English in peer-reviewed journals and, therefore, findings from studies published in other languages and in alternative publications were not captured here. Finally, it is important to acknowledge that the systematic search used to identify studies for inclusion in this review was conducted in February 2018 and, therefore, any relevant studies published since this date were not included in the review. Similar to previous research [12], our review identified that existing quantitative barrier/facilitator questionnaire measures are (1) more focused on barriers than facilitators and (2) tend to overlook some barriers/facilitators, especially those related to the role of young people's support network and the characteristics of the relationship between young people and professionals. Results from the quantitative studies might, therefore, at least partly reflect the fact that young people were not asked about certain barriers and facilitators. These limitations of quantitative studies highlight the importance of including qualitative studies as well.

Conclusions and further research

The main reasons for (not) seeking and accessing professional help given by young people are those related to mental health stigma and embarrassment, a lack of mental health knowledge and negative perceptions of help-seeking. Young people also reported a preference for relying on themselves when facing difficulties, and issues with committing fully to the process of help-seeking/accessing. Widespread dissemination of evidence-based interventions delivered in schools targeting perceived public stigma and young people's mental health knowledge is needed. Furthermore, the collaboration between schools and mental health services is essential to enable young people and their families to access evidence-based support within settings that minimise the logistical barriers. Mental health professionals should also offer young people different ways to access help on their own, including using digital tools, which have a potential to facilitate help-seeking behaviour and promote young people's agency.

Our review identified a few possibilities for further research. The lack of established self-report quantitative measures of barriers and facilitators of seeking and accessing mental health support for young people highlights the need to develop and evaluate a new questionnaire. Findings from the qualitative studies should be considered when revising the content of the existing questionnaire items to ensure all relevant barriers/facilitators are captured, and their prevalence can be established. To inform mental health services for specific disorders in children and young people, studies examining barriers and facilitators to seeking and accessing professional help for children and adolescents experiencing specific mental health difficulties are required.

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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2.1.Supplementary Materials

Radez, J., Reardon, T., Creswell, C., Lawrence, P.J., Evdoka-Burton, G., Waite, P. Why do children and adolescents (not) seek and access professional help for their mental health problems? A systematic review of quantitative and qualitative studies. *Eur Child Adolesc Psychiatry*. doi:10.1007/s00787-019-01469-4

Electronic Supplementary Material 1: PRISMA Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	3,4
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	4
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	2,5
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	5, ESM 3
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	5
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	5
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	5,6
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	7
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	7,8
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	n/a
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	7-9
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	n/a

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	9
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	9
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	6
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	12-24
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	n/a
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	25-31
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	25-31
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	n/a
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	31
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	32
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	34
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	35
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	1

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097
For more information, visit: **www.prisma-statement.org**.

Electronic Supplementary Material 2: Literature Search Strategy

The search terms captured four major theoretical concepts (see Table 1 for full search terms): barriers/facilitators; help seeking; mental health; parents/children and adolescents. The search terms for each of these concepts were generated and combined using 'AND' to search for titles and articles. In addition, we used hand search methods to check the reference list of articles included in the full text screening stage to identify further studies of interest.

Table 1 Search terms

Group 1	Group 2	Group 3	Group 4
Barrier*	Help-seeking	Mental*	Child*
Hurdle	help seeking	disorder*	Adolescen*
Obstruct*	helpseek*	Psychopathology	Youth
Obstacle	'Seek* help'	'Emotional problems'	Parent*
Promot*	'Care seeking'	'Emotional distress'	Caregiver*
Facilitat*	'seek* care'	'Behavio* problems'	Carer*
Encourage*	'access treatment'	Internali*	Teen*
Support*	'access service'	Anxi*	Mother*
Cause*	'seek* treatment'	Affect*	Father*
Predict*	'Service* use'	Depress*	Maternal
'Unmet need'	'Service* utilisation'	Suicid*	Paternal
Hinder	'Service* utilization'	Externali*	
Willingness	'treatment participation'	ADHD	
Enable*	'treatment engagement'	'self harm'	
		Psychosis	
		Oppositional	
		Conduct	

Electronic Supplementary Material 3: Full list of eligibility criteria

A study was selected for inclusion if:

1) Participants were children/adolescents.
2) Children's/Adolescents' perceived barriers/facilitators to accessing professional help for their mental health problems were reported.
3) Study addressed mental health problems; emotional and/or behavioural problems; or a specific mental health disorder.
4) Study was published in English in a peer-reviewed journal.

A study was excluded if:

1) Study did not report barriers/facilitators to accessing treatment for mental health problems in children/adolescents.
2) Study was a review or a theoretical article.
3) Study was not published in English in a peer-reviewed journal.
4) Study only reported parental/caregiver's perceived barriers/facilitators to accessing treatment for mental health problems.
5) Study only reported factors associated with or predictors of parent or child/adolescent help seeking behaviour/service use/help seeking intentions.
6) Study only reported findings from an intervention designed to address one or more barrier to help-seeking.
7) Study only reported perceived barriers/facilitators to accessing ongoing to treatment, not *initial* access to treatment.
8) Study only reported perceived barriers/facilitators to accessing treatment for autism spectrum disorder or developmental disabilities.
9) Participants in the study were not children or adolescents.
10) The mean age of the children/adolescents was >18 years or if the sample included adults >21 years.
11) Study did not report any qualitative or quantitative data that could be extracted.
12) Study only reported perceived barriers/facilitators to accessing medication or inpatient psychiatric care.
13) Participants in the study represented a special population (i.e., children/adolescents with an intellectual or developmental disability, young offenders, children/adolescents with mental health problems in the context of a specific physical health condition, looked after children).
14) Study only reported perceived barriers/facilitators to accessing parenting support not specifically targeted at mental health problems in children.

Electronic Supplementary Material 4: Quality Rating Checklist

Table 1 Quality rating checklist for quantitative studies

	Yes = 2	Partial = 1	No = 0
Question / objective sufficiently described			
Study design evident and appropriate			
Method of participant selection described and appropriate			
Sample size appropriate			
Participant characteristics sufficiently described			
Measure of barriers/facilitators well defined			
Measure robust			
Analyses described/justified and appropriate			
Results reported in sufficient detail			
Conclusions supported by the results			

Modified version of Kmet et al's (2004) Standard Quality Assessment Criteria

Table 2 Quality rating checklist for qualitative studies

	Yes = 2	Partial = 1	No = 0
Question/objective sufficiently described			
Are the research question/s suited to qualitative inquiry			
Study design well described and appropriate			
Context of study clear			
Sampling strategy described, appropriate and justified			
Data collection methods systematic, clearly described and appropriate for research question			
Data analysis systematic, clearly described and appropriate for research question			
Use of verification procedures to establish credibility			
Are the claims/conclusion credible?			

Modified version of Kmet et al's (2004) Standard Quality Assessment Criteria, incorporating Dixon-Woods et al's (2004) prompts

Electronic Supplementary Material 5: List of barrier and facilitator themes and subthemes identified in each study

Table 1 Barriers and facilitators identified in quantitative studies

	Barrier/Facilitator themes and subthemes identified			
Study	Young people's individual factors	Social factors	Relationship factors	Systemic and structural factors
Boyd et al. (2011)	Past experiences, Preference for informal support, Preference for self-reliance	Views and attitudes towards MH and help-seeking in the wider environment	Ability to trust unknown person	Accessibility of professional help, Availability of professional help, Logistical factors
Chandra & Minkovitz (2006)	Knowledge about MH and MH services, Perceived effectiveness of professional help, Ability to verbalise the need for help and to talk about MH difficulties	Views and attitudes towards MH and help-seeking in the wider environment, Views and attitudes towards MH and help-seeking within YP's support network	Ability to trust unknown person	
Cigularov, Chen, Thurber, & Stallones (2008)	Broader perceptions of help-seeking, Perceived effectiveness of professional help, Emotional and motivational factors, Factors associated with commitment to the process of help-seeking	Views and attitudes towards MH and help-seeking in the wider environment, Anticipated consequences of help-seeking on social network	Ability to trust unknown person, Perceived confidentiality	Accessibility of professional help
D'Amico et al. (2004)		Views and attitudes towards MH and help-seeking within YP's support network	Perceived confidentiality, Perception of contact with professionals, Similarity between YP and MH professional	Logistical factors
Freedenthal & Stiffman (2007)	Knowledge about MH and MH services, Broader perceptions of help-seeking, Emotional and motivational factors, Preference for informal support, Preference for self-reliance	Views and attitudes towards MH and help-seeking in the wider environment		
Gould et al. (2006)	Knowledge about MH and MH services, Perceived effectiveness of professional help, Factors associated with commitment to the process of help-seeking, Ability to verbalise the need for help and to talk about MH difficulties, Preference for informal support, Preference for self-reliance	Views and attitudes towards MH and help-seeking in the wider environment		
Gould et al. (2009)	Knowledge about MH and MH services, Factors associated with commitment to the process of help-seeking, Past experiences		Ability to trust unknown person	Costs of professional help, Logistical factors
Guo, Kataoka, Bear, & Lau (2014)	Knowledge about MH and MH services, Ability to verbalise the need for help and to talk about MH difficulties	Views and attitudes towards MH and help-seeking in the wider environment	Perceived confidentiality, Similarity between YP and MH professional	Costs of professional help, Logistical factors
Guterman, Haj-Yahia, Vorhies, Ismayilova, & Leshem (2010)	Knowledge about MH and MH services, Preference for self-reliance, Broader perceptions of help-seeking, Perceived effectiveness of professional help, Factors associated with commitment to the process of help-seeking, Ability to	Views and attitudes towards MH and help-seeking in the wider environment, Views and attitudes towards MH and help-seeking within YP's support network	Perceived confidentiality, Perception of contact with professionals	

	verbalise the need for help and to talk about MH difficulties			
Haavik, Joa, Hatloy, Stain, & Langeveld, (2017)	Knowledge about MH and MH services, Broader perceptions of help-seeking, Factors associated with commitment to the process of help-seeking		Perception of contact with professionals	Availability of professional help, Costs of professional help
Khairani, Zaiton, & Faridah (2005)	Knowledge about MH and MH services, Emotional and motivational factors, Ability to verbalise the need for help and to talk about MH difficulties		Perceived confidentiality	
Kuhl, Jarkon-Horlick, & Morrissey (1997)	Knowledge about MH and MH services, Broader perceptions of help-seeking, Perceived effectiveness of professional help, Emotional and motivational factors, Factors associated with commitment to the process of help-seeking, Past experiences, Perceived autonomy, Preference for informal support, Preference for self-reliance	Views and attitudes towards MH and help-seeking in the wider environment, Views and attitudes towards MH and help-seeking within YP's support network, Anticipated consequences of help-seeking on social network	Similarity between YP and MH professional	Costs of professional help, Logistical factors
Lubman et al. (2017)	Preference for self-reliance, Perceived autonomy, Emotional and motivational factors	Views and attitudes towards MH and help-seeking in the wider environment		Costs of professional help
Meredith et al. (2009)	Preference for self-reliance	Views and attitudes towards MH and help-seeking in the wider environment, Views and attitudes towards MH and help-seeking within YP's support network		Accessibility of professional help, Availability of professional help, Costs of professional help, Logistical factors
Muthupalaniappen et al. (2012)	Knowledge about MH and MH services, Perceived effectiveness of professional help, Factors associated with commitment to the process of help-seeking, Preference for informal support, Preference for self-reliance	Views and attitudes towards MH and help-seeking in the wider environment	Ability to trust unknown person	Costs of professional help, Logistical factors
Samargia, Saewyc, & Elliott (2006)	Knowledge about MH and MH services, Factors associated with commitment to the process of help-seeking, Perceived autonomy, Emotional and motivational factors	Views and attitudes towards MH and help-seeking in the wider environment		Costs of professional help, Logistical factors

Sharma, Banerjee, & Garg (2017)	Knowledge about MH and MH services, Perceived effectiveness of professional help	Views and attitudes towards MH and help-seeking in the wider environment		
Sheffield, Fiorenza, & Sofronoff (2004)	Knowledge about MH and MH services, Perceived effectiveness of professional help, Perceived autonomy, Preference for self-reliance	Views and attitudes towards MH and help-seeking in the wider environment	Perceived confidentiality	Costs of professional help, Logistical factors
Sylwestrzak, Overholt, Ristau, & Coker (2015)	Knowledge about MH and MH services, Broader perceptions of help-seeking, Perceived effectiveness of professional help, Factors associated with commitment to the process of help-seeking, Past experiences, Preference for self-reliance	Views and attitudes towards MH and help-seeking in the wider environment		Costs of professional help, Logistical factors
Wilson & Deane (2012)	Broader perceptions of help-seeking, Emotional and motivational factors, Past experiences, Perceived autonomy, Preference for self-reliance	Views and attitudes towards MH and help-seeking in the wider environment	Perceived confidentiality, Similarity between YP and MH professional	
Wilson et al. (2007)	Preference for self-reliance	Views and attitudes towards MH and help-seeking in the wider environment	Ability to trust unknown person	
Wilson et al. (2008)	Knowledge about MH and MH services, Factors associated with commitment to the process of help-seeking, Perceived autonomy	Views and attitudes towards MH and help-seeking in the wider environment	Perception of contact with professionals	
Wu et al. (2016)	Broader perceptions of help-seeking, Perceived effectiveness of professional help, Factors associated with commitment to the process of help-seeking, Ability to verbalise the need for help and to talk about MH difficulties, Perceived autonomy	Views and attitudes towards MH and help-seeking in the wider environment, Views and attitudes towards MH and help-seeking within YP's support network, Anticipated consequences of help-seeking on social network		Logistical factors

Table 2 Barriers and facilitators identified in qualitative studies

	Barrier/Facilitator themes and subthemes identified			
Study	Young people's individual factors	Social factors	Relationship factors	Systemic and structural factors
Balle Tharaldsen, Stallard, Cuijpers, Bru, & Bjaastad (2017)	Broader perceptions of help-seeking, Ability to verbalise the need for help and to talk about MH difficulties	Views and attitudes towards MH and help-seeking in the wider environment, Anticipated consequences of help-seeking on social network		Logistical factors
Becker, Swenson, Esposito-Smythers, Cataldo, & Spirito (2014)	Knowledge about MH and MH services, Perceived effectiveness of professional help, Preference for self-reliance	Views and attitudes towards MH and help-seeking in the wider environment	Perceived confidentiality	Costs of professional help, Logistical factors
Breland-Noble, Wong, Childers, Hankerson, & Sotomayor (2015)		Views and attitudes towards MH and help-seeking in the wider environment		
Bullock, Nadeau, & Renaud (2012)	Preference for informal support	Views and attitudes towards MH and help-seeking within YP's support network		
Bussing et al. (2012)	Broader perceptions of help-seeking, Perceived effectiveness of professional help	Views and attitudes towards MH and help-seeking in the wider environment, Anticipated consequences of help-seeking on social network		Costs of professional help
Chandra & Minkovitz (2007)	Broader perceptions of help-seeking, Past experiences	Views and attitudes towards MH and help-seeking within YP support network, Anticipated consequences of help-seeking on social network		
Clark, Hudson, Dunstan, & Clark (2018)	Knowledge about MH and MH services, Broader perceptions of help-seeking, Emotional and motivational factors, Preference for self-reliance	Views and attitudes towards MH and help-seeking in the wider environment		Accessibility of professional help, Availability of professional help, Use of information technology
De Anstiss & Ziaian (2010)	Knowledge about MH and MH services, Broader perceptions of help-seeking, Factors associated with commitment to the process of help-seeking, Preference for informal support	Views and attitudes towards MH and help-seeking in the wider environment, Anticipated consequences of help-seeking on social network	Similarity between YP and MH professional	
Del Mauro & Jackson Williams (2013)	Factors associated with commitment to the process of help-seeking, Ability to verbalise the need for help and to talk about MH difficulties, Preference for informal support, Preference for self-reliance	Views and attitudes towards MH and help-seeking in the wider environment	Perceived confidentiality, Perception of contact with professionals	

Doyle, Treacy, & Sheridan (2017)	Knowledge about MH and MH services, Perceived autonomy	Views and attitudes towards MH and help-seeking in the wider environment	Ability to trust unknown person, Perceived confidentiality	Availability of professional help
Fleming, Dixon, & Merry (2012)	Emotional and motivational factors	Views and attitudes towards MH and help-seeking in the wider environment	Ability to trust unknown person	Use of information technology
Fornos et al. (2005)	Knowledge about MH and MH services, Broader perceptions of help-seeking	Views and attitudes towards MH and help-seeking in the wider environment, Views and attitudes towards MH and help-seeking within YP's support network, Anticipated consequences of help-seeking on social network	Perceived confidentiality	Costs of professional help
Fortune et al. (2008a); Fortune et al. (2008b)	Knowledge about MH and MH services, Broader perceptions of help-seeking, Emotional and motivational factors, Ability to verbalise the need for help and to talk about MH difficulties, Preference for informal support, Preference for self-reliance	Views and attitudes towards MH and help-seeking in the wider environment, Views and attitudes towards MH and help-seeking within YP's support network, Anticipated consequences of help-seeking on social network	Perceived confidentiality, Perception of contact with professionals	Accessibility of professional help
Francis, Boyd, Aisbett, Newnham, & Newnham (2006)	Broader perceptions of help-seeking	Views and attitudes towards MH and help-seeking in the wider environment		Availability of professional help, Logistical factors
Gonçalves, Moleiro, Goncalves, & Moleiro (2012)	Perceived autonomy, Preference for informal support, Preference for self-reliance	Views and attitudes towards MH and help-seeking in the wider environment, Views and attitudes towards MH and help-seeking within YP's support network	Similarity between YP and MH professional	Costs of professional help
Gronholm, Thornicroft, Laurens, & Evans-Lacko (2017)	Factors associated with commitment to the process of help-seeking	Views and attitudes towards MH and help-seeking in the wider environment	Perceived confidentiality	
Hassett & Isbister (2017)	Knowledge about MH and MH services, Broader perceptions of help-seeking, Factors associated with commitment to the process of help-seeking, Ability to verbalise the need for help and to talk about MH difficulties, Perceived autonomy	Views and attitudes towards MH and help-seeking in the wider environment, Views and attitudes towards MH and help-seeking within YP's support network	Perception of contact with professionals, Similarity between YP and MH professional	Use of information technology, Logistical factors
Huggins et al. (2016)	Knowledge about MH and MH services	Views and attitudes towards MH and help-seeking in the wider environment	Perceived confidentiality	Accessibility of professional help
Kendal, Keeley, & Callery (2014)	Knowledge about MH and MH services, Factors associated with commitment to the	Anticipated consequences of help-seeking on social network	Perceived confidentiality, Ability to trust unknown person	Accessibility of professional help

	process of help-seeking, Perceived autonomy			
Klineberg, Kelly, Stansfeld, & Bhui (2013)	Factors associated with commitment to the process of help-seeking	Views and attitudes towards MH and help-seeking in the wider environment, Anticipated consequences of help-seeking on social network	Perceived confidentiality, Perception of contact with professionals, Similarity between YP and MH professional	
Leavey, Rothi, & Paul (2011)	Perceived effectiveness of professional help, Perceived autonomy		Perception of contact with professionals	Accessibility of professional help, Availability of professional help, Use of information technology
Lindsey, Chambers, Pohle, Beall, & Lucksted (2013)	Broader perceptions of help-seeking, Ability to verbalise the need for help and to talk about MH difficulties, Preference for informal support, Preference for self-reliance	Views and attitudes towards MH and help-seeking in the wider environment, Views and attitudes towards MH and help-seeking within YP's support network, Anticipated consequences of help-seeking on social network	Ability to trust unknown person, Similarity between YP and MH professional	Availability of professional help
Lindsey et al. (2006); Lindsey, Joe, & Nebbitt (2010)	Broader perceptions of help-seeking, Preference for informal support, Preference for self-reliance	Views and attitudes towards MH and help-seeking in the wider environment, Views and attitudes towards MH and help-seeking within YP's support network	Ability to trust unknown person, Similarity between YP and MH professional	
Mcandrew & Warne (2014)	Knowledge about MH and MH services, Emotional and motivational factors	Views and attitudes towards MH and help-seeking in the wider environment	Perceived confidentiality, Perception of contact with professionals	Accessibility of professional help
Meredith et al. (2009)	Factors associated with commitment to the process of help-seeking	Views and attitudes towards MH and help-seeking in the wider environment		Logistical factors
Mueller & Abrutyn (2016)		Views and attitudes towards MH and help-seeking in the wider environment		
Pailler et al. (2009)	Factors associated with commitment to the process of help-seeking	Views and attitudes towards MH and help-seeking within YP's support network		Costs of professional help, Logistical factors
Prior (2012)	Perceived effectiveness of professional help, Perceived autonomy	Views and attitudes towards MH and help-seeking in the wider environment, Views and attitudes towards MH and help-seeking within YP's support network	Ability to trust unknown person	
Timlin-Scalera, Ponterotto, Blumberg, & Jackson (2003)	Knowledge about MH and MH services, Broader perceptions of help-seeking, Factors associated with commitment to the process of help-seeking, Preference for self-reliance, Past experiences	Views and attitudes towards MH and help-seeking in the wider environment, Views and attitudes towards MH and help-seeking within YP's support network	Perceived confidentiality	Availability of professional help
Wilson & Deane (2001)	Knowledge about MH and MH services, Factors associated with commitment to the process of help-seeking, Past experiences	Views and attitudes towards MH and help-seeking in the wider environment	Perceived confidentiality, Ability to trust unknown person, Perception of contact with professionals	

Wisdom, Clarke, & Green (2006)	Broader perceptions of help-seeking, Perceived autonomy	Views and attitudes towards MH and help-seeking in the wider environment

Chapter 3: Paper 2

Adolescents' perceived barriers and facilitators to seeking and accessing professional help for anxiety and depressive disorders: A qualitative interview study

Submitted for publication in *European Child and Adolescent Psychiatry* (09.06.2020)[1]

Radez, J., Reardon, T., Creswell, C., Orchard, F. and Waite, P. (under review). Adolescents' perceived barriers and facilitators to seeking and accessing professional help for anxiety and depressive disorders: A qualitative interview study

[1] Minor adaptations were made to the manuscript for the purpose of this thesis (e.g. tables and figures are included in the main manuscript).

3.1.Introduction to Paper 2

Paper 1 identified a large number of barriers and facilitators that stop young people from seeking and accessing help for various mental health problems. However, due to a large methodological heterogeneity of included studies, it was not possible to establish what are the most common barriers and facilitators among 1) young people who meet the criteria for anxiety and/or depressive disorders, and 2) adolescents, who are significantly different from preadolescent children and adults. Paper 2 aimed to address these limitations by exploring barriers to help-seeking/accessing among adolescents who met the criteria for an anxiety and/or depressive disorder diagnosis and were identified in a community. As the experiences of help-seeking in adolescents with anxiety and/or depressive disorders have not yet been systematically explored, a qualitative approach was chosen to provide detailed insights. This approach enables us to better understand social phenomena in natural settings, such as the school environment, and give emphasis to the meanings and views of particular individuals (in this case, adolescents with the diagnosis of an anxiety and/or depressive disorder) (Pope and Mays, 1995). Twenty-two adolescents, aged 11-17, and 20 of their parents took part in the in-depth qualitative interview. One-to-one in-depth interviews were selected to allow us to collect meaningful data around a sensitive subject that participants may not be willing to talk openly about in other formats (e.g. focus groups) for fear of being negatively evaluated by others or concerns about a lack of confidentiality or anonymity (Adler et al., 2019). The interview topic guide was informed by the findings of the systematic review (Paper 1) and previous research with parents of preadolescent children. The study reported in Paper 2 was approved by the University of Reading Research Ethics Committee (UREC) in July 2018 as a part of a larger project on improving access to treatment for anxiety and depressive disorders in adolescents (IAT-

ADA). Participants for the qualitative study were identified through two large whole-school screenings for anxiety and depressive disorders in adolescents (Paper 3).

3.2.References

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3.3.Paper 2: Adolescents' perceived barriers and facilitators to seeking and accessing professional help for anxiety and depressive disorders: A qualitative interview study

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Abstract

Anxiety and depressive disorders are the most common mental health disorders in adolescents, yet only a minority of young people with these disorders access professional help. This study aims to address this treatment gap by improving our understanding of barriers and facilitators to seeking/accessing professional help as perceived by adolescents with anxiety/depressive disorders identified in the community. Twenty-two adolescents, aged 11 to 17 years, who met diagnostic criteria for a current anxiety and/or depressive disorder were identified through school-based screening. In-depth qualitative interviews were conducted one-to-one with each adolescent and adolescents' parents were interviewed separately for the purpose of data triangulation. Data were analysed using reflexive thematic analysis.

We identified four themes capturing adolescent perceived barriers and facilitators to seeking/accessing professional help for anxiety and depressive disorders: 1) making sense of difficulties, 2) problem disclosure, 3) ambivalence to seeking help, and 4) the instrumental role of others. Barriers/facilitators identified within each theme reflect important developmental characteristics of adolescence, such as a growing need for autonomy and concerns around negative social evaluation. At the same time, the results highlight adolescents' dependency on other people, mainly their parents and school staff, when it comes to successfully accessing professional help for their mental health difficulties. This study identifies a number of barriers/facilitators that influence help-seeking behaviour of adolescents with anxiety and/or depressive disorders. These factors need to be addressed when targeting treatment utilisation rates in this particular group of young people.

Keywords (3-10): adolescence, anxiety disorders, depressive disorders, help-seeking, access, barriers

Introduction

Anxiety and depressive disorders are the most common mental health disorders in adolescence, with estimated prevalence rates of 5% (depressive disorders) and 8% (anxiety disorders) [1–4], and they commonly co-occur in adolescents [5]. However, only two thirds of adolescents with anxiety or depressive disorders seek and access any professional help, and only a minority access specialist mental health support [2, 3]. Understanding the barriers to seeking/accessing help is crucial in order to address this treatment gap.

Reasons underlying low treatment rates for anxiety and depressive disorders in adolescents are complex. Limited service provision and long waiting times represent a significant logistical barrier to accessing specialist mental health [2, 6, 7]. A lack of mental health knowledge, including difficulties with mental health problem identification, negative views and attitudes towards mental health and help-seeking, and family circumstances can also stop adolescents and their families from seeking and accessing help for mental health problems [8–10].

In addition, a recent systematic review of young people's perceived barriers and facilitators to seeking and accessing professional help for their own mental health problems identified perceived societal views and negative attitudes towards mental health and help-seeking (e.g. stigma and embarrassment), and perceiving help-seeking as a sign of one's weakness as the most frequently reported barriers [8]. Factors that facilitated young people in help-seeking were positive attitudes and encouragement from their support network and positive perceptions of the contact between them and professionals

when seeking/accessing help. However, studies in this review were highly heterogeneous and particular barriers and facilitators for adolescents with specific mental health problems (such as anxiety or depressive disorders) were not investigated. Furthermore, many studies have explored views about barriers and facilitators either among young people who have successfully accessed services [11, 12], or among the general population [13, 14] (many of whom may not have ever needed to access services), meaning that the experiences of those who would benefit from help but have not managed to access the services have not yet been captured. Finally, given the wide age range of participants across studies, the particular barriers and facilitators faced by adolescents remain unclear. This is important as adolescents both differ in their clinical characteristics to children [15] and can take a more active role in help-seeking/accessing [16]. Similarly, existing help-seeking models for young people, such as the model of help-seeking developed by Rickwood et al. [17] do not consider age and disorder-specific barriers and facilitators. Together, these limitations of the extant literature highlight the need for a detailed understanding of what helps and hinders help-seeking and accessing in specific groups of young people.

This study aimed to address gaps in the existing literature by improving understanding of how young people with a diagnosis of an anxiety and/or depressive disorder, identified in a community (i.e. not through mental health services) perceive seeking/accessing professional help. The study addressed the limitations of previous studies with community samples [8] by using 'gold standard' diagnostic interviews to identify participants. The study aimed to identify adolescents' perceived barriers and facilitators to help-seeking/accessing. Given that the process of seeking help for adolescents is

complex and not yet fully understood, a qualitative approach was chosen to explore this from the perspectives of young people.

Method

The study was approved by the University of Reading Research Ethics Committee (UREC 18/28). We used the techniques suggested by Mays and Pope [18] to ensure the quality and rigour of the study, and followed the COREQ checklist (see Online Resource 1) for explicit and comprehensive reporting of qualitative studies [19].

Recruitment and participants

Participants were recruited through two large mixed state secondary schools in Berkshire, UK, as part of a wider study, including whole school screening for anxiety and depressive disorders (Radez et al, 2020, under review). The process of recruitment for the current study is outlined in Figure 1, and described in more detail in Online Resource 2.

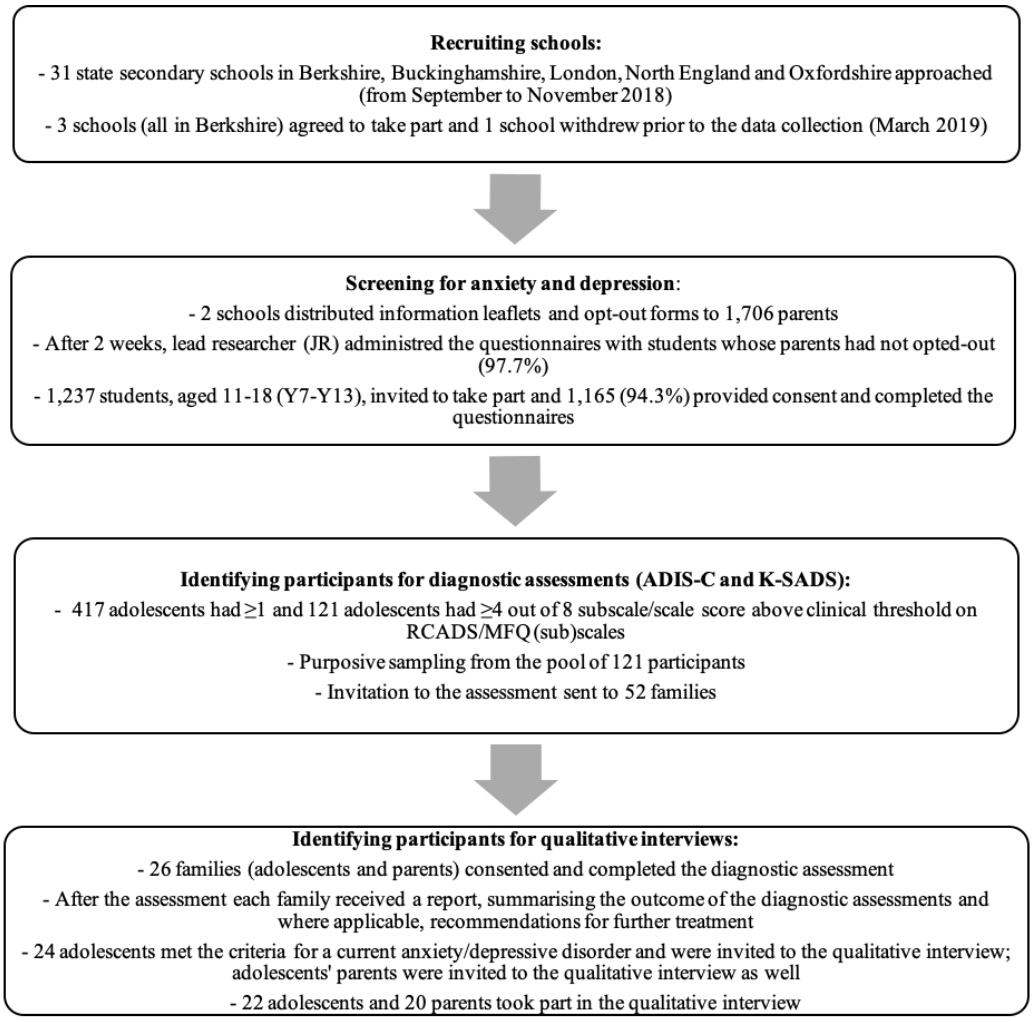

Fig. 1 The process of recruiting participants for the current study

Of 26 adolescents (aged 11-18 years) who took part in the diagnostic assessment, 24 met diagnostic criteria for an anxiety and/or depressive disorder. These adolescents and their parents/carers were invited to take part in one-to-one qualitative interviews. Although the primary focus of the study was adolescents' perceived barriers/facilitators, their parents were also invited to take part in a separate qualitative interview for the purpose of data triangulation. If available, both parents were invited to take part in qualitative interview. Each participant (adolescent and parent) provided written consent to take part in the interview and to allow the researcher to audio record the interview. If the young person was under 16 years of age, they provided written assent and their parent provided written consent. In total, 22 adolescents and 20 of their parents (i.e., one parent per adolescent)

took part in the qualitative interviews. The lead researcher (JR) conducted all interviews with adolescents and parents separately, and all interviews were conducted within one session. During qualitative interviews adolescents and parents also reported other diagnoses (e.g. autism spectrum disorder, gender dysphoria, physical conditions), which have not been assessed during the diagnostic assessment. Adolescents were interviewed one-to-one in a quiet, private room in their school, and parents were interviewed over the phone at a time that was convenient for them. In 18 cases, parent interviews were conducted with adolescents' mothers and in 2 cases with adolescents' fathers. Two parents/carers did not take part without giving any reason. Each family that took part in the qualitative interview was given £10 voucher to reimburse them for their time. Adolescents' demographic and clinical characteristics are outlined in Table 1. Half of participating adolescents were eligible for free school meals.

Table 1 Adolescents' demographic and clinical characteristics

Pseudonym	Age	Gender	Accessed professional help for anx/dep in last 12 months[a]	Ethnicity	Primary diagnosis (CSR)	Secondary diagnoses (CSRs)	Other reported diagnoses[b]
Luke	11	Male	Yes	White-British	SpecP (spiders) (5)	GAD (4), SepA (4), SocA (4)	ASD
Savannah	11	Female	Yes	Traveller of Irish heritage	SocA (5)	GAD (4)	
Claire	12	Female	Yes	White-British	MDD (6)	GAD (4)	ADHD, Tourette's syndrome
Ben	12	Male	No	White and Black Caribbean	MDD (5)	GAD (4)	
Zara	12	Female	No	White-British	GAD (5)	SocA (4)	
Tim	12	Male	Yes	White-British	GAD (5)		
Harry	12	Male	No	White-British	MDD (5)	SocA (5), GAD (5)	
Debbie	12	Female	Yes	White-British	GAD (6)	SepA (5), SocA (4)	Chronic physical illness

Katie	13	Female	No	White-British	PD (7)	Agor , GAD, SocA	
Maya	13	Female	Yes	White-British	Agor (5)	SocA (5), GAD (4), Hallucinations and delusions	
Isaac	13	Male	No	White-British	MDD (6)	PD (6), SocA (5), GAD (4), SpecP(darkness) (4)	
Frank	14	Male	No	White and Black African	MDD (6)	GAD (5), SocA (4)	Chronic physical illness
Diane	14	Female	Yes	White-British	GAD (6)	SocA (5)	
Victoria	14	Female	No	White-British	SocA (4)		
Hannah	14	Female	No	White-British	PD (5)	SocA (5), Agor (4), GAD (4)	
Lilly	15	Female	Yes	White-British	GAD (6)	SocA (6), PD (6), Agor (5), MDD (5), Dyst (5), SepA (4)	
Chris	15	Male	No	Any other White background	PD (7)	GAD (5), Agor (5), SocA (5)	
Alex	15	Male	Yes	Any other White background	GAD (6)	SocA (5)	Gender dysphoria
Anna	15	Female	No	White-British	GAD (6)	PTSD (7), SocA (5), Dyst (5)	
Tina	15	Female	Yes	White-British	GAD (6)	SocA (4), Dyst (5)	Dyslexia
Sophie	16	Female	No	White and Black Caribbean	GAD (6)	SocA (5), Dyst (5), Agor (4)	
Joe	16	Male	Yes	White-British	SocA (5)	GAD (4)	Dyslexia

ADHD = attention deficit hyperactivity disorder, Agor = agoraphobia, anx = anxiety disorder, ASD = autism spectrum disorder, dep = depressive disorder, Dyst = dysthymia, GAD = generalised anxiety disorder, MDD = major depressive disorder, PD = panic disorder, SocA = social anxiety disorder, SpecP = specific phobia

[a]Adolescent received professional support within school or outside the school (e.g. specialist mental health services, counselling) for anxiety and/or depression in last 12 months

[b]Adolescent- and/or parent-reported diagnoses (during the qualitative interview), assigned by a health or educational professional

Measures

Questionnaire measures

Revised Child Anxiety and Depression Scale, Child Version - RCADS-C [20]. The RCADS-C is a 47-item self-report questionnaire measures of symptoms of anxiety and low mood in young people, aged from 8 to 18. The questionnaire consists of six subscales – separation anxiety disorder (SAD), social phobia (SP), obsessive-compulsive disorder (OCD), panic disorder (PD), generalised anxiety disorder (GAD), and major depressive disorder (MDD). Respondents rate how often each item applies to them, using a 4-level scale from 0 ('never') to 3 ('always'). Subscale scores and anxiety/depression/total scores and standardised T-scores were calculated using syntax provided on the author's website. A T-score of > 70 indicated a clinically significant level of anxiety/depression symptoms. Adolescents' scores on anxiety total scale and on six subscales were used to identify participants for the diagnostic assessment.

Moods and Feelings Questionnaire, Child Version MFQ-C [21].The MFQ-C is a 33-item self-report screening tool for depression in children and young people, aged between 6 and 17. Respondents are asked to report how they have been feeling or acting in the past two weeks. For each item, they can respond with 'not true' (0), 'sometimes' (1) or 'true' (2). The MFQ-C total score is calculated by summarising participants' responses to all thirty three items. Based on previous research [22], we used the cut-off score > 26 to identify adolescents with a clinically significant level of depressive symptoms.

Help-seeking questions. Each adolescent was asked three questions about seeking/accessing professional help in the last 12 months. Adolescents reported whether they 1) had spoken to a professional (e.g. teacher or GP) about feeling anxious/depressed in the last 12 months, 2) had received any support from a professional to help them with

difficulties with anxiety/depression in the last 12 months and 3) felt they would benefit from professional support for anxiety/depression. Adolescents' responses to these three questions were used to purposively sample participants for diagnostic assessments.

Diagnostic interviews

The following diagnostic assessments were administered to identify participants who met diagnostic criteria for an anxiety and/or depressive disorder and were therefore eligible for the qualitative study. All interviews were administered by the first author (JR), trained to reliably deliver the diagnostic assessments. Following assessment, each case was discussed in diagnostic supervision with co-author (FO), who has extensive experience of delivering, training and supervising these diagnostic tools. Agreement between JR and FO was excellent (presence/absence of diagnoses, κ = .820, Clinical Severity Rating (CSR) rating, ICC = .956).

Anxiety Disorder Interview Schedule – Child Version - ADIS-IV-C [23] . The ADIS-IV-C is a standardised diagnostic interview, based on the DSM-IV-TR designed to assess anxiety and other disorders in children and adolescents. In the present study, the anxiety sections of the ADIS-IV-C were used to determine whether the adolescent met diagnostic criteria for any anxiety disorder. Minor adaptations to the interview schedule were made so the diagnoses were assigned based on the DSM-5. If the adolescent met symptom criteria for a diagnosis, then the assessor would assign a Clinician Severity Rating (CSR), ranging from 0 to 8; a CSR of 4 or more would indicate that the young person met criteria for diagnosis. The diagnosis with the highest CSR was considered as the primary diagnosis. Studies using the ADIS-IV-C provide strong evidence for its good psychometric characteristics, which has been especially the case for the anxiety section [24]. Furthermore, ADIS-C provides reliable and valid information even when

administered with child only, and reliability of child-report is especially high for older children/adolescents [25].

Kiddie Schedule for Affective Disorders and Schizophrenia – Present and Lifetime Version - K-SADS-PL [26]. The K-SADS-PL is a semi-structured interview for affective disorders and schizophrenia, based on DSM-5. In the present study, the depression and mania sections of the K-SADS-PL child interview were used to determine the presence of depression in adolescents. The diagnosis of the major depressive disorder (MDD) was assigned if a young person met at least five criteria for MDD. In addition, CSR scores were assigned in a similar way as the ADIS-C to provide a comparable estimate of the symptom severity. K-SADS-PL is a diagnostic interview with favourable psychometric characteristics, and is recommended over ADIS in terms of identifying mood disorders in young people [27], with adolescent self-report being particularly informative and reliable [28].

Qualitative interviews

The interview topic guides (see Online Resource 3) were developed by the first author (JR), with input from co-authors (TR and PW). Areas of inquiry and sample questions for adolescent interview are outlined in Table 2. Although areas of inquiry for parent and adolescent interview were similar, adolescent responses partially guided their parent's interview. Prior to the data collection, interview questions were piloted with two families (two adolescent girls and their mothers) to help pace the interview and to test the appropriateness of the questions.

The semi-structured interviews were conducted by the first author (JR), a female PhD student in psychology, trained in qualitative research methods and with a background of

working in mental health research settings. As JR also conducted the diagnostic assessments with the adolescents and their parents, she had already established a relationship with them; this may have helped them feel more at ease and able to open up, but may also have affected what information they gave in the interview. As English is not the interviewer's first language, during each interview, she frequently summarised information provided by the participant to ensure that her understanding was accurate [29]. Field notes and initial ideas were written after each interview, and used to partially guide the remaining interviews. All 42 interviews were audio-recorded and transcribed verbatim by JR. Adolescent interviews ranged from 13-48 minutes (*M* = 28:17, *SD* = 8:06), and parent interviews from 14-77 minutes (*M* = 35:36, *SD* = 14:05).

Table 2 Areas of inquiry and sample questions from adolescent interview topic guide

Area of questioning	Sample questions (probes)
Knowledge and understanding of anxiety and depression in young people	Can you tell me a bit about what you know about anxiety and depression? (probe: How can you tell if someone your age has been experiencing anxiety and/or depression?)
Personal experience of identifying anxiety and/or depression	Last time we met I asked you lots of questions about how you've been feeling recently and you told me about your worries and/or low mood. To what extent do you perceive these feelings to be a problem for you? (probe: What makes you think that this is (not) a problem?)
Help-seeking attitudes and knowledge about available help/support	Can you tell me a bit about what you know about available help/support for young people experiencing anxiety and/or depression? (probe: Would you know where to find help for experiencing anxiety and/or depression? Where would you go?)
Help-seeking/accessing experience and barriers/facilitators to help-seeking/accessing	Has anything stopped you from seeking help? (probe: Has anything or anyone helped you when trying to seek help?)

Data Analysis

Data analysis started while data collection was ongoing. Data was analysed by the lead researcher (JR), following six phases of the reflexive thematic analysis [30, 31]. We approached the data from an essentialist/realist epistemological orientation, which draws on the experiences, meanings and the reality of participants. We analysed the dataset inductively (directed by the content of the data) and semantically (reflecting the explicit content of the data). JR familiarised herself with the data by listening to the audio recordings and transcribing the interviews. During transcribing, all identifiable information was removed and participants were given pseudonyms. Adolescents' interview transcripts were coded following guidance by Saldana [32]. Data was managed and stored using software NVivo, Version 12, QSR International Pty Ltd [33]. Coding was iterative and cyclical, and systematic over all adolescent interview transcripts (i.e. giving full and equal attention to each aspect of the dataset and coding for implicit and explicit content). Coding was led by JR with regular discussion/input from other team members (TR, PW) with qualitative expertise, to reflect on the coding process. Although all 22 adolescent interviews were coded, additional data did not contribute to new codes after the first 15 transcripts and therefore, we judged data saturation to have been reached. Following guidance by Braun and Clarke [39], we conceptualised 'data saturation' as a point of interpretative judgement related to the aims of the study and data analysis (i.e., rather than a fixed end point of the analysis). After all adolescent interview transcripts were coded, JR coded relevant sections of the parent interviews using the final set of codes identified in adolescent interviews (i.e., a 'top-down' approach). Particular attention was given to the sections where parents reported their child's barriers/facilitators to seeking and accessing professional help for their difficulties. Although the same set of codes was used for the parent interviews, adolescent and parent interviews were treated

as separate datasets (i.e., not as paired child-parent responses), and JR especially looked for elements in the whole parent dataset that 1) appeared to contradict or 2) were not contained in the adolescent dataset. JR then organised the final set of codes into preliminary themes and subthemes that explained the vast majority of the adolescent and parent perspective. Themes and subthemes were reviewed and revised by regular discussion with other research team members (TR, PW, CC) to develop the final set of themes/subthemes. During these discussions, the research team also reflected on the lead researcher's and the whole research group's prior assumptions and knowledge in the field of help-seeking. Finally, JR produced a report of the analysis by elaborating identified themes and subthemes and using data extracts (quotes) related to the research question.

Results

We identified four themes that describe barriers/facilitators to seeking and accessing professional help among adolescents with a diagnosis of an anxiety and/or depressive disorder: 1) Making sense of difficulties, 2) Disclosing problems, 3) Ambivalence to seeking professional help, and 4) The instrumental role of others. Barrier and facilitator subthemes identified within each overarching theme, together with exemplary quotes are outlined in Table 3.

Table 3 Barrier and facilitator subthemes identified within each theme and exemplary quotes

Theme	Barrier and facilitator subthemes	Description	Exemplary quotes (Pseudonym, Age, ADIS-C/K-SADS diagnoses)
Making sense of difficulties (*'I just thought I was my kind of normal'*)	Recognising anxiety and depression symptoms and knowing where to get help	Adolescents report recognising some anxiety and/or depression symptoms, especially those related to physical sensations and behaviour. In addition, they often 'classify' themselves or other people as anxious/depressed based on someone else's (e.g. their parent's, friend's, GP's) naming of symptoms as anxiety/depression. Adolescents are also often not aware of available help for their problems, apart from the support offered in their schools.	*'if they would be breathing really faster they'll probably have anxiety attack...depression is like when they've got a head in their hands or something or they've like got a really sad face on their face all the time.'* (Savannah, 11, SocA, GAD) *'when I asked my mum about it, once I asked her if we know anyone who had it (anxiety), mum would say that a lot of my cousins have it'* (Zara, 12, GAD, SocA) *'I know the student support centre (in school) can help me and he (the school counsellor) can most likely help me…and that's about it'* (Hannah, 14, PD, SocA, Agor, GAD)
	Beliefs about mental health and help-seeking	Adolescents' understanding of their difficulties appears to be influenced by their beliefs about mental health and help-seeking, such as a belief that help-seeking is brave and that mental health problems are common and (not) 'normal'. Adolescents that described themselves as 'not normal' compared to other people, especially their peers, tended to be the ones without a prior experience of professional help.	*'I'd think they (friends) would be quite brave for doing that (seeking help) and I'd be proud of them for getting help'* (Lilly, 16, GAD, SocA, PD, Agor, MDD, Dyst, SepA) '*...not many people that I've met personally go through the same things that I am. Like fears and stuff like that. They're just like, I guess you can say normal.*' (Chris, 15, PD, GAD, Agor)
	Taking opportunities to learn about mental health	Adolescents report wanting to have more opportunities to learn about specific mental health problems and available help, however, their engagement in existing opportunities appears to be relatively low, and even if they are provided with the information directly (e.g. given leaflets with information resources), adolescents do not seem to engage fully in these opportunities. Distributing information via popular social media (e.g. Instagram and Snapchat) is suggested as a way of facilitating their engagement.	*'…They could make like links on the computers to, to healthcare websites…It would be like the phone numbers, and places you could go to to get healthcare and talk about what you are going through.'* (Ben, 12, MDD, GAD) *'...I've not personally used it (Kooth), but I know it's there'* (Isaac, 13, MDD, PD, SocA, GAD, SpecP) *'…when it comes to the social media, it would have to be something that is already in that apps that people use now. Because I don't think anyone would like, there's always the idea of like 'oh let's make a mental health app', like not many people would actually get that to help themselves'* (Alex, 15, GAD, SocA)
	Differentiating between anxiety/depression symptoms and a person's attributes	Adolescents, parents and teachers struggle with differentiating between anxiety/depression symptoms and adolescent's attributes. For instance, some parents and adolescents report always perceiving their child/themselves as shy and not confident, and therefore perceiving their	'*Well she's naturally quite a shy child...you know, she's not a sort of outgoing child, she is naturally quite shy, so I think that's hold her back a lot.*' (Victoria (mother), 11, SocA) *'I think possibly he's got lots of things going on with his mind, but I think he's kind of a typical fifteen year old'* (Chris (mother), 15, PD,

		(child's) difficulties as personality traits and, consequently, not considering help-seeking. Furthermore, parents often attribute adolescents' behaviour to characteristics of adolescence (e.g. moodiness, constant worry). Adolescents suggest that some school-based interventions (e.g. mental health screening, mental health assemblies) could help themselves and others identify anxiety/depression symptoms that require professional help.	GAD, Agor) *'…basically doing the whole school (screening). Like, I think it should be like, in the law. Like someone every, maybe two, one or two years a person comes in like a teacher in the room and just like 'we're part of like counselling thing and if you have any worries, we can help you''* (Tina, 15, GAD, SocA, Dyst)
Disclosing problems ('*I was scared of telling people how I feel*')	Worrying what other people will think	Adolescents are concerned about being negatively evaluated if they disclose their problems to anyone, and that includes formal and informal sources of help. Although this is less commonly expressed by boys, their parents indicate that they also have these concerns. Concerns about being judged by other people were particularly marked among adolescents with self- and/or parent-reported comorbid gender and sexual identity issues.	*'I was scared of telling people how I felt. Cos I thought they will judge me and then they'll think that's there's something wrong with me, and stuff like that...'* (Tina, 15, GAD, SocA, Dyst) '*...I'd be thinking about, maybe they think I'm….I don't know, they just might think I'm weird'* (Sophie, 16, GAD, SocA, Dyst) *'I think it's more about what other, what his friends are gonna think, cos we're having this discussion at the moment because he, he's trying to make up his mind whether he's bisexual, if he's gay, if he's straight…so I think it's more about his image, you know, he doesn't want to ask for it (help), because it's gonna make him look bad with his friends'* (Isaac (mother), 13, MDD, PD, SocA, GAD, SpecP)
	Ability to verbalise feelings	Adolescents report that they can struggle to verbalise their feelings and that this then makes it difficult to be able to disclose their problems to other people. Parents describe how this can lead to anger outbursts, particularly among younger adolescents or those with self-/parent-reported comorbid ADHD (traits) and major depressive disorder diagnosis.	*'I don't really like saying much cos I don't really know what to say*' (Katie, 13, PD, Agor, GAD, SocA) *'She just finds it hard to express herself because she doesn't have the mental capacity to explain in the way that other people can understand…she just tends to lash out cause she finds it easier to express it with anger and physicality, rather than with words*.' (Claire (father), 12, MDD, GAD)
	Asking for help	Adolescents commonly struggle with initiating a conversation about mental health and asking for help. They are more likely to share their feelings when a parent or a professional initiates the conversation.	*'...I didn't know how to erm, like, ask for the help. Cos, I don't know, it's just a lot like, I know I can, but can't just really go up to someone and say 'hey, can you help me with this*?' (Alex, 15, GAD, SocA) '*Well, I always thought that, even though people say they're fine, you should always take like person out of class, all of the people and students, and just like sit with them, and just be like 'are you sure,' like 'everything's okay, you've got no worries?', erm, and stuff like that. Cos I know if that happened, then I, then I could reach out and get help'* (Tina, 15, GAD, SocA, Dyst)

	Ability to trust other people	Being able to trust other people and perceiving other people as trustworthy is a common reason why adolescents (do not) speak about their feelings to anyone. There are differences in which settings or with whom adolescents feel most able to talk about their difficulties without concerns about information being shared with others; for example, whether this is inside or outside the school environment, with friends or teachers/professionals. Inability to trust other people appears to be particularly pertinent among those with past (negative) experience of professionals or negative life experiences (e.g. family violence).	*'I just don't really trust teachers, I don't know, cos they (.), they could be like 'oh we won't tell anyone', but then like, really they get talking to someone, talking to other students what people said or something*.' (Joe, 16, SocA, GAD) '*I have spoken to some (friends) about it but not like everybody…(and to) family members…Cos they won't like tell anyone else I think'* (Luke, 11, SpecP, GAD, SepA, SocA) *'...I just don't really have a lot of trust in anyone*' (Anna, 15, GAD, PTSD, SocA)
	Anxiety and depressive symptoms interfere with help-seeking	The very nature of having an anxiety disorder or depression can get in the way of successful help-seeking. In particular, adolescents report struggling to speak to other people due to their shyness/social anxiety, lack of confidence and feelings of hopelessness.	*'I just don't really feel that confident to do that...to speak to anyone I think.'* (Lilly, 15, GAD, SocA, PD, Agor, MDD, Dyst, SepA) '*I carry on and just keep going. Just kind of… do the same thing. Cause nothing is going to change anything*' (Sophie, 16, GAD, SocA, Dyst)
	Concerns about the impact on others	Although adolescents' friends and families usually represent a first source of help for adolescents, adolescents do not always share their feelings with these people as they do not want them to worry about them or make their parents angry. This barrier is common among older adolescents and also voiced by parents of adolescent boys.	*'It's just, it's like, it's almost uncomfortable cos I don't want them (parents), I don't want to tell them cos I don't want, want them to worry about me*.' (Isaac, 13, MDD, PD, SocA, GAD, SpecP) '*...I don't like talking about myself to them (friends), I'd rather listen to what they have to say and that stops them from worrying about me…I thought that she (mother) was going to be angry with me (if I tell her)*.' (Hannah, 13, PD, SocA, Agor, GAD) '*Ben keeps all for himself. I think it's because I have girls and he's the oldest he doesn't want to put any stress on me*.' (Ben (mother), 12, MDD, GAD)
Ambivalence to seeking professional help ('*There's like a part of me that wants help and a part that doesn't'*)	Desire to be self-reliant	Adolescents report a preference to rely on themselves when facing emotional difficulties, and wanting to show themselves and others that they are strong enough to cope on their own. As such, they can perceive help-seeking to be in conflict with their perceptions of themselves. Parents sometimes explain their children's self-reliance by referring to their own ways of coping with difficult emotions. Similarly, parents of boys report barriers related to their sons appeared to see help-seeking as conflicting with the idea of what it is to be male.	'*...because I think that's something that I have to do by myself...cos I'm a tough person'* (Chris, 15, PD, GAD, Agor) '*I think it's just my pride... cos I think I can do everything by myself*.' (Victoria, 14, SocA) *'I think cos I've got my own problems and I don't ask for help and I do everything by myself I think she thinks she's got to be the same'* (Savannah (mother), SocA, GAD)

	Other's reactions	Adolescents are often concerned about being treated differently by their peers if they reach out for help, e.g., concerns that other people will take pity on them or perceive them as 'attention seekers'. Concerns about other people's reactions to adolescents who seek help appear to be particularly common among those without prior experience of professional help, older adolescents and adolescent males.	'*So, I don't want people to be like, 'oh, she wants attention' or like, I just don't like things to be all about me*' (Sophie, 16, GAD, SocA, Dyst) *'I just don't want people to treat me differently and like take pity on me, I'd rather them just treat me normally...than just be like 'oh, he's depressed, you gotta be careful with him,', so yea.'* (Frank, 14, MDD, GAD, SocA)
	Fears and expectations about professional help	Not knowing what to expect from professional help (e.g., what professional help will consist of and how the adolescent will react), and whether this will be helpful, represent notable barriers to help-seeking. Adolescents report wanting more information about what professional help looks like, which could reduce their anxiety and help them decide whether to seek help or not. Past (positive) experiences of professional help can also reduce adolescents' fears and create more realistic expectations about professional help.	'*...he's got himself quite stressed and anxious about the doctor's appointment, he didn't sleep the night before that and then he got tearful while we were waiting...and I was trying to explain that they won't do anything, we're just gonna come and have a chat, they're not gonna remove him or anything..*' (Ben (mother), 12, MDD, GAD) '*I'm happy and scared, like I'm happy cos I'm getting help but then I'm also scared of what will actually happen'* (Lilly, 15, GAD, SocA, PD, Ago, MDD, Dyst, SepA) *'...I was scared to get help in Year 6 because I didn't know what's going to happen, but it kind of comforted me because I knew it's going to be, I knew it's not going to be anything scary...It was just something nice.'* (Zara, 12, GAD, SocA)
The instrumental role of others ('*If it wouldn't be for X, I would still be suffering'*)	Recognising the need for professional help and initiating the process of help-seeking	Adolescents' parents and teachers are crucial in the process of accessing professional help. However, although they might identify symptoms of anxiety/depression in an adolescent, they do not always recognise the need for professional help and/or initiate the process of help-seeking. Parents/professionals who perceive an adolescent's symptoms as risky or severe (e.g. self-harming) and interfering (e.g. child not being able to go to school) are likely to initiate the process of help-seeking for a young person.	'*He does sometimes have panic attacks…sometimes he just has to erm take himself out of his lessons, but I think, he's he's kind of getting into grips with that.'* (Chris (mother), 15, PD, GAD, Agor) *'My mum ran the doctors to book an appointment, cos she said like, she wants me to get help I need'* (Anna, 15, GAD, PTSD, SocA) '*I think the school's done it (arranged help) when he first started and he was getting quite distressed in a couple of days, I think they've obviously assigned him to her (school nurse) and he's just carried it on with her*.' (Luke (mother), 11, SpecP, GAD, SepA, SocA)
	Knowledge of services	Knowing where to seek help is an important facilitator, and adolescents and their parents indicate that schools are most commonly the first nominated source of help for adolescents and their families. Besides from schools, families also turn to their child's GP to seek support. Parents generally lack knowledge about child and	'*…mum called up to school to say like, I don't want to come into school anymore*' (Tina, 15, GAD, SocA, Dyst) '*...I actually didn't know there was help for erm the children*.' (Frank (mother), 14, MDD, GAD, SocA) '*…I also work for the NHS Trust so I know a lot of services that are available, cos obviously I work for the NHS company'* (Luke (mother), 11, SpecP, GAD, SepA, SocA)

	adolescent mental health services, unless they have personal or professional experience of CAMHS.	
Family's resources and resilience	Adolescents and their parents describe the high demand on local child and adolescent mental health services as preventing access and that persistence is required to successfully access services. Parents with sufficient resources (e.g., emotional and financial resources) appear most likely to be able to access specialist support, and this sometimes means accessing help privately. Where parents lack these resources, they may not attempt to seek help for their child. The role of the school seems to be especially important in families with limited resources.	*'Nothing stopped us it's just erm I mean obviously for a while we were waiting to see if we can get somewhere through the doctor but, so that stopped us for a little while, but then we just said 'no we gotta deal with it' and we paid for it once, I mean if people haven't got money, huh, that leaves them there doesn't it?*' (Joe (mother), 16, SocA, GAD) '*I've been trying to get hold of them (CAMHS) for quite a while now....but to be honest with you...things were going on at the time, do you know what I mean...I just had so much going on I didn't know if I was coming or going to be honest with you'* (Maya (mother), 13, Agor, SocA, GAD, Hallucinations and Delusions)
Caregivers and schools working together	Families vary significantly in their experiences of support from other agencies (e.g. schools, GP) when trying to access help. Parents and adolescents describe the importance of feeling well supported by their child's school to be able to successfully access professional help	*'so me and my husband went into school and said 'look, we need help, what do we do', obviously we didn't, I wouldn't know how to deal with something like that and they basically helped us and we helped them, if you know what I mean, so we worked together*' (Isaac (mother), 13, MDD, PD, SocA, GAD, SpecP)
Young person's engagement with help-seeking	Adolescents may not feel ready for professional help or engage in the process of help-seeking after this has been initiated by parents/schools (e.g. making an appointment with the GP). In these situations, parents report feeling frustrated and hopeless.	*'she absolutely had a meltdown when I said I was going to take her to the doctors, to discuss what's going on and I think she needs help*.' (Katie (mother), 13, PDD, Agor, GAD, SocA) '*at the same time Alex, he refused to to to talk to anybody at this stage and and now if Alex, he refuses he wouldn't, erm so we are stuck for those year, two years' time completely stuck*' (Alex (mother), 15, GAD, SocA)

Agor = agoraphobia, Dyst = dysthymia, GAD = generalised anxiety disorder, MDD = major depressive disorder, PD = panic disorder, SocA = social anxiety disorder, SpecP = specific phobia

1) Making sense of difficulties (*'I just thought I was my kind of normal'*)

Adolescents struggle with recognising anxiety and depressive symptoms, understanding what is normal or not and knowing where to get help for their difficulties. They appear to perceive physical sensations (e.g. rapid breathing) and behaviours (e.g. running away from home) as the main features of anxiety/depression and classify themselves or other people based on someone else's (e.g. GP, friend, parent) labelling of symptoms as anxiety/depression. Adolescents, especially those at the upper end of the age range, report wanting more opportunities to learn about the signs and symptoms of anxiety and depression through online resources, social media, and research projects. However, their engagement with existing resources is low, and even when provided with information directly (e.g. through study information leaflet), adolescents report that they do not always independently seek it out. While parents and school staff may be instrumental in helping to identify that a young person has symptoms of anxiety/depression and may need professional help, they also appear to struggle to distinguish between the symptoms of anxiety/depression, their child's attributes, and characteristics of adolescents in general (e.g. being more worried, shy and withdrawn). Adolescents suggested interventions that could facilitate the identification of anxiety/depression, including screening for anxiety and depression in schools, regular school assemblies on anxiety and depression, distributing information via social media, and educating teachers and parents on warning signs of anxiety and depression.

2) Disclosing problems ('*I was scared of telling people how I feel*')

Adolescents with anxiety and/or depressive disorders find it hard to disclose their problems to other people, from friends and family to professionals. Feeling embarrassed about their feelings and concern about being negatively evaluated by their peers or by

adults are often reported by adolescents. Adolescents report that, even if they want to speak to other people about their difficulties, they struggle to verbalise their feelings. Instead, they prefer it if other people (e.g. their parents or professionals) initiate the conversation. When deciding who to speak to, adolescents need to perceive the person as trustworthy, although the type of help adolescents identify as trustworthy varies considerably (e.g. formal vs. informal, help within vs. outside the school). Notably, adolescents who feel unable to share their feelings with professionals also describe not feeling able to open up to friends or family either. Some specific anxiety and depressive symptoms, such as shyness, quietness, lack of confidence and hopelessness, seem to contribute to difficulties disclosing problems to others. Older adolescents and adolescent boys, in particular, are also worried about making other people, especially their parents and friends, upset if they disclose their problems to them.

3) Ambivalence to seek professional help (*'There's like a part of me that wants help and a part that doesn't'*)

Adolescents are unsure about whether they want professional help for their difficulties or not. One of the main barriers that stop adolescents from seeking professional help is a preference to rely on themselves, and some parents highlighted that adolescents may have adopted this coping style through observing their parents. Perceived gender roles appear to play a significant role here, with adolescent males being more likely to hold beliefs of needing to be strong and handling things on their own. Furthermore, older adolescents and adolescents without prior experience of professional help seem to be especially concerned about being able to cope with their problems on their own, and feeling 'too proud' to reach out for professional help. Adolescents also seem to be concerned with how other people will react if they seek professional help, and adolescents who worry

about being perceived as ‘attention seekers’ or ‘weak’ by other people are less likely to seek professional help. Finally, adolescents’ fears and expectations about professional help also play a significant role in decisions about whether to seek professional help. Adolescents with past (positive) experience of professional help-seeking are more likely to hold positive expectations, are less afraid of professional help, and more likely to seek professional help in the future than those without these past experiences.

4) The instrumental role of others (*‘If it wouldn’t be for X, I would still be suffering’*)

Adolescents do not appear to access professional help on their own – they need their parents and/or school staff to arrange professional help for them. It seems that if parents’ and teachers’ perceptions of adolescents’ problems as severe (e.g. self-harm) and interfering (e.g. adolescent not being able to attend school), can act as a facilitator to seeking and accessing professional help. Parental awareness of available services, and the family’s emotional and financial resilience and resources also play a significant role in whether a family will access professional help. Adolescents and parents report that the school’s level of engagement and support in the process of accessing professional help is important and particularly crucial when parental resources are limited. Finally, even when they recognise that they are experiencing difficulties, adolescents may not always feel ready to engage in the help-seeking process, which can be a source of frustration for parents.

Discussion

This study captured the perspectives of adolescents identified in the community who met diagnostic criteria for anxiety and/or depressive disorders on seeking and accessing professional help for their mental health problems. We identified a complex array of barriers and facilitators that influence adolescents' decisions about seeking help. The study particularly highlights the instrumental role of adults, especially parents, in enabling adolescents to access professional help successfully.

Barriers and facilitators to seeking and accessing professional help among adolescents with anxiety and/or depressive disorders reflect many of the normative characteristics of the adolescent developmental period. For instance, adolescents report their parents' and school staff's difficulties in distinguishing between the symptoms of anxiety/depressive disorders, and behaviours that are perceived as 'typical' for this age (e.g. fluctuations in mood, appearing worried, withdrawn or disengaged). In order to receive support for their emotional difficulties, adolescents need to disclose their problems to other people, and adolescents report struggling to do that (including to friends), mainly due to fears of negative social consequences which are typically heightened in adolescence [34]. The growing need for independence and autonomy that is central to adolescence [35] was also reflected in our findings. Adolescents reported struggling to find a balance between wanting to be independent and the need for other people's help and support, and commonly relied on adults, particularly their parents and school staff, to access professional help.

Our findings are broadly consistent with previous research [8, 36] and existing help-seeking models for adolescents, such as Rickwood et al.'s model of help-seeking for mental health problems in young people [17]. This model, developed for young people aged 14 to 24 and for help-seeking for various mental health problems, proposes four stages of help-seeking: (1) awareness of symptoms and appraisal that assistance might be required; (2) expressing of awareness and appraisal in words so they can be understood by other people; (3) availability of sources of help; and (4) willingness of the adolescent to disclose their difficulties to the selected, available source. The nature of our study means that the findings lacks statistical-probabilistic generalisability. Nevertheless, our findings that some of the barriers might be particularly pronounced in 1) people with anxiety/depressive disorders (due to the tendency to avoid anxiety-provoking situations and to procrastinate among participants with diagnoses of anxiety disorders, and the lack of motivation, negative self-perception and hopelessness among participants with depressive disorders), and 2) adolescents who experience particular concerns about negative evaluation from peers, family and professionals, and are developing a particular need for autonomy. Therefore, study findings may be transferable beyond the context and particular characteristics of the study.

Our findings have clear practical implications for reducing barriers to access to treatment for anxiety and/or depressive disorders in adolescents. Consistent with previous research [8–10], interventions to improve the mental health literacy of adolescents as well as their parents, school staff, and GPs are needed in order to minimise barriers related the identification of anxiety/depression in adolescents. Participants in our study suggested that it would be helpful to have regular screening for common mental health difficulties in schools and a larger number of mental health assemblies through which they could be

introduced to the 'warning signs' of anxiety/depressive disorders. Adolescents also suggested greater availability of online information resources and help, especially through social media. However, previous research [37] has suggested that adolescents' engagement in online resources is relatively low, and therefore, the ways of accessing online support need to be carefully considered (e.g. through formal settings, such as in schools) [37]. In addition, strategies are needed to normalise mental health problems, such as anxiety and depression, and help-seeking and to reduce stigma, particularly in broader contexts where high levels of stigma may exist (e.g. gender dysphoria). The findings also highlight that explaining and maintaining confidentiality of information is essential. It will be critical that all resources and means of support are developed in partnership with adolescents to meet their specific needs, such as the growing need for autonomy and independence. Our findings also highlight the importance of supporting the adults around an adolescent, especially their parents and school staff who often arrange help for them. In order to be able to access services, parents need to be informed about anxiety/depression in adolescents and where and how to access help. Adolescents and parents report turning to schools and GPs first and, therefore, it is important that these professionals know what services and support exist and are able to refer families as appropriate [38]. Finally, our findings suggest that the role of schools in identifying problems and enabling support for adolescents with anxiety and/or depressive disorders is invaluable in cases where family capacities are limited.

Strengths and limitations

Strengths of the study include the focus on a sample of adolescents who met the diagnostic criteria for anxiety and/or depressive disorder and were identified in a community by using standardised diagnostic interviews. In addition, we used purposive

sampling which resulted in a diverse study sample (e.g. with variability in terms of ethnicity, socioeconomic status and comorbid physical and mental health conditions). Notably, one of the participating schools was in a severely deprived area (i.e., it's Index of Multiple Deprivation score of 37.6 meant that it fell within the 20% of most deprived areas in England). There are indications that young people from low income backgrounds are less likely that those from high incomes backgrounds to seek professional help (40) and therefore, it is likely we were able to capture perspectives of young people who are typically least likely to access professional help. Finally, we applied different procedures to ensure the rigour of the study, including data triangulation, member-checking and reflexivity. However, it is important to acknowledge the study's limitations. As only half of the participants that were invited took part in the diagnostic assessment, barriers experienced by adolescents and families that are hardest to reach (e.g. families where parents do not speak English) may not have been captured. Similarly, only adolescents with high level of self-reported anxiety and/or depressive symptoms were invited to take part in the diagnostic assessment and interview, and therefore, the study may have not captured the experience of young people who also meet the diagnostic criteria for anxiety and/or depressive disorders, but were not identified through screening ('false negatives'). It is also possible that help-seeking experiences of adolescents with lower levels of self-reported anxiety and/or depressive symptoms and adolescents living in different (i.e., less deprived areas) would be different. In addition, the lead researcher's (JR's) relationship with families from prior data collection and all the research team's extensive prior knowledge of adolescent anxiety/depression, treatment and help-seeking inevitably influenced each step of data analysis and the interpretation of the data. Finally, the research team's assumptions around help-seeking and professional treatment of anxiety/depressive disorders in adolescents (e.g. a belief that psychological treatments

are most effective in treating anxiety and depressive disorders in adolescents and that anxiety and depressive disorders need to be identified and treated) also shaped the interpretation of results.

Understanding the beliefs and experiences of seeking and accessing help among adolescents with anxiety and/or depressive disorders is crucial to improve access to support and treatment for these most common mental health difficulties. Our study identified barriers and facilitators at the adolescent individual level, as well as at the level of their family, school, and broader context. Improving knowledge about anxiety and depressive disorders, normalising mental health problems and help-seeking, providing age-appropriate support for adolescents, and supporting adolescents' parents in the process of accessing help are instrumental in enabling these young people to access professional help successfully.

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3.4.Supplementary materials

Radez, J., Reardon, T., Creswell, C., Orchard, F. and Waite, P. (under review). Adolescents' perceived barriers and facilitators to seeking and accessing professional help for anxiety and depressive disorders: A qualitative interview study

Electronic Supplementary Material 1: COREQ Checklist

COREQ Checklist

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
Personal characteristics			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	8
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	8
Occupation	3	What was their occupation at the time of the study?	8
Gender	4	Was the researcher male or female?	8
Experience and training	5	What experience or training did the researcher have?	8
Relationship with participants			
Relationship established	6	Was a relationship established prior to study commencement?	8
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	Figure 1, ESM 2
Interviewer characteristics	8	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	8
Domain 2: Study design			
Theoretical framework			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	8, 9
Participant selection			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	Figure 1, ESM 2
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	Figure 1, ESM 2
Sample size	12	How many participants were in the study?	5, Table 1, ESM 2
Non-participation	13	How many people refused to participate or dropped out? Reasons?	6
Setting			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	5
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	5
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	Table 1
Data collection			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	8
Repeat interviews	18	Were repeat interviews carried out? If yes, how many?	5
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	5
Field notes	20	Were field notes made during and/or after the interview or focus group?	8
Duration	21	What was the duration of the inter views or focus group?	8
Data saturation	22	Was data saturation discussed?	9

Transcripts returned	23	Were transcripts returned to participants for comment and/or	N/A

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
Data analysis			
Number of data coders	24	How many data coders coded the data?	9
Description of the coding tree	25	Did authors provide a description of the coding tree?	9
Derivation of themes	26	Were themes identified in advance or derived from the data?	9
Software	27	What software, if applicable, was used to manage the data?	9
Participant checking	28	Did participants provide feedback on the findings?	8
Reporting			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	Table 3
Data and findings consistent	30	Was there consistency between the data presented and the findings?	10-15
Clarity of major themes	31	Were major themes clearly presented in the findings?	10-12, Table 3
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	14-15, Table 3

Electronic Supplementary Material 2: Detailed description of the process of recruitment

Detailed description of the process of recruitment

Recruiting schools: Thirty-one state secondary schools in Berkshire, Buckinghamshire, London, North England and Oxfordshire were approached from September to November 2018. Invited schools had no academic entry criteria and were not taking part in other University research projects. Three large mixed state schools (all in Berkshire) agreed to take part, and one school withdrew prior to the data collection.

Screening for high levels of symptoms of anxiety and depression: Participating schools distributed information leaflets and opt-out consent forms to 1,706 parents/carers. After two weeks, the lead researcher (JR) administered paper forms of the adolescent-report questionnaires with students aged 11-18 (Year 7-Year 13), whose parents/carers had not opted out (97.7%). Of 1,237 students invited to take part, 94.2% provided consent/assent and completed the questionnaires (see Appendix C). Adolescent background information (gender, ethnicity, date of birth, school year, whether an adolescent is a learner of English as an additional language, whether an adolescent is eligible for free school meals and whether an adolescent has a statement for special educational needs) was collected from school records at the same time. Where questionnaire responses indicated any risk or raised concerns about the young person's safety, this was reported to the schools' safeguarding teams immediately.

Identifying participants for diagnostic assessments (ADIS-C and K-SADS): Of 1,165 collected questionnaire responses, 417 (35.8%) adolescents had at least one RCADS-C/MFQ-C subscale/scale score above the clinical threshold (RCADS-C subscale *T*-score > 70 and/or MFQ-C total > 26). To avoid false positive identification and due to lack of resources do administer 417 diagnostic assessment, the threshold to identify the pool of

participants for the diagnostic assessments was set to at least 4 (out of 8) RCADS-C/MFQ-C subscale total scores within the 'clinically elevated' range (n = 121). We then purposively sampled from this pool of participants to ensure that adolescents invited to the diagnostic assessment varied on the following characteristics: age, gender, ethnicity, prior help-seeking/accessing experience, family's socioeconomic status, and presence/absence of a statement of special educational needs. Fifty-two adolescents were identified, and invited to take part in the diagnostic assessment. Parent/carer consent forms, consent forms for audio recording the assessment, and the information leaflet outlining the purpose of the assessment were distributed to families electronically. Up to three follow-up phone calls were made to each family within two weeks of sending an initial invitation to the assessment. After parents/carers provided consent, the lead researcher (JR) administered the assessment one-to-one with adolescents only in a quiet room in the adolescent's school. Prior to the assessment, each adolescent also provided assent/consent to take part in the assessment and for the researcher to audio record the assessment. Where an adolescent's responses indicated any risk or raised concerns about the young person's safety, this was reported to the school's safeguarding team immediately. Each adolescent who took part in the assessment was given a £10 voucher to reimburse them for their time.

Identifying participants for qualitative interviews: Following the diagnostic assessment, each family received a detailed report outlining the 1) outcome of the assessment and 2) recommendations for further treatment (if applicable). Of 26 adolescents who took part in the diagnostic assessment, 24 met the DSM-5 diagnostic criteria for a current anxiety and/or depressive disorder. Approximately two weeks after the assessment, families were re-contacted by the lead researcher (JR) over the phone and invited to take part in the qualitative interview study. Adolescents, as well as their parents/carers, were invited to take part at this

stage, and the lead researcher explained the purpose of the qualitative interviews. Parents/carers were asked to provide consent for an interview with them, their child, and for audio recording both interviews. Each family was contacted up to three times to provide consent for the qualitative study. Of 24 families invited, 22 provided consent for the adolescent and the parent/carer interview.

Interviews were firstly conducted with each adolescent and a parent interview was scheduled within one week after the interview with their child and was partially guided by things reported in adolescent interview. As with the diagnostic assessments, all qualitative interviews with adolescents were conducted one-to-one in their school, and any risk concerns were reported to the schools' safeguarding teams immediately. Prior to the qualitative interview, each adolescent was asked to provide assent/consent to take part in the interview and to be audio recorded. Adolescents' parents/carers were interviewed at a time convenient for them and over the phone. Among the 22 families who provided consent to take part in the qualitative study, all 22 adolescents and 20 parents/carers took part. Two parents/carers did not take part without giving any reason. Each family that took part in the qualitative interview was given £10 voucher to reimburse them for their time.

Electronic Supplementary Material 3: Adolescent- and parent-interview topic guides

Adolescent- and parent-interview topic guides

Adolescent interview topic guide

Knowledge and understanding of anxiety and depression in young people

1. Can you tell me a bit about what you know about anxiety and depression?
    - Probe: How can you tell if someone your age has been experiencing anxiety and/or depression?
    - Probe: Do you know someone with anxiety and/or depression? How do you know they have been experiencing these difficulties?

Personal experience of identifying anxiety and/or depression

1. Last time we met I asked you lots of questions about how you've been feeling recently and you told me about your worries and/or low mood. To what extent do you perceive these feelings to be a problem for you?
    - Probe: What makes you think that this is (not) a problem?

2. Have you talked to other people about these feelings?

(for those who have talked to someone before)

- Probe: Who did you talk to? Was there any particular reason for you to talk to them?
- Probe: Did that person (e.g. a parent/friend/partner) notice anything? Or did you tell them how you have been feeling first?

(for those who haven't talked to anyone before)

- Probe: Have you considered talking to anyone?
- Probe: Was there anything particular that stopped you from doing that?

Help-seeking attitudes and knowledge about available help/support

1. Do you think it is helpful for young people to talk to other people about feeling anxious/depressed? Who do you think that young people should talk to?
    - Probe: Do you think that young people should talk to people close to them (like family, partners, (online) friends)? Who do you think they should talk to? Is there any particular reason to talk to them?
    - Probe: Do you think that young people should talk to someone else (like teacher, GP, school nurse, year tutor)? Who do you think they should talk to? Is there any particular reason to talk to them?

2. Can you tell me a bit about what you know about available help/support for young people experiencing anxiety and/or depression?
    - Probe: Where did you find out about these things?
    - Probe: Would you know where to find help for experiencing anxiety and/or depression? Where would you go?

3. Some young people who experience anxiety and/or depression want to get some help with these feelings and talk to a professional about it. What do you think about young people who seek professional help for their mental health problems?
    - Probe: How would you describe a person who seeks help for their mental health problems?
    - Probe: Do you know anyone who has sought professional help for the problems with their fears, worrying and mood? What do you think of them?

Help-seeking/accessing experience and barriers/facilitators to help-seeking/accessing

1. Have you at any point in the past sought professional help to help you managing your difficult emotions, such as fears, worries and/or low mood?

(for those who did seek help for problems in the past)

Can you describe that experience to me?

- Probe: Who did you seek help with? Was there any reason for choosing them? How was that help for you?

2. Have you sought any professional help for the (current) problems with your fears, worries and/or low mood?

(for those who did seek help for their anxiety and/or depression)

Who did you speak to?

- Probe: Have you tried to speak to someone else than your close ones about your problems (like teacher, GP, school nurse, year tutor)?

3. Has anything stopped you from seeking help?

(for those who have sought professional help)

- Probe: Has anything or anyone helped you when trying to seek help?

(for those who have not sought professional help)

- Probe: Has anything/anyone else stopped you from seeking help?

4. If you did get support from someone. What do you think that that would look like?
    - Probe: Can you describe to me your expectations of that support?
    - Probe: What would you expect from the relationship between you and the professional?
    - Probe: Would you expect that the professional help would help you with dealing with your problems?

5. Assuming that you would decide to seek help. What kind of person would you find the easiest to talk to?
    - Probe: What kind of person would make you want to talk to them about your anxiety and/or depression?
    - Probe: What kind of person would make you trust them?

(for those who have sought professional help)

- Probe: Was there anything about that person that made you decide to speak to them?

(for those who have not sought professional help)

- Probe: Was there anything about the specific person that made you decide *not* to speak to them?

6. Can you think of anything that may make it easier for young people experiencing anxiety and/or depression to seek help?
   - Probe: What do you think that the school could do to make it easier for young people like you to access help?
   - Probe: What do you think that other people around you (like parents, friends) could do to make it easier for young people like you to access help?
   - Probe: Can you think of any other tools (such as IT tools, social media) that could make the process of accessing help for your fears, worries and/or low mood easier?
   - Probe: What do you think that a process of help-seeking would look like in the ideal world?

Parent interview topic guide

Knowledge and understanding of anxiety and depression in young people

1. Can you tell me a bit about what you know about anxiety and depression in young people?

- Probe: How can you tell if a young person has been experiencing anxiety and/or depression?
- Probe: Do you know any young person with anxiety and/or depression? How do you know they have been experiencing these difficulties?

Experience of identifying anxiety and/or depression in their child

1. Last time I met with your child I asked them lots of questions about how they've been feeling recently and they told me about their worries and/or low mood and I sent you both a report summarising what they told me. Can you tell me what do you think about that report?

- Probe: Did anything in the report come as surprise*?*
- Probe: Did you (or anyone else in the family) notice any change in your child? What did you notice?

(for those who have noticed changes in their child)

- Probe: Can you tell me when was the first time you thought your child may be experiencing problems with anxiety and/or depression?
- Probe: What made you think that they are experiencing these difficulties?
- Probe*:* Have you done anything in particular to understand what's been going on with your child (e.g. spoken to someone, or did a research on anxiety/depression)?

2. Have you and your child ever talked about their worries/low mood? Can you tell me a bit about that?

(for those who have talked with their children before)

- Probe: Do you remember who initiated the conversation?
- Probe: Do you remember what was going on for your child at that time? How long ago was that?
- Probe: Do you remember how the conversation went? Do you think that your child found it helpful?
- Probe: Was there anything that stopped you from having these conversations?

(for those who have not talked with their children before)

- Probe: What do you think that stopped you or made it hard for you to have these conversations?

3. Have you and your child talked recently about their fears, worries and/or low mood?

- Probe: Do you remember who initiated the conversation?

- Probe: Do you remember how the conversation went? Do you think that your child found it helpful?
- Probe: Was there anything that stopped you from having these conversations?
- Probe: Have you and your child spoken about getting support from other people, such as their school nurse, GP, year tutor?

(for those who have not talked with their children recently)

- Probe: What do you think that stopped you from having these conversations?

4. Do you think that your child talked to anyone (else) close to them about difficulties with their fears, worries and mood? Who do you think they talked to? What do you think that made them talk to them?

- Probe: Do you think that your child talked to someone else (like their GP, school nurse, year tutor) about difficulties with their fears, worries and mood? Who do you think they talked to? What do you think that made them talk to them?
- Probe: Have you spoken to any of those people on your child's behalf/about your child's difficulties?

(for those who have not talked to anyone else)

- Probe: What do you think that stopped you and/or your child from having these conversations with other people?

Help-seeking attitudes and knowledge about available help/support

1. Do you think it is helpful for young people to talk to other people about feeling anxious/depressed? Who do you think that young people should talk to?
   - Probe: Do you think that young people should talk to people close to them (like family, partners, and (online) friends)? Who do you think they should talk to? Is there any particular reason to talk to them?
   - Probe: Do you think that young people should talk to someone else (like teacher, GP, school nurse, year tutor)? Who do you think they should talk to? Is there any particular reason to talk to them?
   - Probe: Do you think it is helpful for parents to talk to other people if their child is feeling anxious or low?

2. Can you tell me a bit about what you know about available help/support for young people experiencing anxiety and/or depression?
   - Probe: Where did you find out about these things?
   - Probe: Would you know where to find help if your child would be experiencing difficulties with anxiety and/or depression? Where would you go?

Help-seeking/accessing experience and barriers/facilitators to help-seeking/accessing

1. Have you at any point in the past tried to get professional help to help you and your child managing their difficult emotions, such as fears, worries and/or low mood?

(for those who did seek help for problems in the past)

Can you describe that experience to me?

- Probe: Who did you seek help with? Was there any reason for choosing them? How was that help for you?

(*for those who did not seek help for problems in the past)*

How do you think that the help would look like?

2. Have you sought any professional help for the (current) problems with your child's fears, worries and/or low mood?

(for those who did seek help for their anxiety and/or depression)

Who did you speak to?

- Probe: Have you tried to speak to any professional (like your child's GP, year tutor, school nurse)?

3. Has anything stopped you from seeking help for your child's fears, worries and/or low mood?

(for those who have sought professional help)

- Probe: Has anything or anyone helped you when trying to seek help?

(for those who have not sought professional help)

- Probe: Has anything/anyone else stopped you from seeking help?

4. Can you think of anything that may make it easier for young people experiencing anxiety and/or depression and their parents/families to seek help?
- Probe: What do you think that the school(s) could do to make it easier for young people like you to access help?
- Probe: What do you think that close to young people (such as you – parents, and friends) could do to make it easier for young people like you to access help?
- Probe: Can you think of any other tools (such as IT tools, social media) that could make the process of accessing help for young people's fears, worries and/or low mood easier?
- Probe: How do you think that a process of help-seeking would look like in the ideal world?

Chapter 4: Paper 3

Using the 11-Iitem Version of the RCADS to Identify Anxiety and Depressive Disorders in Adolescents

Submitted for publication in *Psychological Assessment* (22.04.2020)[2]

Radez, J., Waite, P., Chorpita, B., Creswell, C., Orchard, F., Percy, R., Spence, S.H. and Reardon, T. (under review). Using the 11-Iitem Version of the RCADS to Identify Anxiety and Depressive Disorders in Adolescents.

[2] Minor adaptations were made to the manuscript for the purpose of this thesis (e.g. tables and figures are included in the main manuscript).

4.1.Introduction to Paper 3

Papers 1 and 2 highlighted that adolescents struggle with recognising symptoms of common mental health disorders, such as anxiety and depressive disorders. In fact, adolescents might not always perceive their problems as either mental health related or serious enough to require help. Similarly, adolescents' parents reported issues around distinguishing between anxiety/depressive symptoms and characteristics typical of adolescence. In order to overcome these barriers, some adolescents in the qualitative study (Paper 2) suggested that regular screening for anxiety and depressive disorders could help them and adults around them (i.e., their parents and teachers) identify who might benefit from further professional help. In addition, regular mental health screening might benefit adolescents who struggle with seeking help independently, due to difficulties with verbalising their feelings or initiating a conversation about mental health. Brief, accurate, and easy to use/interpret screening questionnaires could help address barriers related to difficulties with identifying anxiety and depressive disorders in adolescents. In fact, previous research with parents of anxious preadolescent children (Reardon et al., 2018), and GPs (O'Brien et al., 2017) suggests that screening questionnaires might benefit parents and professionals as well. The purpose of the study reported in Paper 3 was to develop a brief (<15 item) screening questionnaire tool for anxiety and depressive disorders in adolescents. The study included two large (n > 200) samples of adolescents and their parents, who completed two questionnaire measures – the RCADS-C/P and the MFQ-C/P. The community sample was recruited as a part of the screening phase for the qualitative study (Paper 2). As well as the qualitative study, the recruitment for the brief identification study (Paper 3) was a part of the IAT-ADA project and was approved by the University of Reading Research Ethics Committee in July 2018. The clinic-referred sample was recruited through the AnDY Research Clinic

from January 2017 to June 2019. The clinic-referred data reported in the Paper 3 was extracted from patients' electronic records retrospectively. Permission to use previously collected clinical data was granted by the Berkshire Healthcare NHS Foundation Trust in October 2019.

4.2.References

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Reardon, T., Harvey, K., Young, B., Brien, D. O., & Creswell, C. (2018). Barriers and facilitators to parents seeking and accessing professional support for anxiety disorders in children : qualitative interview study. *European Child & Adolescent Psychiatry*, *27*(8), 1023–1031. https://doi.org/10.1007/s00787-018-1107-2

4.3.Paper 3: Using the 11-item Version of the RCADS to Identify Anxiety and Depressive Disorders in Adolescents

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procedures. The research materials can be accessed by contacting the corresponding author.

The RCADS and its derivates are copyrighted by Bruce F. Chorpita and Susan H. Spence. They are available from www.childfirst.ucla.edu/resources/

Disclosure statement: The authors declare that they have no conflict of interest.

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Abstract

The purpose of this study was to identify items from the Revised Children's Anxiety and Depression Scale – RCADS-C/P that provided a brief, reliable and valid screen for anxiety and/or depressive disorders in adolescents. In addition, we examined whether adding items assessing suicidal ideation (Moods and Feelings Questionnaire – MFQ-C/P) and symptom impact and duration (items adapted from the Strengths and Difficulties Questionnaire – SDQ) improved the identification of adolescents with anxiety and/or depressive disorders. We compared two samples of adolescents and their parents – a community sample, recruited through secondary schools in England (n = 214) and a clinic-referred sample, who met diagnostic criteria for anxiety and/or depressive disorder and were recruited through a university-based research clinic (n = 246). Participants completed the RCADS-C/P with additional symptom impact and duration items, and the MFQ-C/P. Using ROC curve analyses, we identified a set of 11 RCADS-C/P items (6 addressing anxiety and 5 depression symptoms) for adolescent- and parent-report. This set of 11 symptom items achieved sensitivity/specificity values > .75, which were comparable to corresponding values for the RCADS-47-C/P. Combining adolescent and parent-report improved the identification of anxiety/depression in adolescents compared to using adolescent-report alone. Finally, adding two symptom impact items further improved the sensitivity/specificity of the 11 symptom items, whereas adding suicidal ideation items did not. The 11 RCADS items accurately discriminated between the community and clinic-referred sample with anxiety and/or depressive disorders and have the potential to quickly and accurately identify adolescents with these disorders in community settings.

*Word count***:** 245

Keywords: anxiety, depression, screening, questionnaire development, adolescents

Public significance statement: This study identified a brief set of 11 anxiety and depression symptom items from widely used Revised Children's Anxiety and Depression Scale – RCADS-C/P. Results indicate that these 11 items have the potential to quickly and accurately identify adolescents with anxiety and/or depressive disorders in community settings, such as schools and primary care.

Anxiety and depressive disorders are the most common mental health disorders in adolescents. The estimated prevalence of anxiety disorders in this age group is around 8% (Lawrence et al., 2015; Polanczyk, Salum, Sugaya, Caye, & Rohde, 2015; Sadler et al., 2018) and depressive disorders around 5% (Merikangas et al., 2010). In addition, these disorders often occur simultaneously in adolescents (Axelson & Birmaher, 2001; Essau, 2008). Anxiety and depressive disorders in adolescents are associated with poor academic, social and health outcomes (Lawrence et al., 2015; Riegler, Völkl-Kernstock, Lesch, Walter, & Skala, 2017; Sadler et al., 2018) and are key contributors to the global economic burden of disease (Whiteford et al., 2013), emphasising the need for early identification and treatment. However, less than two-thirds of young people and their families access any professional help, and only a minority of young people access specialist mental health support (Johnson et al., 2016; Merikangas et al., 2010; Sadler et al., 2018). Key reasons underlying poor treatment utilisation relate to difficulties identifying common mental health problems and the availability of professional help (Lawrence et al., 2015; Sadler et al., 2018).

Professionals within schools and primary care services are well placed to identify symptoms of anxiety and depression in adolescents at an early stage (Department of Health & Department of Education, 2017; Siu & U S Preventive Services Task Force, 2016). The availability of questionnaire tools that are able to accurately identify adolescents with anxiety and depressive disorders could help address barriers related to identification in these settings. However, as practitioners working in these settings face significant time restraints, any identification tools must be brief (i.e. < 15 items) (Dowdy, Furlong, Eklund, Saeki, & Ritchey, 2010), easy to use and interpret (e.g. with clear instructions and cut-off scores) (Glover & Albers, 2007; Myers & Winters, 2002), and psychometrically adequate (e.g. sensitivity/specificity > 75%)

(Glover & Albers, 2007). Brief tools for detecting anxiety and depression in adults, such as the GAD-7 (Spitzer, Kroenke, Williams, & Lowe, 2006) and the PHQ-9 (Kroenke, Spitzer, & Williams, 2001), provide evidence that brief questionnaires can demonstrate good (> .80) sensitivity and specificity in primary care settings. However, these questionnaires were developed for adults, making them less appropriate for use with adolescents (Myers & Winters, 2002). Brief anxiety questionnaires for children exist (e.g. SCAS-8; Reardon, Spence, Hesse, Shakir, & Creswell, 2017), but these have only been developed and tested with preadolescent children and do not include depression items, which makes them less suitable for adolescents. Finally, although adolescents generally provide reliable assessments of their mental health, especially emotional disorders (Aebi et al., 2017; Deighton et al., 2014), a combination of adolescent- and parent-report can provide the most reliable and valid information about adolescents' mental health difficulties (Becker, Woerner, Hasselhorn, Banaschewski, & Rothenberger, 2004; Kuhn et al., 2017). Therefore, a brief identification tool should be available in both, an adolescent-report and parent-report form. To our knowledge, there is currently no questionnaire measure of anxiety and depression symptoms in adolescents meeting the above criteria.

One of the most commonly used measures of anxiety and depressive disorder symptoms across the world is the Revised Children's Anxiety and Depression Scale (RCADS; Chorpita, Yim, Moffitt, Umemoto, & Francis, 2000). The original 47-item RCADS and the shortened 25-item RCADS (Ebesutani et al., 2012), henceforth referred to as RCADS-47 and RCADS-25, are questionnaire measures of adolescent- and parent-reported symptoms of anxiety and depression in children aged 8 to 18 years. Both RCADS questionnaires demonstrate robust internal consistency in different settings and countries (Piqueras, Martín-vivar, Sandin, San, & Pineda, 2017) and are successful in

discriminating between clinical samples of young people with a diagnosis of an anxiety disorder or depressive disorder and community samples (Chorpita, Moffitt, & Gray, 2005; Ebesutani, Bernstein, Nakamura, Chorpita, & Weisz, 2010; Ebesutani, Korathu-Larson, Nakamura, Higa-McMillan, & Chorpita, 2017). However, the RCADS-47 and RCADS-25 are 1) >15 items, and 2) consistent with DSM-IV, rather than DSM-5 diagnostic criteria (American Psychiatric Association, 2013) (e.g. including OCD items), and do not consider either 3) adolescents' suicidal ideation, which is a common symptom of depression in adolescents (Orchard, Pass, Marshall, & Reynolds, 2017), or 4) the impact or duration of anxiety/depression symptoms on adolescents' lives, which may provide a more reliable estimate of emotional disorders than items that only assess the presence of symptoms (Evans, Thirlwall, Cooper, & Creswell, 2017; Goodman, 2001).

The purpose of this study was to identify a brief set of RCADS-47-C/P items to detect anxiety and depressive disorders in young people aged 11 to 17 years. The study involved a community sample (n = 214), and a clinic-referred sample (n = 246) who met diagnostic criteria for an anxiety disorder (n = 230), and/or a depressive disorder (n = 81). We identified a subset of anxiety items from a pool of 31 items from the RCADS anxiety subscale that fit with DSM-5 anxiety disorder symptoms, and a subset of depression items from 10 RCADS depression subscale items (Chorpita et al., 2000). In addition, we set out to determine 1) if adding items that assess suicidal ideation improves the ability of the depression item subset to discriminate between the community sample and clinic-referred with a depressive disorder diagnosis, 2) if adding items associated with symptom impact and duration improves the ability of the total brief item set to discriminate between the community sample and clinic-referred sample with any anxiety/depressive disorder diagnosis, and 3) whether using a combination of

reporters (i.e. adolescent-report and parent-report) provides more accurate identification of adolescents with an anxiety/depressive disorder diagnosis compared to adolescent-report alone. Finally, we evaluated the internal consistency, criterion, convergent and divergent validity, and identified optimal cut-off scores for the final brief item set in terms of 1) anxiety score 2) depression score and 3) total score, and compared these psychometric properties with corresponding properties for the RCADS-47 and the RCADS-25.

Method

Ethical Approval

The community sample was recruited as a part of the wider research project on improving access to treatment for anxiety and depressive disorders in adolescents. This project was approved by the University of Reading Research Ethics Committee (UREC 18/28). Permission to retrospectively use clinical data collected from the clinic-referred sample was obtained from the Berkshire Healthcare NHS Foundation Trust (project number 5491).

Participants

The demographic and clinical characteristics of the community and clinic-referred samples are outlined in Table 1.

Table 1

The demographic and clinical characteristics of the community and clinic-referred samples

	Community Sample	Clinic-referred Sample			Statistic (clinic-referred vs community)
Sample Characteristic		Total Sample	Anxiety subsample	Depression subsample	
N	214	246	230	81	
Age, Mean (*SD*)	13.63 (.75)	14.33 (1.73)	14.25 (1.72)	15.11 (1.36)	$t(458) = 4.313$, $p < .01$, $d = .40$
Gender					
Females, *n* (%)	123 (57.4%)	189 (76.8%)	177 (77.0%)	64 (79.0%)	$\chi^2(1) = 18.764$, $p < .01$, $V = .20$
Ethnicity					
White-British, *n* (%)	172 (80.8%)	170 (86.3%)[a]	159 (85.9%)[b]	55 (88.7%)[c]	$\chi^2(1) = 1.890$, $p = .169$
Black and minority ethnic, *n* (%)	42 (19.2%)	27 (13.7%)	21 (14.1%)	7 (11.3%)	
Family Socioeconomic status					
Higher/professional[d], *n* (%)	100 (46.7%)	98 (50.5%)[f]	92 (51.1%)[g]	34 (52.3%)[h]	$\chi^2(1) = 2.258$, $p = .323$
Parent reporter					
Mother, *n* (%)	186 (86.9%)	204 (88.7%)[i]	190 (88.4%)[j]	64 (85.3%)[k]	
Anxiety/depressive disorder diagnosis[e], *n* (%)					
Social Anxiety Disorder	-	171 (69.5%)	171 (74.3%)	56 (69.1%)	
Generalised Anxiety Disorder	-	156 (63.4%)	156 (67.8%)	44 (54.3%)	
Major Depressive Disorder	-	73 (29.7%)	60 (26.1%)	73 (90.1%)	
Specific Phobia	-	52 (21.1%)	52 (22.6%)	9 (11.1%)	
Agoraphobia	-	27 (11.0%)	27 (11.7%)	7 (8.6%)	

Separation Anxiety Disorder	-	21 (8.5%)	15 (6.5%)	6 (7.4%)
Panic Disorder	-	27 (11.0%)	27 (11.7%)	6 (7.4%)
Dysthymia	-	16 (6.5%)	13 (5.7%)	16 (19.8%)
Illness Anxiety Disorder	-	3 (1.2%)	3 (1.3%)	0 (0%)
Unspecified Depressive Disorder	-	2 (.8%)	1 (.4%)	2 (2.5%)
Unspecified Anxiety Disorder	-	2 (.8%)	2 (.9%)	0 (0%)
Primary diagnosis CSR, Mean (*SD*)	-	5.96 (1.00)	5.94 (1.04	6.46 (.87)
Any Anxiety disorder diagnosis, *n* (%)	-	230 (93.5%)	230 (100%)	65 (80.2%)
Any Depressive disorder diagnosis, *n* (%)	-	81 (32.9%)	65 (28.3%)	81 (100%)
Non-anxiety/depressive disorder diagnosis (OCD, ODD, PTSD, ADD, ADHD), *n* (%)	-	26 (10.6%)	26 (11.3%)	11 (13.6%)

Note. [a, b, c]percentage of 197[a], 180[b] and 62[c] parents who provided child ethnicity information, [d]Higher/professional = managers, directors, senior officials and professional occupations (ONS, 2010) , [e]anywhere in the diagnostic profile,[f, g, h]percentage of 194[f], 180[g] and 65[h] parents who provided education/occupation information, [i, j, k]percentage of 230[i], 215[j] and 75[k] parents who provided parent relationship information, CSR = clinical severity rating on the Anxiety Disorders Interview Schedule (ADIS) and/or Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS), OCD = obsessive-compulsive disorder, ADHD = attention deficit hyperactivity disorder, ODD = oppositional defiant disorder.

Community Sample

In total, 1,165 students were screened for anxiety and depression (see Measures section) through two secondary schools in Berkshire, England. Only adolescents for whom both adolescent- and parent-report questionnaire measures were provided were included in this study (n = 214). Nearly 70% of adolescents in the community sample were aged between 11 and 14 (classified as 'younger adolescents') and 30.8% were aged between 15 and 18 (classified as 'older adolescents').

Clinic-Referred Sample

The clinic-referred sample was recruited through the Anxiety and Depression in Young People (AnDY) Research Clinic, based at the University of Reading and funded by East Berkshire and Berkshire West Clinical Commissioning Groups. The clinic-referred sample (n = 246) included young people aged between 11 and 17, who took part in the standardised diagnostic assessment (see Measures section), and met criteria for a current DSM-5 anxiety and/or depressive disorder anywhere in their diagnostic profile (i.e. primary and secondary diagnoses). A total of 246 adolescents met the study inclusion criteria, of whom 230 met the diagnostic criteria for an anxiety disorder (clinic-referred anxiety subsample) and 81 met the diagnostic criteria for a depressive disorder (clinic-referred depression subsample) anywhere in their diagnostic profile. In the total clinic-referred sample, 48% of adolescents were 'younger adolescents' and 52% were 'older adolescents'.

Procedure

Community Sample

We approached 31 state secondary schools in Berkshire, Buckinghamshire, London, North England and Oxfordshire from September to November 2018. Invited schools had no academic entry criteria and were not taking part in other University research projects. Two large mixed state schools (both in Berkshire) agreed to take part. Participating schools distributed information leaflets and opt-out consent forms to 1,706 parents/carers. After two weeks, the lead researcher (JR) administered paper forms of the adolescent-report questionnaires with students from Year 7 to Year 13, whose parents/carers had not opted out (97.7%). Of 1,237 students invited to take part, 94.2% provided consent/assent and completed the questionnaires. School staff and the researcher oversaw questionnaire completion in classrooms and ensured that responses were confidential. Adolescent background information (e.g. date of birth and gender) was collected from school records at the same time. Where questionnaire responses indicated any risk or raised concerns about the young person's safety, this was reported to the schools' safeguarding teams immediately. Both schools then distributed questionnaires to parents/carers, usually by emailing a link to online versions of the questionnaires, and in some cases they also sent paper copies. Up to five reminders within a five-week time frame were then sent to young people's parents/carers to encourage them to complete the questionnaires. Of 1,165 students who completed self-report questionnaires, 214 (18.7%) parents/carers completed the parent questionnaire as well. To help encourage parent/carer participation, schools were reimbursed £3 for each returned paired (adolescent-parent) questionnaire set.

Clinic-Referred Sample

Adolescents in the clinic-referred sample were assessed with standardised diagnostic assessments (ADIS-C/P and K-SADS) from January 2017 to June 2019 in the AnDY Research Clinic, University of Reading. At the point of the initial

assessment, each young person and their parent completed the RCADS-C/P questionnaire measures. The routine initial assessment questionnaire pack has included symptom impact and duration questions since May 2017, and the Mood and Feelings Questionnaire (MFQ) since March 2018.

Measures

Questionnaires

Revised Child Anxiety and Depression Scale, Child and Parent Versions (RCADS-C/P; Chorpita, Yim, Moffitt, Umemoto, & Francis, 2000). The RCADS is a 47-item questionnaire measure of symptoms of anxiety and low mood in young people, aged from 8 to 18 years. It was developed as an adaptation of the Spence Children's Anxiety Scale (SCAS; Spence, 1997, 1998) with additional items to assess symptoms of depression. The questionnaire consists of six subscales: separation anxiety disorder (SAD), social phobia (SP), obsessive-compulsive disorder (OCD), panic disorder (PD), generalised anxiety disorder (GAD), and major depressive disorder (MDD). Respondents rate how often each item applies to them/their child, using a 4-point scale from 0 ('never') to 3 ('always'). The RCADS is available in adolescent- and parent-report form and it takes between 10 and 15 minutes to complete (Chorpita et al., 2000). In the current study, the RCADS anxiety scale (37 items), depression scale (10 items) and total scale (47 items) scores were calculated by summing responses to corresponding items. As OCD is no longer classified as an anxiety disorder in the DSM-5 (American Psychiatric Association, 2013) these six items were not considered for inclusion in the final screening items, and were excluded from the individual item analyses.

Symptom impact and duration questions. Participants completed an additional seven questions designed for this study to measure the duration of anxiety/depression symptoms (0 = 'less than a month', 1 = '1-5 months', 2 = '6-12 months', 3 = 'over a year') and the degree of interference with activities at home/school/friends/outside the school caused by any endorsed symptoms (0 = 'not at all', 1 = 'only a little', 2 = 'quite a lot', 3 = 'a great deal'). The content of these questions was informed by other similar questionnaires, including the Strengths and Difficulties Questionnaire (SDQ)-Impact Supplement (Goodman, 1999). The individual item score (from 0 to 3) was calculated for each symptom duration/impact item.

Moods and Feelings Questionnaire (MFQ-C/P; Angold & Costello, 1987). The MFQ is a 33-item (34-item for parent version) screening tool for depression in children and young people, aged between 6 and 17. Respondents are asked to report how they have been feeling or acting in the past two weeks. For each item, they can respond with 'not true' (0), 'sometimes' (1) or 'true' (2). The MFQ total score is calculated by summing participants' responses to all items. In the present study, we used the MFQ total score and individual item scores for four items assessing young people's suicidal ideation ('thought about killing self', 'thought about death or dying', 'thought family would be better off without self' and 'thought life was not worth living'). The utility of these four items to accurately identify adolescents with suicidal ideation has been established in previous research (Hammerton, Zammit, Potter, Thapar, & Collishaw, 2014). For the current study, participants' responses to each of these four items were transformed to a scale from 0 to 3 using linear transformation (Jonge, Veenhoven, & Arends, 2014) to match the RCADS response scale. These transformed individual item scores (0, 1.5 or 3) were used in individual item analyses.

Prior to transforming individual items, MFQ total scores were calculated by summing participants' responses (0 to 2) to all MFQ items.

Diagnostic Interviews

The following diagnostic interviews were administered with the clinic-referred sample to assess the presence of an anxiety and/or depressive disorder in young people. Assessors were psychology graduates specifically trained to deliver the diagnostic assessments. All assessments were discussed with an experienced member of the assessment team to agree on a consensus diagnosis. Inter-rater reliability for the presence of an anxiety diagnosis on the ADIS-C/P $\kappa = 1.00$ and CSR ICC = .93, and of a K-SADS depression diagnoses was $\kappa = 1.00$.

Anxiety Disorder Interview Schedule – Child-Parent Version (ADIS-IV-C/P; Albano & Silverman, 1996).The ADIS-IV-C/P is based on the DSM-IV-TR (APA, 2000) and consists of two semi-structured interviews (separately with the adolescent and their parent) designed to assess anxiety and other disorders in children and adolescents aged 7–16. In the present study, the anxiety sections of the ADIS-IV-C/P were used to determine whether the adolescent met diagnostic criteria for any anxiety disorder. Minor adaptations to the interview schedule were made so the diagnoses were assigned based on the DSM-5. If the adolescent met symptom criteria for a diagnosis, based on either their report or that of their parent, then the clinician would assign a Clinician Severity Rating (CSR), ranging from 0 to 8; a CSR of 4 or more would indicate that the young person met criteria for diagnosis. The diagnosis with the highest CSR was considered to be the primary diagnosis. Studies using the ADIS-IV-C/P provide strong empirical support for its good test-retest reliability

(Silverman, Saavedra, & Pina, 2001) and high levels of inter-rater agreement (Lyneham, Abbott, & Rapee, 2007). The concurrent validity of the diagnostic tool is especially good for the anxiety section (Wood, Piacentini, Bergman, McCracken, & Barrios, 2002). As such, ADIS-IV-C/P has been considered as a 'gold standard' measure of anxiety disorders in young people's clinical research.

Kiddie Schedule for Affective Disorders and Schizophrenia – Present and Lifetime Version (K-SADS-PL DSM-5; Kaufman et al., 2016).The K-SADS-PL is a semi-structured integrated parent and child interview for affective disorders and schizophrenia. In the current study, a DSM-5 (APA, 1994) version of the K-SADS was used. The administration of the interview lasts approximately 30 minutes with each respondent, and young people and caregivers are interviewed separately. Research studies support adequate psychometric characteristics of the K-SADS-PL with high interrater and test-retest reliability and concurrent validity (Kaufman et al., 1997). The K-SADS-PL is more widely used in clinical research focused on depression than the ADIS-C/P (Spence, 2018), and in the present study, the depression and mania sections of the K-SADS-PL child and parent interview were used to determine the presence/absence of depressive disorders in adolescents. As per a standard procedure, the diagnosis of depressive disorder was assigned based on adolescent- and parent report combined. In addition, CSR scores were assigned in a similar way as the ADIS-C/P to provide a comparable estimate of the symptom severity/interference.

Data Analytical Strategy

Sample Size Calculation

We computed an *a priori* power analysis for a Receiver Operating Characteristics (ROC) curve using R, package 'pROC' (Robin et al., 2011). Power

analysis determined a minimum sample size of 30 participants in each group included in ROC analyses (i.e. participants from the community sample, clinic-referred anxiety subsample and clinic-referred depression subsample) to achieve a sufficient power of .80 with an Area Under the Curve (AUC) of .70 and $\alpha = .05$.

The following procedure was used to identify items for inclusion in the brief screen for anxiety and depression (adolescent- and parent-report versions):

1. Symptom Item Reduction

The pool of potential anxiety items consisted of 31 anxiety items from the RCADS anxiety subscale (i.e. all anxiety items excluding the OCD items), and the pool of potential depression items consisted of 10 depression items from the RCADS depression subscale. To examine the functioning of potential anxiety items, we combined the community sample (n = 214) and the clinic-referred anxiety subsample (n = 230). Similarly, we examined the functioning of potential depression items by combining the community sample (n = 214) with the clinic-referred depression subsample (n = 81). We performed the following analyses to reduce the pool of eligible items for adolescent- and parent-report separately: 1) we examined item-total score correlations (anxiety: item-RCADS-C/P anxiety total correlation; depression: item-RCADS-C/P depression total correlation), 2) we calculated the item-discrimination indices using point biserial correlation coefficient (anxiety: item-presence of an anxiety disorder correlation, depression: item-presence of a depressive disorder correlation). In addition, we calculated partial correlations by controlling item-discrimination indices for participants' gender (female/male) and age group ('early' [11-14 years] and 'late' [15-17 years] adolescence), to ensure that only items that performed similarly across both genders/age groups were selected, 3) we investigated the number of missing values. Items with either high (> .70) item-total score correlation or high (> .30) item-

discrimination index, and with a low (< 10%) proportion of missing values were further considered.

2. Examining the Functioning of Alternative Subsets of RCADS Items

First, we created alternative adolescent-report anxiety/depression brief item sets by removing eligible items with the lowest item-discrimination indices one by one. We also considered the content of the items to minimise overlapping content among items, and removed items where the meaning was very similar to an alternative item. We then used ROC curve analyses to compare the ability of 1) alternative subsets of RCADS anxiety items to discriminate between the community sample and the clinic-referred anxiety subsample, and 2) alternative subsets of RCADS depression items to discriminate between the community sample and the clinic-referred depression subsample. Following previous research using similar methodology (e.g. Reardon, Spence, Hesse, Shakir, & Creswell, 2017) we set a threshold value of AUC = .7. As the item sets were identified for screening purposes, sensitivity of the cut-off score was prioritised over specificity (Kraemer, 1992). The cut-off scores with sensitivity of > .8 and specificity of > .7 were calculated. Where sensitivity/specificity > .8/.7 were not achievable, cut-off scores with sensitivity/specificity > .7/.7 or >.7/.6 were considered. We repeated the ROC analyses across different gender (female/male) and age ('early' [11-14 years] and 'late' [15-17 years] adolescence) groups to identify item sets that performed similarly across gender/age troups.

Once we had identified the brief set of adolescent-report anxiety items and depression items, we then examined the functioning of alternative parent-report anxiety/depression item combinations using the same ROC analyses. Given the practical utility of including common items across adolescent- and parent-report, firstly we examined the functioning of parent-report anxiety/depression brief item sets that

included the same items as the final combinations for adolescent-report. Then, we created alternative parent-report anxiety/depression item combinations, using the same procedure as we used for adolescent-report (i.e. by removing eligible parent-report items with the lowest item-discrimination indices one by one) to identify the 'optimal' set of parent-report anxiety/depression items, and compared these to parent-report item sets that included the same items as those identified for adolescent-report.

3. Examining the Functioning of Items Assessing Suicidal Ideation and Symptom Impact and Duration Items and Whether Adding Them Improves the Measures

We calculated item-discrimination indices using point biserial correlation coefficients for the 1) items assessing young people's suicidal ideation and the presence of depressive disorder diagnosis, and 2) symptom impact and duration items and the presence of any anxiety/depressive disorder. Items with a high (> .30) item-discrimination index, and a low (< 10%) proportion of missing values were further considered. Similar to the process of identifying brief subsets of symptom items, we then used ROC analyses to identify items assessing 1) suicidal ideation and 2) symptom impact/duration, to use together with the brief sets of symptom items. Suicidal ideation/impact and duration items with the lowest item-discrimination indices were removed one by one. We then examined the functioning of parent-report brief depression/total symptom item sets together with the same suidical ideation/symptom impact and duration items that were identified in adolescent-report. The same procedure (i.e. by removing items with the lowest item-discrimination indices one by one) was then repeated for the parent-report to identify the optimal combinations of suicidal ideation/impact and duration items to use together with the brief depression/total symptom item sets for parent-report. We then compared these to using the same suicidal ideation/symptom impact and duration items as the adolescent-report. Finally, we used

a series of logistic regressions to establish whether adding the identified combination of 1) suicidal ideation items improved the ability of the brief depression screen to discriminate between adolescents in the community and clinic-referred depression subsample, and 2) symptom impact and duration items improved the ability of the brief total screen to discriminate between adolescents in the community and clinic-referred sample. Independent variables were added in logistic regression model one by one, starting with the brief depression/total symptoms item set.

4. Combining Adolescent-Report and Parent-Report

We examined whether combining adolescent- and parent-report improved the identification of adolescents with an anxiety/depressive disorder diagnosis, compared to using adolescent-report alone. We performed logistic regressions with the adolescent group (i.e. community sample and clinic-referred anxiety/depression subsample) as the dependent variable and different combination of participants' responses (i.e. adolescent-report and adolescent-report + parent-report) as independent variables. Participants' responses were added to the regression models one by one, starting with the adolescent-report.

5. Psychometric Evaluation of the Brief set of RCADS Anxiety and Depression Item Sets and Comparison With the RCADS-47 and the RCADS-25

Using the brief set of RCADS items, we calculated adolescent- and parent-report brief anxiety, depression and total scores for all participants by summing their responses to corresponding items. We then calculated the following psychometric properties of the brief adolescent- and parent-report anxiety/depression/total scores, and compared these with the corresponding properties of the RCADS-47 and RCADS-25 anxiety/depression/total scores: internal consistency, convergent, discriminant, and criterion validity. Internal consistency was calculated using Cronbach's alpha

coefficients. We assessed convergent validity using Pearson correlation coefficients between the brief depression score/RCADS-47 depression score/RCADS-25 depression score and MFQ total score, and divergent validity using Pearson correlation coefficients between the brief anxiety score/RCADS-47 anxiety score/RCADS-25 anxiety score and MFQ total scores. Criterion validity of the brief anxiety/depression/total score, and RCADS/RCADS-25 anxiety/depression/total scores was assessed using ROC curve analyses following procedures described previously, to identify the AUC and optimal cut-off scores and their corresponding sensitivity/specificity values for the optimal cut-off scores. ROC curve analyses were repeated for separate gender and age groups.

Missing data

Across all items, missing responses were < 4% in the community sample and <14% in the clinic-referred sample, with the exception of MFQ-C/P and symptom impact items and duration items in the clinic referred sample (29-43%), which as detailed above were only introduced into the routine initial assessment in May 2017 (symptom impact and duration items) and March 2018 (MFQ-C/P). Following previous research (e.g. Donnelly et al., 2019), we handled all the missing values as pairwise missing. We performed sensitivity analyses to confirm that the clinic-referred sample of adolescents without MFQ-C/P responses was not significantly different from the clinic-referred sample of adolescents who had fully completed the questionnaires. Mean RCADS-C/P anxiety and depression scores were calculated for participants in the clinic-referred sample who had fully completed the questionnaires and for the participants that had only completed RCADS-C/P. Means were compared using independent samples *t*-tests. In addition, we calculated Pearsons's correlation coefficients between RCADS anxiety and depression subscales for participants with fully and partially completed questionnaires. No significant differences were found

between the two groups of adolescents, confirming that these data can be treated as missing completely at random (MCAR).

Due to the large sample sizes (> 200), we used a conservative *p*-value of 0.01. All the analyses were performed using R version 3.6.1 (R Core Team, 2019) packages 'cvAUC' (LeDell, Petersen, & Van der Laan, 2014), 'pROC' (Robin et al., 2011), and 'psych' (Revelle, 2018).

Results

1. **Symptom Item Reduction**

Item-anxiety/depression total correlations and item-discrimination indices (total; controlled for adolescents' gender and age) for adolescent-report are displayed in Table 2. Corresponding item-total correlations and item-discrimination indices for parent-report are provided in online supplement 1.

Table 2

Rank-ordered item-total correlations and item-discrimination indices for the RCADS-C items

Item number	Item (RCADS Subscale)	Item-total	Item-anxiety/depression diagnosis correlation		
			Total	Control led for Gender	Control led for age
	Anxiety items				
RCADS35[a,b]	I worry about what is going to happen (GAD)	.76*	.38*	.35*	.37*
RCADS28[a,b]	When I have a problem, I feel shaky (PD)	.72*	.32*	.28*	.31*
RCADS41[a,b]	I worry that I will suddenly get a scared feeling when there is nothing to be afraid of (PD)	.71*	.31*	.27*	.29*
RCADS22[a,b]	I worry that bad things will happen to me (GAD)	.71*	.26*	.24*	.27*

Item number	Item (RCADS Subscale)	Item-total	Item-anxiety/depression diagnosis correlation		
			Total	Control led for Gender	Control led for age
RCADS24[a,b]	When I have a problem, my heart beats really fast (PD)	.71*	.36*	.32*	.35*
RCADS20[a,b]	I worry I might look foolish (SOC)	.71*	.35*	.31*	.33*
RCADS34[a,b]	All of a sudden I feel really scared for no reason at all (PD)	.71*	.37*	.33*	.36*
RCADS1[a,b]	I worry about things (GAD)	.71*	.31*	.28*	.30*
RCADS43[b]	I feel afraid that I will make a fool of myself in front of people (SOC)	.68*	.27*	.24*	.26*
RCADS14[b]	I suddenly feel as if I can't breathe when there is no reason for this (PD)	.68*	.27*	.24*	.26*
RCADS27[b]	I worry that something bad will happen to me (GAD)	.68*	.25*	.23*	.25*
RCADS30[b]	I worry about making mistakes (SOC)	.67*	.25*	.22*	.24*
RCADS12[b]	I worry that I will do badly at my school work (SOC)	.65*	.26*	.22*	.24*
RCADS32	I worry what other people think of me (SOC)	.64*	.28*	.24*	.27*
RCADS7[b]	I feel scared when I have to take a test (SOC)	.64*	.26*	.22*	.24*
RCADS39[b]	My heart suddenly starts to beat too quickly for no reason (PD)	.64*	.26*	.23*	.25*
RCADS26	I suddenly start to tremble or shake when there is no reason for this (PD)	.63*	.27*	.24*	.26*
RCADS8[b]	I feel worried when I think someone is angry with me (SOC)	.62*	.26*	.22*	.25*
RCADS3[a,b]	When I have a problem, I get a funny feeling in my stomach (PD)	.61*	.30*	.26*	.29*
RCADS18[a,b]	I have trouble going to school in the mornings because I feel nervous or afraid (SEP)	.61*	.47*	.45*	.47*
RCADS4[b]	I worry when I think I have done poorly at something (SOC)	.61*	.20*	.17*	.17*
RCADS45[a,b]	I worry when I go to bed at night (SEP)	.61*	.41*	.38*	.41*
RCADS33[a,b]	I am afraid of being in crowded places (like shopping centres, the cinema, buses, busy playgrounds) (SEP)	.60*	.31*	.28*	.30*
RCADS36	I suddenly become dizzy or faint when there is no reason for this (PD)	.55*	.20*	.16*	.19*
RCADS13	I worry that something awful will happen to someone in my family (GAD)	.54*	.07	.02	.07
RCADS38[b]	I feel afraid if I have to talk in front of my class (SOC)	.53*	.22*	.18*	.21*
RCADS37	I think about death (GAD)	.51*	.14*	.12*	.14*

Item number	Item (RCADS Subscale)	Item-total	Item-anxiety/depression diagnosis correlation		
			Total	Control led for Gender	Control led for age
RCADS46[b]	I would feel scared if I had to stay away from home overnight (SEP)	.48*	.26*	.24*	.28*
RCADS9	I worry about being away from my parents (SEP)	.48*	.10	.07	.12
RCADS5	I would feel afraid of being on my own at home (SEP)	.47*	.25*	.22*	.26*
RCADS17	I feel scared if I have to sleep on my own (SEP)	.41*	.18*	.15*	.20*
	Depression items				
RCADS29[a,b]	I feel worthless (MDD)	.81*	.40*	.39*	.38*
RCADS19[a,b]	I have no energy for things (MDD)	.80*	.44*	.43*	.40*
RCADS40[a,b]	I feel like I don't want to move (MDD)	.79*	.35*	.33*	.32*
RCADS2[a,b]	I feel sad or empty (MDD)	.77*	.40*	.39*	.36*
RCADS21[a,b]	I am tired a lot (MDD)	.75*	.40*	.39*	.35*
RCADS47[a]	I feel restless (MDD)	.75*	.31*	.30*	.28*
RCADS6[a,b]	Nothing is much fun anymore (MDD)	.73*	.41*	.41*	.38*
RCADS25[a,b]	I cannot think clearly (MDD)	.73*	.29*	.28*	.27*
RCADS11[b]	I have trouble sleeping (MDD)	.64*	.28*	.26*	.28*
RCADS15[a]	I have problems with my appetite (MDD)	.64*	.31*	.30*	.29*

Note. GAD = generalised anxiety disorder, PD = panic disorder, SOC = social anxiety disorder, SEP = separation anxiety disorder, [a]Item retained in the reduced pool of eligible adolescent-report anxiety items, [b]Item retained in the reduced pool of eligible parent-report anxiety items, *$p < .01$.

Anxiety Items

All RCADS-C/P anxiety symptom items were significantly ($p < .01$) correlated with the RCADS-C/P anxiety total score, with correlations ranging from .41 to .76 for adolescent-report items and from .43 to .81 for parent-report items. With the exception of item 13 ('I worry that something awful will happen to someone in my family') and item 9 ('I worry about being away from my parents'), all RCADS-C anxiety items discriminated between the clinic-referred anxiety subsample and the community sample ($p < .01$), and this was maintained after controlling for adolescents' gender and age. All RCADS-P anxiety items were associated with adolescents' group (community versus

clinic-referred anxiety subsample; $p < .01$), and again, these associations were retained after controlling for adolescents' gender and age. Twelve RCADS-C anxiety symptom items had an item-total correlation ≥.7 and/or item-discrimination index ≥.3 and were therefore further considered for inclusion the brief RCADS anxiety item set. Notably, 24 RCADS-P items met the same criteria, including parent-report versions of all 12 retained RCADS-C items.

Depression Items

Correlations between the RCADS-C/P depression items and the RCADS-C/P depression total score were moderate to large (ranging from .60 to .81 for adolescent-report and from .49 to .83 for parent-report, $p < .01$). All adolescent and parent-report depression symptom items discriminated between the community and clinic-referred depression subsample, with item discrimination indices ranging from .16 to .40 for adolescent-report and .25 to .42 for parent-report. As with the anxiety items, these associations remained significant ($p < .01$) for both adolescent- and parent-report after controlling for adolescent gender and age. Nine adolescent-report and 8 parent-report depression symptom items had an item-total correlation ≥.7 and/or item-discrimination index ≥.3 and were retained for further consideration, including seven common items across the reduced adolescent/parent-report item pool.

2. **Alternative Numbers of Items**

Findings from a series of ROC curve analyses examining the functioning of alternative subsets of adolescent-report anxiety items (≤12 items) and depression items (≤9 items) are displayed in online supplement 2.[3]

[3] We used the same procedure to examine the functioning of alternative parent-report anxiety (≤24 items) and depression (≤9 items) subsets. The ROC curve analyses confirmed that the brief parent-report anxiety item set achieved an AUC of .84 which was not significantly different ($p = .16$) from the parent-report anxiety set that included the same items identified for adolescent-report of anxiety. The brief parent-report depression item set included the same five items as for adolescent-report of depression.

Anxiety Item Selection

The final subset of adolescent-report RCADS anxiety items consisted of six anxiety symptom items (RCADS-C 18, 45, 35, 34, 24, 20) assessing symptoms associated with separation anxiety disorder, generalised anxiety disorder, panic disorder and social anxiety disorder. The set of 6-items identified adolescents in the clinic-referred anxiety subsample with an AUC of .81 and using an optimal cut-off score of 7.5, achieved sensitivity/specificity values of .77/.74. Parent-report on the same 6 anxiety items achieved an AUC of .86, and the optimal cut-off of 5.5 was associated with sensitivity/specificity values of .80/.70.

Depression Item Selection

The final subset of adolescent-report RCADS depression items consisted of five depressive symptoms items (RCADS 19, 6, 29, 2, 21), reflecting a lack of energy/fatigue, anhedonia, feelings of worthlessness and depressed mood. The 5 items identified adolescents in the clinic-referred depression subsample with an AUC of .89 and an optimal cut-off score of 9.25 was associated with sensitivity/specificity values of .83/.79. Parent-report using the same 5 depression items as identified for adolescents achieved an AUC of .87 and an optimal cut-off score of 6.75, with sensitivity/specificity values of .90/.77 respectively.

3. **Examining the Functioning of Items Assessing Risk of Suicide/Self-Harm and Symptom Impact and Duration**

Online supplement 3 displays 1) the rank ordered item discrimination indices for items assessing suicidal ideation and symptom impact and duration, 2) findings from the ROC curve analyses using alternative combinations of suicidal ideation/impact and duration items together with the 5 RCADS depression items/11 RCADS items and 3) a

series of binary logistic regressions using either adolescent-report or parent-report, with and without additional items assessing suicidal ideation/impact/duration.

Adding one item assessing suicidal ideation (MFQ 19-C/P 'I/My child thought about killing myself/himself/herself') to the 5 RCADS depression items achieved AUC values of > .80, and sensitivity/specificity values of 83/.79 (adolescent-report) and .90/.77 (parent-report). However, the results of the binary logistic regressions illustrated that this item did not make a significant contribution to the identification of adolescents in the clinic-referred depression sample (adolescent-report: $\chi^2(1) = 6.23$, $p = .013$, parent-report: $\chi^2(1) = .451$, $p = .502$).

Using two of the symptom impact items ('How much do these difficulties upset or distress you/your child?' and 'How much do these difficulties get in the way of your/your child's everyday life at school?') in combination with the 11 RCADS items achieved AUC values of .82-.90, with optimal cut-off total scores associated with sensitivity/specificity values of .84/.72 and .82/.80 for adolescent-report and parent-report respectively. The results of binary logistic regressions showed that adding these two impact items improved the overall identification of adolescents in the clinic-referred sample, using both adolescent-report ($\chi^2(1) = 26.59$, $p < .01$) and parent-report ($\chi^2(1) = 17.06$, $p < .01$). Notably, the two impact questions better predicted whether adolescents were in the clinic-referred sample or the community sample than the symptom items (odds ratio [OR] 1.12 and 1.16, compared to 1.85 and 1.69, for adolescent- and parent-report respectively).

4. **Combining Respondents**

Both adolescent- and parent-report made a significant contribution to identifying adolescents in the clinic-referred anxiety subsample versus the community sample (OR = 1.15 and 1.35, respectively). Adding parent-report improved the overall logistic

regression model ($\chi^2(1) = 69.08$, $p < .01$), indicating that a combination of adolescent-report and parent-report provides more accurate identification of adolescents with anxiety disorders than adolescent-report alone. Adolescent-report and parent-report depression items both significantly contributed to accurate identification of depressive disorders (OR = 1.49 and 1.33, respectively, $p < .01$). Adding parent-report improved the overall regression model fit ($\chi^2(1) = 26.00$, $p < .01$), indicating that the combination of adolescent- and parent-report leads to the most accurate identification of adolescents with depressive disorders.

5. **Psychometric Evaluation of the 11 RCADS Items and Comparison With the RCADS-47 and the RCADS-25**

Internal Consistency

The Cronbach's alpha coefficient for the 11 RCADS items ranged from .68-.85 in the total clinic-referred sample, .67-.85 in the clinic-referred anxiety subsample, .67-.80 in the clinic-referred depression subsample and .82-.90 in the community sample, demonstrating acceptable/good internal consistency. Cronbach's alpha coefficients with 95% confidence intervals for the 11-item RCADS total score and the 5-item depression score/6 item anxiety score, and the RCADS-47 and RCADS-25 are outlined in Online supplement 4.

Convergent and Divergent Validity

The correlation coefficients between the 5-item depression score and the MFQ-C/P total scores were moderate to high (ranging from .63 to .80, $p < .01$) in the community sample, total clinic-referred sample and both clinic-referred subsamples, demonstrating favourable convergent validity. Similarly, correlations between 6-item anxiety score and MFQ-C/P total scores were at least moderate (.50 to .77, $p < .01$) in the community sample, total clinic-referred sample, and clinic-referred anxiety

subsample, but weak to moderate (≤.44, $p > 0.01$) in the clinic-referred depression subsample. Corresponding convergent/divergent validity coefficients for the RCADS-47 and the RCADS-25 were comparable to those for the 11-item RCADS, with similar patterns of associations in each sample (see online supplement 5).

Criterion Validity/ROC Curve Analyses

The AUC and optimal cut-off scores, with corresponding sensitivity/specificity values for the 11-item RCADS, the RCADS-47, and the RCADS-25 are outlined in Table 3 (adolescent-report) and online supplement 6 (parent-report). Analyses are presented for the total sample and subsamples (girls, boys, older and younger adolescents)[4].

Table 3

ROC curve analyses for the 11-items from RCADS-C (current study), the RCADS-47-C, and the RCADS-25-C

	RCADS: Anxiety			RCADS: Depression			RCADS: Total		
Number of items	6[a]	37[b]	15[c]	5[a]	10[b]	10[c]	11[a]	47[b]	25[c]
Total									
AUC	.81	.74	.71	.87	.86	.86	.82	.76	.75
Cut-off	7.5	44.5	13.5	8.5	15.5	15.5	12.5	56.1	27
Sensitivity/ Specificity	.77/.74	.70/.69	.73/.61	.82/.77	.76/.76	.76/.76	.80/.71	.71/.70	.70/.68
n (positive; negative)	221;226	228;230	229;229	79;366	80;379	80;379	230;204	244;21 4	245;21 4
Boys									
AUC	.85	.78	.72	.93	.93	.93	.87	.81	.78
Cut-off	4.5	32.4	10.9	7.5	13.5	13.5	8.5	42.9	21.5
Sensitivity/ Specificity	.83/.75	.74/.71	.70/.62	.88/.83	.88/.77	.88/.77	.84/.70	.75/.75	.75/.74

[4] Sample sizes for adolescent boys and younger adolescents in the clinic-referred depression subsample were less than 30 (n = 17 and 21). The *post-hoc* power calculations determined that the results based on these sample sizes at the given AUC were still sufficiently powered.

	RCADS: Anxiety			RCADS: Depression			RCADS: Total		
Number of items	6[a]	37[b]	15[c]	5[a]	10[b]	10[c]	11[a]	47[b]	25[c]
n (positive; negative)	48;95	53;95	53;95	17;126	17;131	17;131	51;87	57;91	57;91
Girls									
AUC	.77	.71	.68	.84	.83	.83	.77	.72	.71
Cut-off	8.5	45.1	15.5	8.5	15.5	15.5	14.5	59.5	28.6
Sensitivity/ Specificity	.73/.70	.74/.62	.68/.61	.82/.71	.75/.71	.75/.71	.72/.68	.70/.64	.70/.62
n (positive; negative)	173;131	175;135	176;134	62;240	63;248	63;248	179;117	187;123	188;123
Older adolescents									
AUC	.82	.75	.73	.83	.82	.82	.84	.77	.77
Cut-off	7.5	45.1	14.5	8.5	15.5	15.5	14.5	58.1	28.6
Sensitivity/ Specificity	.81/.80	.71/.70	.70/.65	.79/.70	.73/.72	.73/.72	.80/.76	.73/.73	.73/.73
n (positive; negative)	110;77	112;80	113;79	58;131	59;134	59;134	120;63	126;66	127;66
Younger adolescents									
AUC	.80	.74	.70	.92	.92	.92	.78	.75	.73
Cut-off	7.5	41.6	13.5	8.5	16.8	16.8	11.5	51.5	23.5
Sensitivity/ Specificity	.74/.72	.72/.67	.72/.61	.90/.80	.86/.83	.86/.83	.78/.66	.70/.65	.68/.61
n (positive; negative)	111;149	116;150	116;150	21;235	21;245	21;245	110;141	118;148	118;148

Note. [a]11-item RCADS-C, [b]RCADS-C, [c]RCADS-25-C.

The brief adolescent-report for anxiety (6 items)/depression (5 items)/total (11 items) identified adolescents with either an anxiety or depressive disorder with a moderate-to-good level of accuracy, with AUC values > .70 (.77-.93). The optimal cut-off score for the anxiety items, depression items and total were associated with sensitivity/specificity values > .80/.70 or > .70/.70 in each group, with the exception of the 11-item RCADS total score among adolescent girls (sensitivity/specificity .72/.68) and younger adolescents (sensitivity/specificity .78/.66). The RCADS-47 and RCADS-25 achieved AUC values >.60 (.68-.93), although the optimal cut-off scores were associated with more varied sensitivity/specificity values than corresponding values for

the 11-item RCADS total score, ranging from .68/.61 and .74/.71 for the RCADS-47 and RCADS-25 anxiety subscales respectively to .73/.72 and .86/.83 for the RCADS-47 and RCADS-25 depression subscales.

The parent-report 11-item RCADS total score discriminated between adolescents in the community sample and adolescents in the clinic-referred sample with a good level of accuracy, with AUC values > .80 (.83 to .91). The sensitivity/specificity values > .80/.70 or > .70/.70 were achieved for the parent-report 5 anxiety items, 6 depression items and the 11-item total score in each group, ranging from .75/.75 to .84/.83 for the 6 anxiety items, and from .82/.74 to .93/.75 for the 5 depression items. The RCADS-P-47 and RCADS-25-P similarly achieved AUC values >.80, although notably, the sensitivity/specificity values associated with the optimal cut-off scores on the RCADS-P-47 and RCADS-P-25 did not exceed corresponding values for the 11-item RCADS-P, and this trend was consistent across both age and gender groups.

Discussion

Brief and accurate screening measures for symptoms of anxiety and depression in adolescents are needed to help identify young people with these commonly occurring mental health problems in community settings, such as schools or primary care services. Consequently, we identified 11 items from the widely-used RCADS to screen for DSM-5 anxiety and depressive disorders symptoms within this specific age range that were able to discriminate between the community sample of adolescents and a clinic-referred sample of adolescents with an anxiety/depressive disorder diagnosis. The study also identified two optional symptom impact questions that further increased the accuracy of 11 RCADS symptom items (items and scoring details are available in online supplement 7 and on the RCADS authors' website).

Two additional symptom impact items related to distress and interference at school further improved the accuracy of 11 RCADS adolescent- and parent-report symptom items, and notably, were able to better discriminate between adolescents in the community and clinic-referred sample than the symptom items alone. The superiority of impact items over symptom items when predicting mental health problems in children and adolescents is consistent with previous research (Evans et al., 2017; Goodman, 1999; Stringaris & Goodman, 2013). Items assessing adolescent's suicidal ideation on the other hand did not improve the accuracy of a brief set of depression items. Although suicidal ideation represents a common characteristic of adolescent depression in clinic-referred samples (e.g. Orchard et al., 2017), large-scale community studies (e.g. Vander Stoep, Mccauley, Flynn, & Stone, 2009) suggest that suicidal ideation is common in non-help-seeking populations as well with over 60% of adolescents experiencing suicidal thoughts at least once over the course of 18 months. Suicidal ideation, therefore, might not be a key characteristic that distinguishes adolescents in clinic-referred samples from those in community samples.

We found that using both adolescent-report and parent-report of the 11 RCADS items led to the most accurate discrimination between the community and clinic-referred sample of adolescents with anxiety/depressive disorder diagnosis, which is consistent with previous research (e.g. Choudhury, Pimentel, & Kendall, 1998; Goodman, Ford, Simmons, Gatward, & Meltzer, 2000; Villabø, Gere, Torgersen, March, & Kendall, 2012). In discriminating between a clinic-referred depression subsample and community sample, adolescent-report was superior to parent-report. However, perhaps surprisingly within this age group, in discriminating between a clinic-referred anxiety subsample and community sample, parent-report was better than adolescent-report. These findings are consistent with previous studies comparing single

informants for identifying anxiety disorders (Reardon et al., 2017) and depression (Lewis et al., 2014) in children and young people. It might be that the parents are more able to detect symptoms of observable behaviours, including anxiety, but not depressive symptoms, which are usually less noticeable (Martel, Markon, & Smith, 2017).

Together the 11 RCADS items demonstrated good psychometric properties which were comparable with those of the RCADS-47 and RCADS-25. Overall, sensitivity/specificity values of the depression and anxiety scores and the total score were at least >.70/.70, which was replicated across different age and gender groups, with the exception of the total score for adolescent girls and younger adolescents (sensitivity/specificity values of .72/.68 and .78/.66, respectively).

The internal consistency of the adolescent- and parent-report 11-item total score and 5-item depression score were good (Cronbach's alpha coefficients >.80) in the community sample, total clinic-referred sample, and clinic-referred anxiety subsample, although the adolescent- and parent-reported 6-item anxiety score demonstrated slightly lower, yet still acceptable, internal consistency values in the clinic-referred samples. Notably, the 11-item RCADS, as well as the RCADS-47 and RCADS-25 demonstrated better internal consistency in the community sample compared to the clinic-referred sample, consistent with previous research using the RCADS-47 and RCADS-25 (Piqueras et al., 2017).

The 5 RCADS depression items for adolescent- and parent-report strongly correlated with the MFQ-C/P evidencing convergent validity. Correlation coefficients between the 6 RCADS anxiety items and MFQ-C/P (divergent validity) were lower albeit still moderate and in most cases significant. This lack of divergent validity probably reflects high levels of comorbidity between anxiety and depressive symptoms in adolescents (Cummings, Caporino, & Kendall, 2014; Essau, 2003; Seligman &

Ollendick, 1998). Notably, the 11 RCADS items, and the RCADS-47/RCADS-25 demonstrated similar patterns of convergent and divergent validity for anxiety/depression scores for adolescent- and parent-report.

Implications

Due to the brevity, easy administration/scoring, and good levels of sensitivity and specificity, the 11 RCADS items identified in this study have potential for use in community settings, such as schools and primary care, as a measure to screen for anxiety or depressive disorders. For adolescent-report, we recommend using cut-off scores of ≥ 5 for adolescent boys, and ≥ 9 for adolescent girls (anxiety score), ≥ 8 for adolescent boys, and ≥ 9 for adolescent girls (depression score), and ≥ 9 for adolescent boys and ≥ 14 for adolescent girls (total score). Using additional impact questions, the cut-off for the total score increases to ≥ 14 for adolescent boys and ≥ 18 for adolescent girls. When using parent-report, we recommend using cut-offs of ≥ 5 (adolescent boys) and ≥ 7 (adolescent girls) for the anxiety score, ≥ 6 (adolescent boys) and ≥ 7 (adolescent girls) for the depression score, ≥ 8 (adolescent boys) and ≥ 11 (adolescent girls) for total score and ≥ 13 (adolescent boys) and ≥ 15 (adolescent girls) for total score with additional impact items.

To increase the accuracy of 11 RCADS items we recommend using two additional symptom impact items. Adolescents'/parents' responses to these two items should be interpreted in relation to the total score and not in relation to the depression or anxiety symptom scores alone. Similarly, two additional symptom impact items should not be used on their own, as their content specifically relates to reported anxiety/depressive symptoms, assessed with the 11 RCADS items. Our findings suggest that each respondent (i.e. adolescent and parent) makes a significant contribution to the identifying adolescents with anxiety and/or depressive disorders, which warrants the

single-informant approach in situations when only adolescent/parent is available. Ideally, the 11-RCADS items plus symptom impact items should be completed by both the adolescent and their parent/carer as this leads to the most accurate identification of young people with anxiety/depression. The items have the potential to be used on an individual basis, such as in primary care, or as a part of universal screening for anxiety and depressive disorders in schools. In each case, the items should be administered by well-trained health/social care/education professionals. When administered in schools as a part of universal screening, assent/consent for screening must be obtained from children and young people and their caregivers (Fazel et al., 2014). In addition, standard procedures (e.g. referral to specialist mental health services), including thorough risk assessment with adolescents scoring above the threshold for the depression items, should be followed with the identified adolescents (National Institute for Health and Care Excellence, 2019). Notably, screening can be seen as effective only if all these conditions are met and if the school/local services have the capacity to take care of those identified (Fazel et al., 2014).

Strengths and Limitations

We applied a rigorous methodological process to identify a brief set of RCADS items that are easy to use/interpret, and psychometrically adequate to discriminate between adolescents in a community sample and adolescents with a diagnosis of anxiety and/or depressive disorder diagnosis. The 11-item set from the RCADS was able to discriminate between those two groups of adolescents with comparable accuracy to the RCADS-47 and RCADS-25. The 11 items take only a few minutes to be completed, producing clear cut-off scores and the same items are used in both the adolescent- and parent-report versions, meaning items completed by different respondents can be easily compared. As such, the brief set of 11 items has the potential for use in community

settings where the primary purpose is to screen for any anxiety or depressive disorder, and administering longer questionnaires may not be feasible.

Nevertheless, our study has several limitations. First, only participants in the clinic-referred sample, and not those in the community sample, were assessed using the standardised diagnostic interviews. Given the prevalence rates of anxiety and depressive disorders in adolescents, some participants in the community sample might have met the criteria for anxiety and/or depressive disorders and were wrongly classified as participants without an anxiety/depressive disorder diagnosis (false negatives). Similarly, as sensitivity values of a brief item set were prioritised over specificity values, it is highly likely that a brief item set will identify a high number of adolescents without an anxiety/depressive disorder (false positives). In addition, the two samples were recruited through different methods (i.e. community sample through local secondary schools and clinic-referred sample through university-based clinic), and all participants in the clinic-referred sample were a help-seeking population (i.e. higher percentage of females and higher mean age than in a community sample) which might have contributed to differences between the samples. However, the demographic characteristics of the clinic-referred sample are consistent with previous studies investigating characteristics of clinically anxious and depressed adolescents (e.g. Orchard et al., 2017; Waite and Creswell, 2014), and all analyses were performed separately for both gender and age groups. Therefore, the influence of demographic variables on the final item selection should be minimised. As the clinic-referred sample was recruited through a specialised (anxiety and depression) clinic, our findings have limited generalisability to other diagnostically heterogenous clinic-referred samples. Furthermore, we used the same samples to both develop and evaluate items. Unlike the RCADS-47, the brief set of 11 items do not provide information about specific anxiety

disorders. In addition, the RCADS-47 and RCADS-25 items were developed through different methodological procedures and for different purposes than this brief screening tool, making it hard to draw direct comparisons between the psychometric characteristics of all three questionnaire measures. Finally, although we used an opt-out approach to collect adolescent-report questionnaires, which is recommended to maximise student participation and increase demographic variability (Eaton, Lowry, Brener, Grunbaum, & Kann, 2004; Liu, Cox, Washburn, Croff, & Crethar, 2017), parent response rates were still low (18.7%), and we are unable to establish the extent to which the community sample might differ from the wider population.

Future Research

Our findings highlighted several possibilities for future research. First, the screening items should be re-evaluated in a new community sample of adolescents and their parents. Participants in the community sample should be assessed with standardised diagnostic assessments so that the capacity to identify adolescents with and without specific anxiety/depressive disorders in the community can be evaluated. Finally, similar to the use of brief anxiety and mood measures to monitor routine clinical outcomes in adult services (Gyani, Shafran, Layard, & Clark, 2013), this brief set of items have the potential to be applied beyond screening purposes, such as to monitor progress through treatment of anxiety and depressive disorders in adolescents and, as such, the items' sensitivity to change warrants specific examination.

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4.4.Supplementary Materials

Radez, J., Waite, P., Chorpita, B., Creswell, C., Orchard, F., Percy, R., Spence, S.H. and Reardon, T. (under review). Using the 11-Iitem Version of the RCADS to Identify Anxiety and Depressive Disorders in Adolescents.

Electronic Supplementary Material 1: Rank-ordered item-total correlations and item-discrimination indices for the RCADS-P items

Rank-ordered item-total correlations and item-discrimination indices for the RCADS-P items

Item number	Item (RCADS Subscale)	Item-total	Item-anxiety/depression diagnosis correlation: Total	Controlled for Gender	Controlled for age
	Anxiety Items				
RCADS-P35	My child worries about what is going to happen (GAD)	.81*	.44*	.42*	.45*
RCADS-P1	My child worries about things (GAD)	.79*	.43*	.40*	.43*
RCADS-P22	My child worries that bad things will happen to him/her (GAD)	.76*	.43*	.41*	.45*
RCADS-P30	My child worries about making mistakes (SOC)	.76*	.43*	.40*	.42*
RCADS-P27	My child worries that something bad will happen to him/her (GAD)	.76*	.40*	.38*	.42*
RCADS-P45	My child worries when in bed at night (SEP)	.74*	.49*	.47*	.50*
RCADS-P32	My child worries what other people think of him/her (SOC)	.74*	.48*	.45*	.48*
RCADS-P43	My child feels afraid that he/she will make a fool of him/herself in front of people (SOC)	.74*	.49*	.46*	.48*
RCADS-P41	My child worries that he/she will suddenly get a scared feeling when there is nothing to be afraid of (PD)	.73*	.42*	.40*	.42*
RCADS-P20	My child worries about looking foolish (SOC)	.73*	.53*	.50*	.53*
RCADS-P34[a]	All of a sudden my child will feel really scared for no reason at all (PD)	.71*	.40*	.37*	.41*
RCADS-P4	My child worries when he/she thinks he/she has done poorly at something (SOC)	.70*	.35*	.32*	.34*
RCADS-P24	When my child has a problem, his/her heart beats really fast (PD)	.70*	.42*	.40*	.41*
RCADS-P7	My child feels scared when taking a test (SOC)	.70*	.36*	.33*	.36*
RCADS-P12	My child worries about doing badly at school work (SOC)	.69*	.41*	.38*	.40*
RCADS-P18	My child has trouble going to school in the mornings because of feeling nervous or afraid (SEP)	.69*	.45*	.44*	.47*
RCADS-P28	When my child has a problem, he/she feels shaky (PD)	.67*	.39*	.37*	.39*
RCADS-P8	My child worries when he/she thinks someone is angry with him/her (SOC)	.67*	.33*	.31*	.34*

RCADS-P33	My child is afraid of being in crowded places (like shopping centres, the cinema, buses, busy playgrounds) (SEP)	.66*	.41*	.39*	.42*
RCADS-P13	My child worries that something awful will happen to someone in the family (GAD)	.65*	.27*	.25*	.28*
RCADS-P3	When my child has a problem, he/she gets a funny feeling in his/her stomach (PD)	.63*	.41*	.38*	.41*
RCADS-P38	My child feels afraid if he/she has to talk in front of the class (SOC)	.63*	.38*	.36*	.38*
RCADS-P14[a]	My child suddenly feels as if he/she can't breathe when there is no reason for this (PD)	.61*	.31*	.28*	.30*
RCADS-P39[a]	My child's heart suddenly starts to beat too quickly for no reason (PD)	.61*	.38*	.35*	.37*
RCADS-P46	My child would feel scared if he/she had to stay away from home overnight (SEP)	.56*	.31*	.29*	.33*
RCADS-P37	My child thinks about death (GAD)	.55*	.28*	.26*	.29*
RCADS-P26[a]	My child suddenly start to tremble or shake when there is no reason for this (PD)	.54*	.29*	.27*	.28*
RCADS-P9	My child worries about being away from me (SEP)	.54*	.18*	.15*	.21*
RCADS-P5	My child feels afraid of being alone at home (SEP)	.51*	.23*	.20*	.24*
RCADS-P17[a]	My child feels scared to sleep on his/her own (SEP)	.47*	.22*	.20*	.26*
RCADS-P36[a]	My child suddenly become dizzy or faint when there is no reason for this (PD)	.43*	.22*	.19*	.21*
	Depression Items				
RCADS-P19	My child has no energy for things (MDD)	.83*	.42*	.41*	.39*
RCADS-P29	My child feels worthless (MDD)	.81*	.37*	.36*	.37*
RCADS-P21	My child is tired a lot (MDD)	.80*	.42*	.41*	.38*
RCADS-P2	My child feels sad or empty (MDD)	.78*	.40*	.39*	.39*
RCADS-P6	Nothing is much fun for my child anymore (MDD)	.76*	.39*	.38*	.37*
RCADS-P25	My child cannot think clearly (MDD)	.74*	.28*	.27*	.28*
RCADS-P11	My child has trouble sleeping (MDD)	.71*	.29*	.28*	.29*
RCADS-P40	My child feels like he/she doesn't want to move (MDD)	.69*	.30*	.28*	.28*
RCADS-P15	My child has problems with his/her appetite (MDD)	.68*	.29*	.27*	.27*

RCADS-P47	My child feel restless (MDD)	.67*	.25*	.24*	.23*

Note. GAD = generalised anxiety disorder, PD = panic disorder, SOC = social anxiety disorder, SEP = separation anxiety disorder, [a]Item > 80% of responses 'never' in a community sample, *$p < .01$

Electronic Supplementary Material 2: ROC analyses for alternative combinations of adolescent-report anxiety items (≤12 items) and depression items (≤9 items) compared to RCADS-47 and RCADS-25

ROC analyses for alternative combinations of adolescent-report anxiety items (≤12 items) and depression items (≤9 items) compared to RCADS-47 and RCADS-25.

		Total			Boys		Girls		Older adolescents		Younger adolescents	
Scale	Number of items	AUC (total)	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec
RCADS-47- Anxiety	31	.75	38.5	.72/ .69	26.5	.77/ .73	41.5	.70/ .67	38.5	.77/ .65	35.5	.72/ .66
RCADS-25 - Anxiety	15	.71	13.5	.73/ .61	10.9	.70/ .62	15.5	.68/ .61	14.5	.70/ .65	13.5	.72/ .61
Anx 1	12	.79	15.5	.73/ .72	8.5	.82/ .72	17.5	.72/ .68	15.5	.79/ .71	14.5	.73/ .68
Anx 2	11	.79	13.5	.76/ .68	9.5	.83/ .74	15.5	.74/ .66	14.5	.78/ .71	13.5	.72/ .70
Anx 3	10	.80	12.5	.75/ .72	7.5	.81/ .72	13.5	.74/ .67	13.5	.77/ .75	11.5	.76/ .68
Anx 4	9	.80	11.5	.74/ .73	7.5	.79/ .74	12.5	.74/ .67	12.5	.76/ .75	10.5	.74/ .69
Anx 5	8	.80	10.5	.77/ .72	7.5	.79/ .77	11.5	.75/ .66	10.5	.83/ .70	9.5	.79/ .69
Anx 6	7	.80	8.5	.77/ .72	5.5	.81/ .74	9.5	.75/ .67	8.5	.82/ .73	8.5	.72/ .71
Anx 7	**6**	**.81**	**7.5**	**.77/ .74**	**4.5**	**.83/ .75**	**8.5**	**.73/ .70**	**7.5**	**.81/ .78**	**7.5**	**.74/ .72**
Anx 8	5	.81	5.5	.76/ .73	3.5	.86/ .75	6.5	.76/ .70	5.5	.79/ .75	5.5	.72/ .71
Anx 9	4	.81	3.5	.83/ .66	2.5	.88/ .74	4.5	.76/ .68	3.5	.86/ .68	3.5	.81/ .65
Anx 10	3	.81	2.5	.88/ .71	2.5	.85/ .78	3.5	.77/ .69	3.5	.77/ .74	2.5	.87/ .62
Anx 11	2	.81	1.5	.82/ .70	0.5	.91/ .65	1.5	.85/ .57	1.5	.80/ .65	1.5	.83/ .73

Note. Anx 1-11= alternative anxiety item sets, Sens/Spec = Sensitivity/Specificity.

		Total			Boys		Girls		Older adolescents		Younger adolescents	
Scale	Number of items	AUC (total)	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec
RCADS-47 - Depression	10	.86	14.7	.83/ .71	13.5	.88/ .77	15.5	.75/ .71	15.5	.73/ .72	16.8	.86/ .83
RCADS-25 - Depression	10	.86	14.7	.83/ .71	13.5	.88/ .77	15.5	.75/ .71	15.5	.73/ .72	16.8	.86/ .83
Depr 1	9	.86	13.5	.79/ .74	12.5	.80/ .80	13.5	.79/ .68	13.5	.77/ .68	14.5	.80/ .79
Depr 2	8	.87	12.5	.79/ .78	10.5	1/ .78	12.5	.79/ .73	12.5	.77/ .75	12.5	.85/ .79

			10.	.81/		.94/	10.	.81/	10.	.79/	10.	.85/
Depr 3	7	.87	5	.74	9.5	.80	5	.69	5	.69	5	.77
				.81/		.88/		.82/		.79/		.86/
Depr 4	6	.86	9.5	.76	8.5	.80	9.5	.71	9.5	.71	9.5	.78
				.82/		**.88/**		**.82/**		**.79/**		**.90/**
Depr 5	**5**	**.87**	**8.5**	**.77**	**7.5**	**.83**	**8.5**	**.71**	**8.5**	**.70**	**8.5**	**.80**
				.89/		.88/		.89/		.86/		.90/
Depr 6	4	.86	5.5	.70	5.5	.82	5.5	.63	5.5	.64	6.5	.82
				.77/		.88/		.76/		.72/		.90/
Depr 7	3	.86	4.5	.77	3.5	.78	4.5	.73	4.5	.71	4.5	.81
				.83/		.88/		.80/		.80/		.90/
Depr 8	2	.84	2.5	.70	2.5	.77	2.5	.66	2.5	.62	2.5	.74

Note. Depr 1- Depr 8 = Alternative depression item sets, Sens/Spec = Sensitivity/Specificity.

Electronic Supplementary Material 3: Examining the functioning of items assessing risk of suicide/self-harm and symptom impact and duration

Adolescent-report

a) Rank-ordered item-discrimination indices for the suicidal ideation items

Item name	Item	Item-depression diagnosis correlation		
		Total	Controlled for Gender	Controlled for age
MFQ19_T	I thought about killing myself.	.39*	.39*	.40*
MFQ16_T	I thought that life wasn't worth living.	.36*	.35*	.35*
MFQ17_T	I thought about death or dying.	.32*	.32*	.33*
MFQ18_T	I thought my family would be better off without me.	.18*	.17*	.21*

Note. MFQ-P16-19_T = transformed MFQ items, *$p < .01$.

b) ROC curve analyses for 5 RCADS depression items with different combinations of suicidal ideation items

	Total			Boys		Girls		Older adolescents		Younger adolescents	
	AUC (total)	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec
5 Depression items	.87	8.5	.82/ .77	7.5	.88/ .83	8.5	.82/ .71	8.5	.79/ .70	8.5	.90/ .80
5 Depression items + MFQ 19_T, MFQ 16_T, MFQ 17_T	.88	11.25	.83/ .76	10.3	.92/ .82	11.25	.83/ .72	11.75	.80/ .78	11.25	.82/ .78
5 Depression items + MFQ 19_T, MFQ 16_T	.89	10.75	.80/ .79	10.25	.92/ .86	10.25	.83/ .73	10.75	.80/ .77	10.75	.82/ .81
5 Depression items + MFQ 19_T	**.89**	**9.25**	**.83/ .79**	**8.8**	**.92/ .85**	**9.25**	**.83/ .76**	**9.25**	**.80/ .78**	**9.25**	**.91/ .80**

Note. Sens/Spec = Sensitivity/Specificity. MFQ-P16-19_T = transformed MFQ-C items.

c) Summary of binary logistic regression for 5 RCADS depression items with and without suicidal ideation item

Model		*b (SE)*	Wald *z*-value	OR (95% CI)	McFadden's R^2	Model fit change (χ^2)
Model 1						
	Constant	-5.73 (.58)	-9.83*		.34	143.81**
	RCADS 5 depression items - A	.51 (.06)	8.55*	1.66		
Model 2						
	Constant	-5.98 (.77)	-7.81*		.41	6.23 (p = .013)
	RCADS 5 depression items - A	.45 (.08)	5.55*	1.56 [1.35-1.85]		
	MFQ19_T	.45 (.18)	2.50 (p = .012)	1.56 [1.10 - 2.23]		

Note. MFQ-19_T = transformed MFQ-C item, A = adolescent-report, *p < .01.

d) Rank-ordered item-discrimination indices for the symptom impact and duration items

Item name	Item	Item-any anxiety/depressive disorder diagnosis correlation		
		Total	Controlled for Gender	Controlled for age
Impact - Family and Friends[a]	How much of an impact do these difficulties have on your family and friends?	.53*	.51*	.52*
Impact – Distress	How much do these difficulties upset or distress you?	.52*	.49*	.52*
Impact – School	How much do these difficulties get in the way of your everyday life in these areas (School)	.52*	.50*	.50*
Impact - Outside the school	How much do these difficulties get in the way of your everyday life in these areas (Outside the school)	.44*	.42*	.42*
Impact – Friends	How much do these difficulties get in the way of your everyday life in these areas (Friends)	.40*	.37*	.38*
Impact -Time	How long have you had these difficulties for?	.34*	.31*	.30*
Impact – Home	How much do these difficulties get in the way of your everyday life in these areas (Home)	.30*	.27*	.30*

Note. [a]Item with a high (>10%) proportion of missing responses, *p < .01.

e) ROC curve analyses for 11 RCADS items with different combinations of symptom impact and duration items

	Total			Boys		Girls		Older adolescents		Younger adolescents	
	AUC (total)	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec
RCADS 11-item Total	.82	12.5	.80/ .71	8.5	.84/ .70	14.5	.72/ .68	14.5	.80/ .76	11.5	.78/ .66
RCADS 11-item Total + 5 Impact items	.84	22.5	.82/ .74	18.0	.88/ .78	24.5	.75/ .70	24.5	.84/ .78	21.5	.76/ .73
RCADS 11-item Total + 4 Impact items	.85	19.5	.83/ .73	16.5	.83/ .78	21.5	.77/ .71	22.5	.80/ .79	18.5	.76/ .70
RCADS 11-item Total + 3 Impact items	.84	18.5	.81/ .73	14.5	.88/ .80	20.5	.75/ .70	20.5	.84/ .79	17.5	.74/ .71
RCADS 11-item **Total + 2 Impact items**	**.84**	**16.5**	**.84/ .72**	**13.5**	**.88/ .78**	**18.5**	**.76/ .66**	**18.6**	**.86/ .74**	**16.5**	**.74/ .72**
RCADS 11-item Total + 1 Impact item	.83	14.5	.83/ .71	10.5	.89/ .71	17.5	.72/ .70	17.5	.79/ .79	14.5	.73/ .73

Note. Sens/Spec = Sensitivity/Specificity.

f) Summary of binary logistic regression for total scale with and without symptom impact items (adolescent-report)

Model		*b* (*SE*)	Wald *z*-value	OR (95% CI)	McFadden's R^2	Model fit change (χ^2)
Model 1						
	Constant	-2.44 (.28)	-8.81*		.28	142.47*
	RCADS 11 item Total - A	.19 (.02)	10.02*	1.21 [1.64, 1.25]		
Model 2						
	Constant	-3.97 (.44)	-9.00*		.41	26.59*
	RCADS 11 item Total - A	.11 (.03)	4.37*	1.12 [1.07, 1.18]		
	Impact items - A	.62 (.13)	4.90*	1.85 [1.46, 2.40]		

Note. A = adolescent-report, *$p < .01$.

Parent-report

a) Rank-ordered item-discrimination indices for the suicidal ideation items

Item name	Item	Item-depression diagnosis correlation		
		Total	Controlled for Gender	Controlled for age
MFQ-P16_T	My child thought that life wasn't worth living	.33*	.33*	.33*
MFQ-P17_T	My child thought about death or dying	.22*	.22*	.25*
MFQ-P19_T	My child thought about killing himself/herself	.21*	.21*	.22*
MFQ-P18_T	My child thought my family would be better off without him/her	0.05	0.04	0.08

Note. MFQ-P16-19_T = transformed MFQ-P item, *p < .01.

b) ROC curve analyses for 5 RCADS items plus different combinations of suicidal ideation items

	Total			Boys		Girls		Older adolescents		Younger adolescents	
	AUC (total)	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec
5 Depression items	.86	6.5	.84/ .75	5.5	.93/ .75	6.5	.85/ .72	6.5	.82/ .74	6.5	.90/ .76
5 Depression items + MFQ 19_T, MFQ 16_T, MFQ 17_T	.87	6.75	.90/ .77	6.5	.90/ .84	6.75	.90/ .74	6.5	.86/ .76	7.25	.90/ .84
5 Depression items + MFQ 19_T, MFQ 16_T	.87	6.75	.92/ .76	6.5	.90/ .84	7.25	.79/ .78	6.5	.90/ .75	7.25	.90/ .82

Note. Sens/Spec = Sensitivity/Specificity, MFQP-19_T = transformed MFQ-P item.

c) Summary of binary logistic regression for 5 RCADS depression items with and without suicidal ideation item

Model		*b (SE)*	Wald *z*-value (p-value)	OR (95% CI)	McFadden's R^2	Model fit change (χ^2)
Model 1						
	Constant	-4.41 (.43)	-10.36*		.32	111.16*
	RCADS 5 depression items - A	.43 (.05)	8.42*	1.66 [1.49, 1.89]		
Model 2						
	Constant	-4.92 (.57)	-8.58*		.61	.451 (p = .502)
	RCADS 5 depression items - A	.45 (.07)	6.43*	1.56 [1.38-1.81]		
	Impact items - A	.15 (.23)	.68 (p = .497)	1.17 [.73-1.81]		

Note. MFQP-19_T = transformed MFQ-P item, P = parent-report, *p < .01.

d) Rank-ordered item-discrimination indices for the 11 RCADS items plus symptom impact and duration items

Item name	Item	Item- anxiety diagnosis correlation		
		Total	Controlled for Gender	Controlled for age
Impact-Distress	How much do these difficulties upset or distress your child?	.65*	.63*	.65*
Impact-Family	How much of an impact do these difficulties have on you or the family as a whole?	.60*	.58*	.61*
Impact-School	How much do these difficulties get in the way of your child's everyday life in these areas? (School)	.59*	.57*	.59*
Impact-Outside the school	How much do these difficulties get in the way of your child's everyday life in these areas? (Outside the school)	.58*	.56*	.58*
Impact-Home	How much do these difficulties get in the way of your child's everyday life in these areas? (Home)	.54*	.52*	.54*
Impact-Friends	How much do these difficulties get in the way of your child's everyday life in these areas? (Friends)	.49*	.46*	.49*
Impact-Time	How long has your child had these difficulties for?	.23*	.21*	.24*

Note. *p < .01.

e) ROC curve analyses for different combinations of symptom impact and duration items

	Total			Boys		Girls		Older adolescents		Younger adolescents	
	AUC (total)	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec	Cut-off	Sens/ Spec
RCADS 11-itemTotal	.88	10.5	.80/ .79	7.5	.96/ .80	11.5	.78/ .75	9.5	.84/ .77	10.5	.80/ .77
RCADS 11-itemTotal – matched to adolescent-report	.89	14.5	.82/ .80	12.5	.86/ .84	14.5	.87/ .74	14.5	.84/ .83	14.5	.80/ .79
RCADS 11-itemTotal + 6 Impact items	.90	20.5	.84/ .79	17.5	.82/ .82	22.5	.83/ .78	20.5	.84/ .80	20.5	.85/ .79
RCADS 11-itemTotal + 5 Impact items	.90	19.5	.82/ .80	15.5	.89/ .84	21.5	.81/ .80	18.5	.87/ .80	19.6	.81/ .79
RCADS 11-itemTotal + 4 Impact items	.90	18.5	.81/ .81	14.5	.86/ .84	19.5	.83/ .77	17.5	.87/ .80	18.5	.80/ .80
RCADS 11-itemTotal + 3 Impact item	.90	16.5	.81/ .80	13.5	.86/ .84	17.5	.84/ .76	15.5	.86/ .80	16.5	.80/ .79
RCADS 11-itemTotal + 2 Impact item	.90	14.5	.82/ .80	11.5	.92/ .82	15.5	.81/ .76	13.5	.86/ .80	14.5	.82/ .79
RCADS 11-itemTotal + 1 Impact item[5]	**.89**	**12.5**	**.83/ .80**	**10.5**	**.84/ .84**	**13.5**	**.83/ .75**	**12.5**	**.84/ .83**	**12.5**	**.81/ .79**

Note. Sens/Spec = Sensitivity/Specificity.

f) Summary of binary logistic regression for the 11 RCADS items with and without symptom impact items

Model		*b (SE)*	Wald *z*-value (*p*-value)	OR (95% CI)	McFadden's R^2	Model fit change (χ^2)
Model 1						
	Constant	-2.74 (.28)	-9.94*	1.29 [1.24, 1.35]	.42	213.67*
	RCADS 11 item Total - A	.26 (.02)	11.02*			
Model 2						

[5] The ROC curve analyses confirmed that the optimal parent-report total scale with one symptom impact item was not significantly different (p = .62) from the parent-report total scale that included the same symptom impact items as adolescent adolescent-report total scale.

Constant	-3.79 (.40)	-9.42*		.50	17.06*
RCADS 11 item Total - A	.15 (.03)	4.52*	1.16 [1.09, 1.24]		
Impact items - P	.53 (.13)	4.02*	1.69 [1.31, 2.20]		

Note. A = adolescent-report, *$p < .01$.

Electronic Supplementary Material 4: Cronbach's alpha coefficients with 95% confidence intervals for 11 RCADS items/RCADS-47 and RCADS-25 anxiety/depression subscales and total scales – adolescent-report and parent-report

Cronbach's alpha coefficients with 95% confidence intervals for 11 RCADS items/RCADS-47 and RCADS-25 anxiety/depression subscales and total scales – adolescent-report and parent-report

	Community Sample	Clinic-referred sample		
		Total sample	Anxiety subsample	Depression subsample
RCADS 6 anxiety items - A	.86 [.82, .89]	.68 [.60, .75]	.67 [.61, .73]	.70 [.60, .79]
RCADS-Anxiety subscale - A	.96 [.95, 97]	.93 [.91, .95]	.92 [.90, .93]	.93 [.91, .95]
RCADS-25-Anxiety subscale - A	.88 [.86, .90]	.82 [.79, .85]	.82 [.79, .85]	.81 [.75, .86]
RCADS 5 depression items - A	.83 [.80, .86]	.85 [.82, .88]	.85 [.82, .88]	.67 [.56, 76]
RCADS-Depression subscale - A	.90 [.82, .92]	.87 [.84, .90]	.87 [.85, .89]	.78 [.71, .84]
RCADS-25-Depression subscale - A	.90 [.82, .92]	.87 [.84, .90]	.87 [.85, .89]	.78 [.71, .84]
RCADS 11 total items - A	.89 [.87, .91]	.80 [.76, 83]	.81 [.77, .84]	.71 [.61, .79]
RCADS-Total scale - A	.96 [.95, .97]	.93 [.91, .95]	.93 [.92, .94]	.93 [.91, 95]
RCADS-25-Total scale - A	.93 [.92, .94]	.88 [.86, .90]	.88 [.86, .90]	.84 [.79, .89]
RCADS 6 anxiety items - P	.84 [.80, .88]	.74 [.68, .80]	.73 [.68, .78]	.76 [.68, .83]
RCADS-Anxiety – subscale - P	.96 [.95, .97]	.92 [.90, .94]	.92 [.90, .93]	.93 [.91, .95]
RCADS-25-Anxiety subscale - P	.90 [.88, .92]	.81 [.77, .84]	.80 [.76, .84]	.85 [.80, .89]
RCADS 5 depression items - P	.84 [.81, .87]	.82 [.79, .85]	.82 [.79, .85]	.76 [.68, .83]
RCADS-Depression subscale - P	.90 [.87, .92]	.82 [.87, .85]	.83 [.80, .86]	.78 [.71. .84]
RCADS-25-Depression subscale - P	.90 [.87, .92]	.82 [.87, .85]	.83 [.80, .86]	.78 [.71. .84]
RCADS 11 total items - P	.90 [.88, .92]	.81 [.77, .84]	.82 [.79, .85]	.80 [.73, .86]
RCADS-Total scale- P	.97 [.96, .98]	.93 [.91, .95]	.93 [.92, .94]	.94 [.92, .96]
RCADS-25-Total scale - P	.94 [.93, .95]	.85 [.82, .88]	.86 [.83, .88]	.87 [.83, .91]

Note. A = adolescent-report, P = parent-report.

Electronic Supplementary Material 5: Convergent and divergent validity coefficients for RCADS 11 items/RCADS-47/RCADS-25

Convergent and divergent validity coefficients for RCADS 11 items/RCADS-47/RCADS-25

		MFQ-C/P - Clinic-referred Sample		
	MFQ-C/P Community Sample	Total sample	Anxiety subsample	Depression subsample
RCADS 6 anxiety items - A	.77*	.58*	.60*	.28 (p = .083)
RCADS-Anxiety subscale - A	.77*	.59*	.63*	.25 (p .111)
RCADS-25-Anxiety subscale - A	.76*	.55*	.59*	.20 (p = .189)
RCADS 5 depression items - A	.80*	.77*	.77*	.63*
RCADS-Depression subscale- A	.85*	.80*	.80*	.53*
RCADS-25-Depression subscale - A	.85*	.80*	.80*	.53*
RCADS 6 anxiety items - P	.76*	.50*	.53*	.44 (p = .011)
RCADS-Anxiety subscale - P	.77*	.49*	.52*	.50*
RCADS-25-Anxiety subscale - P	.76*	.48*	.50*	.46*
RCADS 5 depression items - P	.79*	.70*	.71*	.71*
RCADS-Depression subscale - P	.85*	.71*	.72*	.67*
RCADS-25-Depression subscale - P	.85*	.71*	.72*	.67*

Electronic Supplementary Material 6: ROC curve analyses for the 11-item RCADS-P (current study), the RCADS-47-P, and the RCADS-25-P

ROC curve analyses for the 11-item RCADS-P (current study), the RCADS-47-P, and the RCADS-25-P

	RCADS: Anxiety			RCADS: Depression			RCADS: Total		
Number of items	6[a]	37[b]	15[c]	5[a]	10[b]	10[c]	11[a]	47[b]	25[c]
Total									
AUC	.86	.83	.82	.86	.84	.84	.88	.86	.86
Cut-off	5.5	34.4	10.4	6.5	11.625	11.625	10.5	41.4	19.3
Sensitivity/ Specificity	.80/.77	.73/.73	.74/.73	.84/.75	.81/.74	.81/.74	.80/.79	.78/.75	.77/.77
n (positive; negative)	197;227	210;227	211;225	76;364	77;373	77;373	206;214	223;214	232;214
Boys									
AUC	.90	.87	.84	.88	.85	.85	.91	.88	.88
Cut-off	4.5	27.5	7.8	5.5	9.5	9.5	7.5	34.7	12.50
Sensitivity/ Specificity	.84/.83	.81/.77	.76/.75	.93/.75	.86/.72	.86/.72	.96/.80	.82/.80	.92/.78
n (positive; negative)	44;93	48;93	46;93	14;129	14;130	14;130	45;91	50;91	50;91
Girls									
AUC	.83	.81	.8	.84	.84	.84	.86	.83	.84
Cut-off	6.5	37.5	11.9	6.5	12.25	12.25	11.5	45.5	21.5
Sensitivity/ Specificity	.75/.75	.75/.72	.74/.70	.85/.72	.79/.73	.79/.73	.78/.75	.76/.72	.75/.72
n (positive; negative)	153;134	162;134	165;132	62;235	63;243	63;243	179;117	173;123	182;123
Older adolescents									
AUC	.87	.84	.82	.84	.83	.83	.90	.86	.87
Cut-off	4.5	32.9	9.5	6.5	11.625	11.625	9.5	35.4	17.5
Sensitivity/ Specificity	.87/.71	.70/.70	.73/.70	.82/.74	.80/.73	.80/.73	.84/.77	.87/.71	.83/.73
n (positive; negative)	98;77	105;77	106;76	56;129	56;131	56;131	109;66	116;66	120;66
Younger adolescents									
AUC	.85	.84	.83	.89	.88	.88	.88	.86	.87
Cut-off	5.5	35.5	10.9	6.5	12.25	12.25	10.5	39.5	19.4
Sensitivity/ Specificity	.82/.77	.76/.76	.77/.74	.90/.76	.81/.76	.81/.76	.80/.77	.82/.73	.78/.78
n (positive; negative)	99;150	105;150	105;149	20;235	21;242	21;242	97;148	107;148	112;148

Note. [a]11-item RCADS-P, [b]RCADS-P, [c]RCADS-25-P.

Electronic Supplementary Material 7: Brief 11-item version of the RCADS with scoring instructions

Anxiety and depression screening items with instructions

Brief 11-item version of the RCADS for Adolescents (adolescent-report)

Please put a circle around the word that shows how often each of these things happens to you. There are no right or wrong answers.

1. I have trouble going to school in the mornings because I feel nervous or afraid	Never	Sometimes	Often	Always
2. I have no energy for things	Never	Sometimes	Often	Always
3. I worry when I go to bed at night	Never	Sometimes	Often	Always
4. I worry about what is going to happen	Never	Sometimes	Often	Always
5. Nothing is much fun anymore	Never	Sometimes	Often	Always
6. All of a sudden I feel really scared for no reason at all	Never	Sometimes	Often	Always
7. I feel worthless	Never	Sometimes	Often	Always
8. I feel sad or empty	Never	Sometimes	Often	Always
9. When I have a problem, my heart beats really fast	Never	Sometimes	Often	Always
10. I am tired a lot	Never	Sometimes	Often	Always
11. I worry I might look foolish	Never	Sometimes	Often	Always

Impact supplement (optional):

Now please answer the following questions about those things that you said happen to you ‘sometimes’ ‘often’ or ‘always’.

How much do these difficulties upset or distress you?	Not at all	Only a little	Quite a lot	A great deal
How much do these difficulties get in the way of your everyday life in school?	Not at all	Only a little	Quite a lot	A great deal

Scoring:

Never/not at all = 0 Sometimes/only a little = 1 Often/quite a lot = 2 Always/a great deal = 3

Anxiety scale (summarise items 1, 3, 4, 6, 9, 11): ____

Depression scale (summarise items 2, 5, 7, 8, 10): ____

Total scale (summarise all items): ____

Total scale + impact (total scale + impact items): ____

Interpretation/cut-off scores:

		Boys	Girls
Anxiety Scale	Symptoms	≥ 5	≥ 9
Depression Scale	Symptoms	≥ 8	≥ 9
Total Scale	Symptoms	≥ 9	≥ 14
	Symptoms + Impact	≥ 14	≥ 18

Brief 11-item version of the RCADS for Adolescents
(parent-report)

Please put a circle around the word that shows how often each of these things happens for your child.

1. My child has trouble going to school in the mornings because of feeling nervous or afraid	Never	Sometimes	Often	Always
2. My child has no energy for things	Never	Sometimes	Often	Always
3. My child worries when in bed at night	Never	Sometimes	Often	Always
4. My child worries about what is going to happen	Never	Sometimes	Often	Always
5. Nothing is much fun for my child anymore	Never	Sometimes	Often	Always
6. All of a sudden my child will feel really scared for no reason at all	Never	Sometimes	Often	Always
7. My child feels worthless	Never	Sometimes	Often	Always
8. My child feels sad or empty	Never	Sometimes	Often	Always
9. When my child has a problem, his/her heart beats really fast	Never	Sometimes	Often	Always
10. My child is tired a lot	Never	Sometimes	Often	Always
11. My child worries about looking foolish	Never	Sometimes	Often	Always

Impact supplement (optional):

Now please answer the following questions about those things that you said happen to your child ‘sometimes’ ‘often’ or ‘always’.

How much do these difficulties upset or distress your child?	Not at all	Only a little	Quite a lot	A great deal
How much do these difficulties get in the way of your child’s everyday life in school?	Not at all	Only a little	Quite a lot	A great deal

Scoring:

Never/not at all = 0 Sometimes/only a little = 1 Often/quite a lot = 2 Always/a great deal = 3

Anxiety scale (summarise items 1, 3, 4, 6, 9, 11): ____

Depression scale (summarise items 2, 5, 7, 8, 10): ____

Total scale (summarise all items): ____

Total scale + impact (total scale + impact items): ____

Interpretation/cut-off scores:

		Boys	Girls
Anxiety Scale	Symptoms	≥ 5	≥ 7
Depression Scale	Symptoms	≥ 6	≥ 7
Total Scale	Symptoms	≥ 8	≥ 11
	Symptoms + Impact	≥ 13	≥ 15

Chapter 5: General Discussion

The overall aim of this thesis was to improve understanding of help-seeking and accessing for anxiety and depressive disorders in young people by investigating their own views. Understanding the views of young people is important, as they can engage actively in the processes of help-seeking and accessing, particularly as they get older.

Findings in this thesis build on previous research on barriers and facilitators to seeking/accessing professional help for anxiety disorders in young people, in particular on research conducted with parents of preadolescent children (Reardon et al., 2017, 2018a, 2018b) and general practitioners (GPs) (O'Brien et al., 2016, 2017, 2019). As adolescents are developmentally significantly different from preadolescent children (Waite & Creswell, 2014) and might take more active role in help-seeking than preadolescent children (Gasquet et al., 1997) the research in this thesis included talking directly to adolescents to gain an understanding of their views and experiences. Furthermore, as depressive disorders are up to five times more common in adolescents compared to preadolescent children (Merikangas et al., 2010; Sadler et al., 2018), this thesis addressed help-seeking for depressive as well as anxiety disorders.

Research conducted in this thesis aimed to address the gaps in the existing literature by improving knowledge and understanding of 1) young people's perceptions of the most common barriers and facilitators to seeking/accessing professional help for mental health problems (Paper 1), 2) barriers and facilitators to seeking/accessing professional help as perceived by adolescents who met diagnostic criteria for a current anxiety and/or a depressive disorder, identified in the community (Paper 2), and 3) ways to minimise barriers to help-seeking/accessing support for anxiety and depressive disorders in adolescents (Papers 2 and 3).

The general discussion will present the main findings of each paper, followed by a summary of overall findings, implications, future research directions, strengths and limitations and a conclusion.

5.1. Overview of findings

5.1.1. Paper 1: Why do children and adolescents (not) seek and access professional help for their mental health problems? A systematic review of quantitative and qualitative studies

Paper 1 systematically reviewed 53 qualitative and quantitative studies in which children[6] and adolescents were asked about perceived barriers/facilitators to seeking and accessing professional help for mental health problems. Four main barrier/facilitator themes were identified, and these related to 1) young people's individual factors, 2) social factors, 3) factors related to the relationship between the young person and the professional and 4) systemic and structural factors.

The review's findings have clear practical implications for improving access to treatment for mental health problems in children and adolescents. Evidence-based interventions to 1) reduce stigma around mental health and help-seeking, and 2) improve young people's knowledge of mental health and available help are needed. Many interventions focused on reducing stigma and improving young people's mental health literacy are already in place globally (Das et al., 2016) and the review's findings suggested that these interventions should also focus on normalising and 'demystifying' help-seeking and explaining therapeutic ground rules. In addition, young people suggested that providing help in schools might help minimise logistic barriers and stigma associated with clinic settings. Offering young people different options of

[6] Three studies in the systematic review included preadolescent children as well as adolescents.

accessing support, including independent help-seeking, might reduce barriers related to self-reliance. Finally, our review highlighted the importance of supporting young people's significant others, especially their families, in the process of help-seeking/accessing.

5.1.2. Paper 2: Adolescents' perceived barriers and facilitators to seeking and accessing professional help for anxiety and depressive disorders: A qualitative interview study

Drawing on the conclusions of the systematic review (Paper 1), Paper 2 aimed to understand the process of seeking/accessing professional help for adolescents with anxiety and/or depressive disorders. Specifically, Paper 2 aimed to understand and explore barriers and facilitators pertinent among adolescents who met diagnostic criteria for an anxiety and/or a depressive disorder, identified in the community (i.e., not through mental health services). In total, 22 adolescents, aged 11-17 years, who met diagnostic criteria for an anxiety and/or a depressive disorder, and 20 of their parents took part in in-depth qualitative interviews. Using reflexive thematic analysis, we identified four main barrier/facilitator themes: 1) making sense of difficulties, 2) problem disclosure, 3) ambivalence to seeking help, and 4) the instrumental role of others.

Results of the qualitative study have clear practical implications for reducing barriers to treatment for anxiety and depressive disorders in adolescents. Firstly, interventions and tools to improve the knowledge and the identification of anxiety and depressive disorders in adolescents are needed, and adolescents recommended mental health assemblies and school-based screening as possible interventions. In addition, strategies to reduce the stigma associated with mental health and help-seeking are needed. Finally, as adults around adolescents are instrumental in the process of

accessing professional help, it is important that they know where and how to get appropriate help for adolescents. The role of professionals (e.g. teachers and GPs) in referring families to specialist services seems to be particularly important when family capacities are limited.

5.1.3. Paper 3: Using the 11-item Version of the RCADS to Identify Anxiety and Depressive Disorders in Adolescents

Papers 1 and 2 highlighted barriers associated with difficulties identifying symptoms of common mental health difficulties, such as anxiety and depressive disorders. For instance, adolescents in both papers reported not knowing that their difficulties were serious enough to require professional help and not knowing that their problems could be mental health related. Furthermore, adolescents in the qualitative study reported finding it hard to verbalise their feelings and ask for (professional) help. One way of minimising these barriers, suggested by adolescents with the diagnoses of anxiety and/or depressive disorders themselves (Paper 2), is screening for these mental health problems in everyday settings (e.g. schools or GP surgeries). Adolescents suggested that this could help both young people and their parents/teachers to identify those who are experiencing difficulties at a level that may warrant professional input. Brief (< 15 items), accurate, and easy to use questionnaire measures are needed to effectively identify adolescents with anxiety and/or depressive disorders in community settings (Dowdy et al., 2010; Glover & Albers, 2007; Myers & Winters, 2002). Consequently, this study identified a set of 11 adolescent and parent-report items from the widely used and established Revised Children's Anxiety and Depression Scale - RCADS (Chorpita et al., 2000). Of 11 items, 6 are assessing anxiety and 5 depressive symptoms. In addition, two symptom impact questions (adapted from the Strengths and Difficulties Questionnaire – SDQ; Goodman, 1999) were identified. The findings

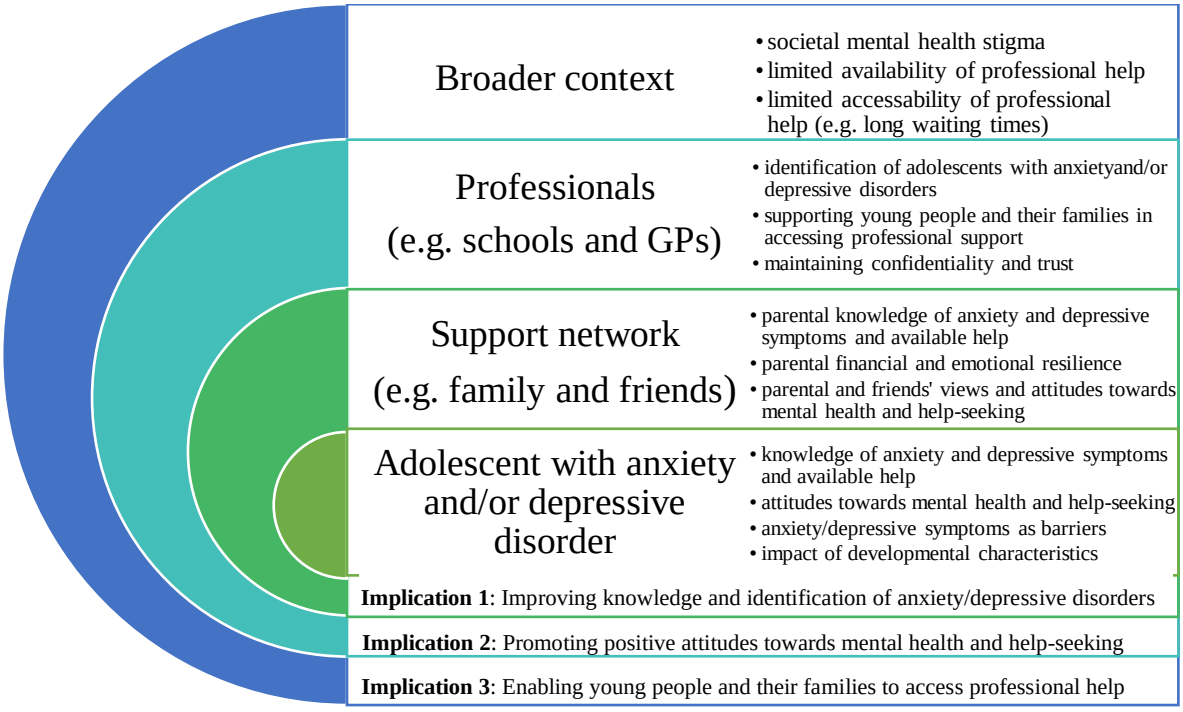
suggest the 11 RCADS items discriminates between adolescents in the community and clinic-referred samples with comparable accuracy to the original 47-item RCADS. Hence, a brief item set has potential to be used in circumstances where administration of the original 47-item questionnaire is not feasible.

5.2. Synthesis of thesis findings

Overall, the findings from each paper included in this thesis illustrate the complexity of the processes of seeking and accessing professional help for adolescents with anxiety and depressive disorders. In particular, there appear to be significant barriers and facilitators at the adolescent individual level, as well as at the level of their support network (i.e. family and friends), professional services (i.e. schools and GPs), and broader context. Figure 1 outlines barriers and facilitators identified within each level through the 3 papers, and based on these, practical implications on ways to improve access to treatment for anxiety and depressive disorders in adolescents.

Figure 1

Barriers and Facilitators to Help-Seeking/Accessing Identified within Each Level



To understand help-seeking and accessing in adolescents with anxiety and/or depressive disorders, barriers and facilitators at the level of adolescents themselves need to be understood first. Results of the systematic review (Paper 1) and qualitative study (Paper 2) suggest that adolescents struggle to recognise anxiety and/or depressive symptoms and knowing where to get help for their difficulties, which is consistent with the results of a previous systematic review (Gulliver et al., 2010). In addition, adolescents' views and attitudes towards mental health and help-seeking, such as seeing help-seeking as something 'normal', play a significant role in whether adolescents will decide to seek help. Results of the qualitative study highlight the interplay between adolescents' attitudes towards help-seeking and their past experiences of professional help, and adolescents with past positive experiences appear more likely to hold positive views about the benefits of professional help. The role of past (positive) experience with professional services has been consistently reported as one of the most important facilitators in previous research (e.g. Mitchell et al., 2017), emphasising the need for providing good quality mental health services that meet the specific developmental needs of young people. Both the systematic review and qualitative study highlighted that the symptoms of mental health difficulties can act as barriers to seeking/accessing help, and in adolescents with anxiety and depressive disorders specifically, shyness, lack of confidence and hopelessness were commonly reported as reasons for not seeking help by adolescents and their parents. Previous studies have also shown that anxiety and depressive symptoms can act as barriers to seeking professional help (e.g. Cage et al., 2020), and that young people with anxiety and depressive disorders are less likely to access professional help compared to young people with other mental health problems, such as ADHD (e.g. Chavira et al., 2004). Thus, specific targeted approaches (e.g. targeted screening) might be needed to identify adolescents with anxiety and depressive

disorders and enable them to access professional help successfully. Studies included in this thesis also identified a number of barriers reflecting the nature of adolescents' developmental characteristics, such as sensitivity to peer rejection (Sebastian et al., 2010). Again, taking adolescents' developmental characteristics into account will be crucial when designing future interventions to improve treatment access rates.

Adolescents' support network (i.e. family and friends) also play an important role in adolescents' help-seeking. Similar to adolescents, their parents (Paper 2) reported limited understanding of anxiety and depressive disorders and available help, with anxiety and depressive symptoms often being perceived by parents as 'typical teenage behaviour' (e.g. moodiness, introversion). These findings are consistent with previous research with parents of anxious preadolescent children, who often reported seeing their child's anxiety symptoms as their child's attributes (Reardon et al., 2018). Notably, parents who are more resourceful and resilient appeared to be particularly likely to recognise anxiety and/or depressive symptoms and the need for professional help, while in families with limited resources (e.g. families where parents struggle with their own mental health and/or financial difficulties), adolescents' schools seem to play a particularly instrumental role in arranging professional help for these young people. The critical role of parental persistence and support from schools and GPs has also been reported by parents of young people who successfully access the services (Crouch et al., 2019). Parents' and professionals' perceptions of how much the adolescents' symptoms are having an impact on and interfering with their everyday lives also seems to be an important factor when these adults make decisions to seek help for adolescents, and this was highlighted in Papers 2 and 3. In fact, symptom interference seems to play an even more important role in identifying adolescents with anxiety and/or depressive disorders than symptoms themselves (Paper 3), which was, again, consistent with previous

research (Evans et al., 2017; Goodman et al, 2001). The impact of anxiety/depressive symptoms should then be considered when identifying those young people who might benefit from further professional treatment. Finally, the views and attitudes of adolescents' family and friends can also act as barriers/facilitators to whether adolescents decide to reach out for help or not. Adolescents who feel supported by their family and friends are more likely to seek help than those who do not feel supported by those close to them.

School staff and primary care practitioners (GPs) are often the first professionals that adolescents and their families turn to, and therefore, they play a significant role in facilitating access to professional help. Adolescents in the qualitative study (Paper 2) suggested that screening for anxiety and depressive disorders could help school staff and GPs recognise anxiety and/or depressive symptoms. Brief, and easy to use and interpret (i.e. with clear cut-off scores) screening measures, such as a brief set of 11 RCADS items (Paper 3), could help minimise the barriers related to the identification of anxiety and depressive disorders in everyday settings. The need for short and accurate screening measures has also been recognised by young peoples' parents (e.g. Reardon et al., 2018) and GPs (e.g. O'Brien et al., 2017). Similarly, school teachers report wanting tools that could help them identify those young people who would benefit from further professional help (e.g. Shelemy et al., 2019). However, screening will only be effective if carefully implemented (i.e., with clear goals and within school/service capacities to provide effective support to those identified) (Fazel et al., 2014). Indeed, the perspectives of various stakeholders need to be considered when implementing screening in schools. For instance, previous research with teachers suggests that although they report wanting to learn how to identify students with mental health difficulties, they often do not want to take on the role of their therapists (Shelemy et al.,

2019), and therefore, pathways to care for identified students in schools need to be carefully planned. Consistently with previous research (e.g. Crouch et al., 2019) adolescents and their parents included in this thesis also highlighted the importance of professionals and families working together 'as a team'. Finally, findings from the systematic review and qualitative study highlight the importance of professionals maintaining confidentiality and trust. Adolescents were consistent in reporting that they would only share personal information with professionals that they perceive as trustworthy.

Finally, several contextual barriers and facilitators to seeking/accessing professional help were identified. Adolescents across different studies included in the review (e.g. Boyd et al., 2011; Freedenthal & Stiffman, 2007) reported high levels of perceived societal stigma associated with mental health and help-seeking. Perceived public stigma seems to play a particularly important role in adolescents with anxiety and/or depressive disorders and certain additional difficulties (e.g. comorbid gender dysphoria). In addition, many adolescents and their parents in the qualitative study and in studies included in the review (Haavik et al., 2017; Meredith et al., 2009) reported barriers related to limited availability and accessibility of professional help. Consistent with previous research (e.g. Crouch et al., 2019) families can often feel discouraged if/when there are lengthy waits for treatment in local services, such as NHS Child and Adolescent Mental Health Services (CAMHS), and families that decide to seek specialist mental health support report needing to be highly persistent if they want to succeed.

5.3.Thesis findings in relation to the existing help-seeking models

Findings in this thesis are broadly consistent with the help-seeking model proposed by Rickwood et al. (2005). Adolescents' awareness of their mental health

problems (first stage of the model) is closely associated with barriers/facilitators reflecting (limited) knowledge of anxiety and depressive disorders and available help. Similarly, the second stage of the help-seeking model (expression of symptoms) is associated with many barriers and facilitators identified in this thesis, such as adolescents' difficulties with verbalising their feelings and lack of confidence. Finally, the third and fourth stage of the help-seeking model (availability of help and willingness to seek help) reflect various barriers such as a preference for self-reliance and limited accessibility of professional help.

However, there are a few important differences between the proposed model and help-seeking in adolescents with anxiety and/or depressive disorders. Firstly, the process of help-seeking in adolescents with anxiety and/or depressive disorders does not seem to follow this particular order. Indeed, our findings suggest that adolescents' help-seeking/accessing are largely dependent on the knowledge/behaviour of surrounding adults (namely their parents and teachers). Therefore, some of the stages of the help-seeking process might be either skipped or done by other people. Adolescents' dependency on surrounding adults highlights the need for a more comprehensive and 'systemic' approach when trying to understand the help-seeking behaviour of adolescents with anxiety and depression. Concepts of Bronfenbrenner's Ecological Systems Theory (Bronfenbrenner, 1977; Bronfebrenner and Ceci, 1994) could provide some complementary information to the existing framework provided by Rickwood et al., (2005). Bronfebrenner described the ecological environment of an individual as composed of systems at four different levels – the microsystem (young person's relations with the immediate environment, e.g. home and school), the mesosystem (interactions between the elements of the immediate environment, e.g. interactions between school and family), the exosystem (social structures, e.g. the mass media and

public agencies) and the chronosystem (changes over time, e.g. changes within a family or within a society) (Bronfebrenner, 1997; Bronfebrenner and Ceci, 1994). The data reported in this thesis supports elements of this model, in particular by highlighting 1) the impact of various systems (i.e., microsystem, exosystem and chronosystem) and their elements (e.g. family, school, community, time) on adolescent development and help-seeking behaviour, and 2) the role of interactions (i.e., mesosystem) between various systems (e.g., collaboration between family and school). In addition, Ecological Systems Theory suggests that proximal relationships influence young people's behaviour more than distal relationships (Bronfebrenner and Ceci, 1994). In terms of help-seeking, results reported in this thesis clearly demonstrate the instrumental role of adolescents' support network and schools (i.e., the microsystem).

Taken together, individual barriers and facilitators to adolescent help-seeking/accessing identified in this thesis support a help-seeking framework suggested by Rickwood et al. (2005). However, the relationship between specific barriers and facilitators identified at each level is further explained/elaborated by applying the principles of Ecological Systems Theory (Bronfebrenner, 1977).

5.4.Thesis implications

The findings from the studies in this thesis highlight many possible ways of improving access to treatment for anxiety and/or depressive disorders in adolescents. As seen in Figure 1, these implications can be categorised into three closely linked domains: 1) improving knowledge and early identification of anxiety and depressive disorders, 2) promoting positive attitudes towards mental health and help-seeking, 3) enabling young people and their families to access professional help.

5.4.1. Improving knowledge and early identification of anxiety and depressive disorders

The results of the systematic review (Paper 1) and qualitative study (Paper 2) highlight the need to improve young people's, parents' and professionals' knowledge of common mental health problems, such as anxiety and depressive disorders. This includes knowledge of the symptoms of these disorders, as well as knowledge of available help and support and means of accessing it (e.g. Fortune et al., 2008; Gould et al., 2006). Adolescents in the qualitative study (Paper 2) recognised the invaluable role of schools in improving the mental health knowledge of young people and suggested various ways of improving young people's mental health literacy through assemblies, Personal, Social, Health and Economic (PSHE) lessons and posters/flyers. Some adolescents recognised the role of teachers as instrumental in passing on the information to them (e.g. '…*the teacher would like tell like the, these different places that people can go, and like different ways that people can speak to people and how they can get help*…' [Frank, 14], Paper 2).

The role of schools in improving young people's mental health, including mental health literacy, has been widely and increasingly recognised (e.g. Department of Health & Department of Education, 2017, 2018; Wyn et al., 2000). Indeed, preliminary study results suggest that delivering interventions aimed to improve young people's mental health literacy (e.g. 'Mental Health First Aid', 'OpenMinds') in educational settings can be effective in improving young people's knowledge of mental health (Kelly et al., 2011; Patalay et al., 2017; Roberts-Holmes et al., 2018). Furthermore, these interventions seem to be even more acceptable if delivered by young people's peers rather than adults/professionals (Eisenstein et al., 2019; Patalay et al., 2017),

which also addresses adolescents' specific developmental needs (e.g. preference for peers over adults).

Adolescents also suggested using information technology (IT) tools may help to improve their knowledge of anxiety and depressive disorders. In particular, adolescents in the qualitative study recommended distributing mental health-related information through social media (e.g. Instagram). A large number of mental health apps and digital mental health tools for young people (up to age of 25 years) already exist, and there is some evidence that these tools might be useful for adolescents (Garrido et al., 2019; Grist et al., 2017). In addition, IT tools might reduce some barriers to seeking help through 'traditional routes' (e.g. discomfort about discussing one's own mental health) (Grist et al., 2017).

Adolescents also described school staff and their parents experiencing difficulties recognising anxiety and depressive symptoms, which is consistent with previous research with parents of preadolescent children (Reardon et al., 2018). Whilst parents might mistakenly understand symptoms of anxiety and/or depressive disorders as typical teenage behaviours (e.g. moodiness, quickness to anger) or their child's attributes, some adolescents perceive teachers to sometimes misunderstand these symptoms as adolescents' intentional behaviour or behavioural difficulties (e.g. '*…some teachers just start shouting at kids, like say if the kid wasn't doing enough work, the teacher would shout at them, but then it wouldn't be a kid's fault because there's something else going on in their head.*' [Victoria, 14], Paper 2). Some parents in Paper 2 also reported that their child's GP lacked mental health knowledge (e.g. '*…he (the GP) read the (study) report and he said "you're pretty much the same as any child, 13-year-old child"… he said to me "that doesn't stand out as any mental health or anxiety issues"… (so) they can't refer him to CAMHS…*' [Ben's mother], Paper 2). This

is consistent with previous research with GPs (O'Brien et al., 2017) who often report feeling less confident in diagnosing anxiety disorders compared to other disorders. One way of helping professionals and parents to identify anxiety and depressive disorders in adolescents could be through the use of screening measures. In fact, some adolescents in the qualitative study suggested that mental health professionals should be regularly visiting schools and screening students for anxiety/depressive disorders. Similarly, parents of preadolescent children (Reardon et al., 2018) and GPs (O'Brien et al., 2017) also recognised the role of screening tools in informing decisions about further support for young people. Short, easy to administer and psychometrically adequate tools (Dowdy et al., 2010; Myers & Winters, 2002) such as our brief set of 11 RCADS items might help parents and professionals in recognising adolescents who might need further professional help.

5.4.2. Promoting positive attitudes towards mental health and help-seeking

Young people in the systematic review and qualitative study consistently reported barriers related to other people's views and attitudes towards mental health and help-seeking. In particular, adolescents seem to be concerned about the views and attitudes of their support network (i.e. friends and family). A belief that other young people would negatively evaluate them is especially common among this age group ('*A lot of people that I know would judge people that have mental health illness or something wrong with them. Like think bad of people who have that*' [Zara, 12], Paper 2). Therefore, strategies are needed to normalise common mental health problems, such as anxiety and depressive disorders, and help-seeking among adolescents, who seem to be especially concerned about other people's views and judgements (Larson et al., 1996; Silk et al., 2011). In particular, interventions to normalise mental health problems and help-seeking are needed in contexts where high levels of stigma may exist (e.g.

gender dysphoria, LBTQI+ youth) (Wilson & Cariola, 2020). Interventions to reduce mental health stigma already exist in various countries (e.g. 'Time To Change' in the UK, 'The Same or Not The Same' in Hong Kong, 'Like Minds, Like Mine' in Germany), and preliminary evidence suggests that some interventions might be effective when delivered in school settings (Salerno, 2016); however, the existing evidence is weak and warrants further investigation (Mellor, 2014; Salerno, 2016).

Adolescents also consistently reported fears around how their parents will see their mental health problems and help-seeking (e.g. Wu et al., 2016). As parents play a key role in adolescent help-seeking, it is important to address any potentially negative attitudes towards mental health and help-seeking among parents. In fact, parental stigma and negative attitudes towards common mental health problems may act as a significant barrier to help-seeking (Chavira et al., 2017; Reardon et al., 2019), and therefore, it is important to develop strategies that will address parental (negative) attitudes towards mental health (Mukolo et al., 2010). For instance, some parents in the qualitative study saw benefits of mental health related television shows and using celebrity role models as ways of normalising common mental health problems.

One way that may encourage positive attitudes towards mental health and help-seeking within a family are regular conversations about mental health, through which young people can be assured that their parents are taking their difficulties seriously and want to help them (Time to Change, 2017). Some adolescents in the qualitative study suggested that they find it helpful if their parents initiate regular conversations about their day, which can then facilitate a conversation about mental health problems ('*…if she (mother) asks how school is, which is pretty much every day, erm, and then I'd just tell her like a few details of how things are going*' [Lilly, 15], Paper 2). This could also help address adolescents' barriers related to difficulties with verbalising their feelings.

5.4.3. Enabling young people and their families to access professional help

Papers 1 and 2 identified a wide range of barriers related to the accessibility of professional help for mental health problems in young people, which is consistent with previous research with parents (e.g. Reardon et al., 2017) and GPs (e.g. O'Brien et al., 2016), and national reports (e.g. Lawrence et al., 2015; Sadler et al., 2018). For instance, over 40% of young people with anxiety and/or depressive disorders and their families reported waiting for over 10 weeks, and nearly 23% over 6 months to be seen by a mental health specialist (e.g. a psychiatrist) in 2017 (Sadler et al., 2018), and some parents in our qualitative study reported that the long waiting list for Child and Adolescent Mental Health Services (CAMHS) would put them off from even trying to make contact with them ('…*I know for a fact that CAMHS's got a three-year waiting list for children referred from schools so self-referral would be phew…*' [Chris's mother], Paper 2). Enabling families to access evidence-based support promptly is, therefore, essential. In fact, recent research with adults suggests that the effectiveness of psychological interventions decreases if these are offered with a delay of more than 6 weeks (Clark et al., 2018), which further emphasises the need for enabling young people and their families to access evidence-based treatments promptly.

GPs present one of the first sources of help for families with young people with anxiety and/or depressive disorders. In fact, GPs often act as 'gatekeepers' between families and specialist mental health services (e.g. Jorm et al., 2007; Kramer and Garralda, 2000). However, there seems to be huge variability in the level of support that GPs provide to families, and some families in the qualitative study reported feeling discouraged or even dismissed by their GPs when seeing them about their child's mental health problems. Furthermore, families often find themselves being referred from one professional/service to another (e.g. from GP to school and vice versa), which

leads to significant delays in intervention. In order to enable families to access evidence-based care, various professionals (e.g. GPs, schools, specialist mental health services) need to collaborate with each other and with families, which has also been reported previously (e.g. Crouch et al., 2019). The findings in this thesis highlighted that the role of communication and collaboration between the services plays an especially significant role in families with limited resources.

It will also be important to offer young people ways of accessing professional help independently (e.g. through text messages, online tools), which might promote their sense of control and autonomy (Prior, 2012). A few young people included in Paper 2 reported being aware of a number of online or telephone sources of help (e.g. Kooth, Childline); however, none of the adolescents reported ever using these services. It is therefore important that online/telephone support is designed in a way that attracts young people and facilitates their help-seeking behaviour. One way of increasing adolescents' engagement in online/telephone support might be accessing this support when in formal settings, such as in school (Garrido et al., 2019). Future research studies should explore barriers related to young people's engagement with mental health information technology tools.

Finally, the widespread provision of evidence-based support in different contexts is needed. This includes support within specialist mental health services (e.g. CAMHS) and support in schools, and other community settings (e.g. charity organisations). Providing psychological interventions in school might help reduce some logistical barriers, such as difficulties with transportation or lack of time. In fact, increasing mental health provision is a part of the UK's Government plan (Department of Health & Department of Education, 2017, 2018) and the NHS Long Term Plan (NHS, 2019), and numerous schools are already working closely together with

specialist mental health services through Mental Health Support Teams (MHSTs) and Link Programme. However, many families included in our qualitative study were not aware of what mental health support could be provided locally for their children, and this was especially the case for families with limited financial and emotional resources. The role of professional services (e.g. schools and GPs) is, therefore, instrumental in enabling children and young people from disadvantaged backgrounds to access help successfully.

5.5.Implications for future research

5.5.1. School-based interventions

Researchers need to consider several important steps when designing and evaluating school-based mental health interventions to improve young people's mental health knowledge and promote positive beliefs about help-seeking. Indeed, currently, there is a lack of clear and consistent evidence to support the effectiveness of school-based interventions designed to improve mental health knowledge and reduce stigma, mainly due to high methodological heterogeneity of current studies (Mansfield et al., 2020; Mellor, 2014; Wei et al., 2013). Going forwards, researchers need to focus on designing strategies and programmes that are relevant and meaningful for young people. Including young people in each step of designing these interventions is, therefore, instrumental (Cavet & Sloper, 2004; Christensen & Prout, 2002). In particular, researchers will need to ensure that the strategies 1) meet specific adolescents' needs, such as a growing need for independence (e.g. Blakemore, 2018), 2) are delivered in a way that is acceptable for young people, and 3) address the most common adolescents' barriers to help-seeking/accessing.

Furthermore, prior to implementation, school-based mental health interventions should be tested through feasibility studies, followed by adequately powered

randomised controlled trials (RCTs). Feasibility studies should focus on identifying any possible issues with implementation, deciding on a set of meaningful outcome measures, planning trial design and determining whether the interventions are appropriate for further testing (Bowen et al., 2009). RCTs need to have clearly defined goals and outcome measures so the effectiveness of specific components can be established, and the results of different RCTs easily compared (Chisholm et al., 2012; Wei et al., 2013). In addition, potential harms (i.e. adverse events) of including young people in mental health research need to be carefully considered (The National Advisory Mental Health Council Workgroup on Child and Adolescent Mental Health Intervention Development and Deployment, 2001).

Two large RCTs that meet the above criteria are currently taking place in schools across the UK - the INSPIRE (Hayes et al., 2019a) and AWARE (Hayes et al., 2019b) trials. These prevention-focused interventions are primarily interested in changes in young people's anxiety and depressive symptoms and help-seeking behaviour. In addition, researchers are interested in changes to participants' well-being, stigma-related knowledge and attitudes and behaviours, cost-effectiveness and the implementation of these interventions. Notably, both trials are also emphasising the role of constant input and feedback from young people and school staff.

Screening for common mental health problems, such as anxiety and depressive disorders, in the school setting has been recognised globally (Department of Health & Department of Education, 2017; Foster et al., 2005), but evidence to support the effectiveness of school-based screening interventions is still limited (Anderson et al., 2019). In fact, there are many potential issues related to screening for anxiety and depression in schools (e.g. lack of appropriately trained staff, insufficient capacities to deal with those identified) (Fazel et al., 2014). In addition, the perspectives of various

stakeholders (e.g. parents, teachers and young people) and their views on screening in schools need to be addressed. As with other mental health interventions in school, involving young people in the process of designing acceptable screening interventions will be crucial to make them more acceptable and effective, and to ensure that the interventions meet adolescents' developmental needs. It will also be critical for feasibility studies and RCTs to focus on investigating effectiveness, cost-effectiveness, form of delivery (e.g. universal versus selective screening), and on identifying screening tools with clear cut-off scores that give low levels of 'false positives' and 'false negatives' (Anderson et al., 2019; Fazel et al., 2014; Husky et al., 2011). The brief set of 11 RCADS items identified in the current thesis could help with the early identification of anxiety and depressive disorders in school settings. However, it will be essential that this item set is re-evaluated on a larger community sample, so its capacity to identify adolescents with anxiety and/or depressive disorder within a community can be established.

5.5.2. Parental views and attitudes towards mental health and help-seeking

The role of parental negative attitudes and stigmatising beliefs towards anxiety and depressive disorders and help-seeking needs to be further investigated. In particular, it is essential to establish the extent to which these beliefs may deter appropriate service access (Chavira et al., 2017). Furthermore, it is important to explore the experience of parental negative attitudes and beliefs towards mental health problems in their children, and qualitative studies might be particularly valuable in this process (Mukolo et al., 2010). In addition, strategies for changing parental negative beliefs towards mental health and help-seeking need to be explored, and involving adolescents' parents in developing these strategies will be very important.

5.5.3. Quality and accessibility of professional help

Improved quality of services is essential to enabling young people and their families to access professional help. Future research on improving the accessibility of professional help for young people and their families should focus on evaluating the clinical outcomes of various mental health interventions (e.g. school-based interventions, digital interventions) by using a standard set of routine outcome measures. This will help researchers and policymakers determine the effectiveness of specific treatments (e.g. CBT delivered in schools), and identify any possible areas of improvement (Rocks et al., 2020). Although a number of digital mental health interventions for adolescents already exist, it will be instrumental to explore adolescents' perceived barriers to engagement with these tools (Grist et al., 2017). Involving young people in research will also be crucial in developing meaningful and helpful interventions for adolescents. In fact, co-design is likely to lead to the development of interventions that are more engaging, satisfying and useful for adolescents (Thabrew et al., 2018).

Collaboration between different (i.e. educational and health) professionals plays an important role in enabling families to access professional services. In fact, some families (e.g. those from low SES backgrounds) might find it harder to access services than others, and therefore, it will be especially important in these circumstances that services work collaboratively to help families access services. Whilst there is evidence on the most common barriers/facilitators to managing anxiety and depressive disorders and other mental health difficulties as perceived by GPs (e.g. O'Brien et al., 2017) and educational professionals (e.g. Rothì, Leavey, & Best, 2008), further research is needed to understand the barriers and facilitators to effective communication and collaboration

across services. The role of qualitative studies might be especially helpful in exploring professionals' perspectives and experiences.

5.5.4. Help-seeking in young people from BAME backgrounds

Future research should also focus on understanding barriers to treatment for young people from Black, Asian and Minority Ethnic (BAME) backgrounds. Indeed, recent data for the UK suggests that young people from BAME backgrounds tend to get referred to specialist services via different routes than their white peers. Furthermore, children and adolescents from BAME backgrounds are also less likely to complete treatment (Edbrooke-Childs et al., 2016; Edbrooke-Childs & Patalay, 2019). Exploring barriers to accessing treatment and treatment engagement will be crucial to improve treatment rates for young people from underrepresented backgrounds. As there is currently a lack of studies exploring help-seeking experiences of young people from BAME backgrounds, the role of qualitative studies will be instrumental. In particular, it will be important to explore the views/experiences of young people as well as their parents, professionals and community groups, as it seems that young people's support network plays an especially important role in help-seeking for these young people. Furthermore, involving young people from BAME backgrounds in co-designing research will be essential to ensure that the research process meets their needs.

5.6.Strengths and limitations

Papers 1-3 include summaries of strengths and limitations associated with each study. This section will focus on the strengths and limitations of the thesis as a whole.

Apart from three studies included in the systematic review (Del Mauro & Jackson Williams, 2013; Guo et al., 2014; Wu et al., 2016) this thesis focused on adolescents and their specific developmental and contextual needs. In addition, we used

multiple research methods (Narrative Synthesis, Reflexive Thematic Analysis and quantitative methods) to address the thesis aims. All studies included in this thesis were conducted through rigorous methodological procedures. For instance, two independent reviewers were involved at each stage of conducting the systematic review, and in-depth qualitative interviews were conducted with adolescents' parents for the purpose of data triangulation in the qualitative study. Furthermore, participants in Papers 2 and 3 (the clinic-referred sample) were assessed by the 'gold standard' diagnostic interviews (ADIS-C/P and K-SADS-PL). Due to the methods of recruitment in Papers 2 and 3 (e.g. opt-out and purposive sampling), we were able to identify adolescents and families of various backgrounds and demographic and clinical characteristics. Furthermore, we identified a brief set of 11 RCADS items, which has the potential to effectively and accurately identify adolescents with anxiety and/or depressive disorders in the community. Finally, patients and the public were consulted at each stage of planning empirical studies in this thesis, which increases the ecological validity of the thesis findings.

However, it is important to acknowledge some limitations. Due to a heterogeneity of studies included in the systematic review, it was impossible to establish what are most common barriers and facilitators among young people of specific demographic and clinical characteristics. Similarly, only a minority of participants in all three papers were adolescents from BAME backgrounds, which is important, as help-seeking and accessing services seems to be particularly challenging for young people (e.g. Lindsey et al., 2006) from BAME backgrounds. In addition, some adolescents in Papers 2 and 3 might be mistakenly treated as 'diagnosis free' (i.e., 'false negatives') due to the methods of recruitment. One of the main limitations of Papers 2 and 3 is that all participants were recruited in only two schools (notably, one of

the schools was in one of the most deprived areas of England) and one county (Berkshire), and since service provision varies significantly across the UK (Crenna-Jennings & Hutchinson, 2020) it is likely that adolescents and their families in different parts of the country will face different barriers/facilitators to seeking professional help for anxiety and depressive disorders in adolescents. It is important to note that the experiences of participants in the qualitative study (Paper 2) may differ from those of other adolescents with anxiety and/or depressive disorders, and therefore, further evidence should be gathered to explore generalisability. It is also important to acknowledge that prior knowledge and assumptions of the research team influenced the processes of data collection, analysis and synthesis in Paper 2, and therefore, it is highly likely that different researchers would come up with different conclusions. Similarly, a brief set of 11 RCADS items was identified and evaluated on the same samples, which further limits the generalisability of the thesis findings.

5.7.Conclusions

Anxiety and depressive disorders are the most common mental health disorders in adolescents; yet only a minority of those affected access professional help. Understanding reasons for not seeking and accessing help from adolescents' own perspective is crucial to address this treatment gap and improve access to professional help.

The systematic review (Paper 1) identified a range of barriers and facilitators related to young people's individual factors (e.g. limited mental health knowledge), social factors (e.g. mental health stigma), therapeutic relationship factors (e.g. lack of trust) and systemic factors (e.g. lack of time). Whilst Paper 1 provided a broad overview of barriers and facilitators across mental health problems, Paper 2 identified barriers and facilitators specifically for adolescents who met the diagnostic criteria for anxiety

and/or depressive disorder. In particular, Paper 2 highlighted that certain barriers and facilitators are more pronounced in adolescents with anxiety and/or depressive disorders, possibly reflecting the 1) nature of anxiety/depressive disorders (e.g. avoidance and lack of motivation) and 2) adolescents developmental characteristics (e.g. need for autonomy and concerns around negative evaluation). Screening for anxiety and depressive disorders could help adolescents and adults around them recognise anxiety and depressive symptoms and identify those young people who would benefit from further professional input. Brief, accurate and easy to use/interpret identification tools, such as a set of 11 RCADS items (Paper 3) might be particularly helpful to practitioners working in everyday settings, such as in schools or primary care.

Papers included in this thesis identified many areas of practical implications. There is a need to improve adolescents', parents' and professionals' knowledge of anxiety and depressive disorders and available help, and to normalise (i.e., accept something as common) and destigmatise (i.e., remove barriers related to shame) mental health problems and help-seeking. Furthermore, increasing availability of professional help is essential, and professionals (e.g. GPs and teachers) need to support families in accessing professional services. Findings from this thesis also highlight many possible areas for future research. As adolescents have specific needs, all interventions and strategies to improve treatment rates for anxiety and depressive disorders need to be conducted in a way that is meaningful for young people themselves. Active involvement of young people in mental health research will be, therefore, essential.

5.8.References

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Chapter 6: Appendices

Appendix 1: Ethics committee approval letters

Appendix 1.1: University of Reading Research Ethics Committee (UREC) approval letter

Appendix 1.2: UREC approval letter – amendment

Appendix 1.3: UREC approval letter – amendment

Appendix 1.4: UREC approval letter – amendment

University of Reading

Coordinator for Quality Assurance in Research
Dr Mike Proven, BSc(Hons), PhD

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Dr Polly Waite
School of Psychology and Clinical Language Sciences
University of Reading
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26 July 2018

Dear Polly,

UREC 18/28: Improving Access to Treatment for Anxiety and Depression in Adolescence – IAT-ADA. *Favourable opinion with conditions*

Thank you for the application (email dated 19 July 2018 from Jerica Radez and including attachments refers). On the basis of these documents I can confirm that the Chair is pleased to confirm a favourable ethical opinion subject to the following condition:

(i) The Committee asked that the 'Participant Information Sheet' explain to the parent or carer that 'a copy of the safeguarding procedures can be obtained from the school.'

Separately (*and **not** as a condition of approval*), the Committee would like to ask you to consider the recent advice and example statements – from UREC and the University's Research Data Manager, and given via Heads of Schools – to include a statement in the Data Section of the Information Sheet and Consent form that would facilitate the 'downstream' sharing of data. The advice was that the researcher should check that:

"The consent form asks the research participant for permission to preserve some or all of the data they provide over the long term, and to make the data available, in anonymised form if required, either openly or subject to appropriate safeguards, so that they can be consulted and re-used by others, in accordance with the University's Research Data Management Policy."

Two examples of wording which can be used are below, one is anonymised data and the latter is not-anonymised:

This letter and all accompanying documents are confidential and intended solely for the use of the addressee

'I understand that the data collected from me in this study will be preserved and made available in anonymised form, so that they can be consulted and re-used by others.'

OR

'I understand that the data collected from me in this study will be preserved, and will be made available to other authenticated researchers only if they agree to maintain the confidentiality of the information provided to them.'

I would be grateful for your response to these points in due course – ***and in any case before the practical work of the study commences.***

Please note that the Committee will monitor the progress of projects to which it has given favourable ethical opinion approximately one year after such agreement, and then on a regular basis until its completion.

Please also find attached Safety Note 59: Incident Reporting in Human Interventional Studies at the University of Reading, to be followed should there be an incident arising from the conduct of this research.

The University Board for Research and Innovation has also asked that recipients of favourable ethical opinions from UREC be reminded of the provisions of the University Code of Good Practice in Research. A copy is attached and further information may be obtained here:

http://www.reading.ac.uk/internal/res/QualityAssuranceInResearch/reas-RSqar.aspx

Yours sincerely

[redacted]

Dr M J Proven
Coordinator for Quality Assurance in Research (UREC Secretary)
cc: Dr John Wright (Chair); Professor Laurie Butler (Head of School); Jerica Radez (Doctoral Researcher);

University of Reading

Coordinator for Quality Assurance in Research
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Dr Polly Waite
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30 October 2018

Dear Polly,

UREC 18/28: Improving Access to Treatment for Anxiety and Depression in Adolescence – IAT-ADA. *Amendment favourable opinion*

Thank you for your application (email, dated 30 October 2018 and including attachments, from Jerica Radez refers) requesting and detailing amendments to the above project (*permission to use additional social media and other electronic routes to contact potential schools*). I can confirm that the UREC Chair has reviewed that request and is happy for the project to continue.

Yours sincerely

[redacted]

Dr M J Proven
Coordinator for Quality Assurance in Research (UREC Secretary)
cc: Dr John Wright (Chair); Professor Laurie Butler (Head of School); Jerica Radez (Doctoral Researcher);

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Dr Polly Waite
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17 December 2018

Dear Polly,

UREC 18/28: Improving Access to Treatment for Anxiety and Depression in Adolescence – IAT-ADA. *Amendment favourable opinion*

Thank you for your application (email, dated 17 December 2018 and including attachment, from Jerica Radez refers) requesting and detailing amendments to the above project (*permission to use modest gifts (e.g. Amazon vouchers) to improve recruitment rates).* I can confirm that the UREC Chair has reviewed that request and is happy for the project to continue.

Yours sincerely

[redacted]

Dr M J Proven
Coordinator for Quality Assurance in Research (UREC Secretary)
cc: Dr John Wright (Chair); Professor Laurie Butler (Head of School); Jerica Radez (Doctoral Researcher);

This letter and all accompanying documents are confidential and intended solely for the use of the addressee

Coordinator for Quality Assurance in Research
Dr Mike Proven, BSc (Hons), PhD

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Dr Polly Waite
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23 January 2019

Dear Polly,

UREC 18/28: Improving Access to Treatment for Anxiety and Depression in Adolescence – IAT-ADA. *Amendment favourable opinion*

Thank you for your application (email, dated 15 January 2019 and including attachment, from Jerica Radez refers) requesting and detailing amendments to the above project (*permission to recruit adolescents into Study 2 in the absence of matched parental recruits).* I can confirm that the UREC Chair has reviewed that request and is happy for the project to continue.

Yours sincerely

[redacted]

Dr M J Proven
Coordinator for Quality Assurance in Research (UREC Secretary)
cc: Dr John Wright (Chair); Professor Laurie Butler (Head of School); Jerica Radez (Doctoral Researcher);

This letter and all accompanying documents are confidential and intended solely for the use of the addressee

Appendix 2: Information leaflets for schools, parents and adolescents

Appendix 2.1: Invitation letter for schools

Appendix 2.2: Parent information leaflet – stage 1

Appendix 2.3: Parent privacy notice

Appendix 2.4: Adolescent information leaflet – stage 1

Appendix 2.5: Adolescent privacy notice

Appendix 2.6: Parent information leaflet – stages 2 and 3

Appendix 2.7: Adolescent information leaflet – stages 2 and 3

Principal Investigator: Dr Polly Waite
Email: p.l.waite@reading.ac.uk
Tel: [redacted]

Researcher: Jerica Radez
Email: j.radez@pgr.reading.ac.uk
Tel: 0[redacted]

School of Psychology and Clinical Language Sciences
University of Reading
Earley Gate
Whiteknights Road
Reading
RG6 6AL

Dear Headteacher,

Improving Access to Treatment for Anxiety and Depression in Adolescence – IAT-ADA

We would like to invite you and your school to work with our team of researchers on a research project designed to **improve treatment access for adolescents with anxiety disorders and/or depression**. Further details about the research project and key information regarding your involvement and benefits for your school are provided below, should you choose to participate. We will contact you by the telephone to discuss the research project further with you. In the meantime, please feel free to contact us by phone 07811479928 or email (j.radez@pgr.reading.ac.uk) if you have any questions or would like any further information.

Your involvement	Benefits for your school
Help with the whole school screening for anxiety and depression.	£3 for each set of parent-child returned questionnaires.
Help in engaging parents to take part in the study	Help/support in organising mental-health related events after the study; report of main findings after the study
Providing support for detailed assessments for students with elevated levels of anxiety/depression symptoms	Families will be provided with the report of the assessment and information about accessing professional help

Background

Anxiety and depression are common mental health disorders in adolescence. Despite their high prevalence adolescents with anxiety disorders and depression are less likely to receive treatment than those with behavioural disorders. Effective treatments for anxiety and depression in young people exist, however only about one third of them actually access professional help. Therefore, there is a clear need to address the barriers to treating anxiety and depression in adolescence. This project includes two studies. Both of them have the overarching aim of improving the access to treatment for adolescents with anxiety disorders and depression.

Study 1

One of the reasons why these young people do not access treatment is the low identification rate of adolescents with anxiety and/or depression. Existing questionnaires used to identify adolescents with symptoms of anxiety and/or depression are long, time consuming, and sometimes expensive. The majority of these questionnaires are used in specialist mental health services (CAMHS) and not in community settings. Research suggests that secondary schools provide a good environment for early identification of young people experiencing anxiety and/or depression.

In this study we will collect information on anxiety and depression from adolescents and their parents/carers. We aim to use the results to develop a brief screening questionnaire to help teachers and other professionals to identify adolescents with anxiety disorders and/or depression.

Study 2

Once a mental health difficulty has been identified, there are other obstacles that might stand in the way of an adolescent receiving professional help. As adolescents play a more active role in help-seeking than younger children it is important to understand their own experiences of accessing and seeking help when experiencing mental health difficulties.

The aim of this study is to identify factors that may help or hinder adolescents accessing and seeking professional help for anxiety and/or depression so that we can address these factors to enable greater numbers of young people to get effective treatment.

What will be involved for your school?

Study 1

1. We will ask you to distribute the attached information leaflet about our first study, and the opt-out forms to all parents of children from year 7 to year 13. We can provide this information electronically and/or in paper form. For the Study 1 we would like to recruit as many adolescents as possible, including those with and without anxiety and/or depression.
2. If you choose to distribute paper copies of opt out forms, we will provide these and sealable envelopes so parents can return them to school. We would ask you to keep the returned opt-out forms secure until we collect them.
3. We will liaise with you or a nominated staff member to arrange a convenient time to come to your school. A group of researchers from the University of Reading will visit and give out the questionnaires in a paper or electronic form to all students whose parents did not opt-out. They will be on hand to help while students complete the questionnaires. This should take approximately 20 minutes and arrangements will be made to minimise any inconvenience caused to students or teachers.
4. During the school visit we will also need to collect some background information relating to the adolescents involved (gender, ethnicity, date of birth, year group, whether English is their additional language, whether they are eligible for free school meals and if they

have special educational needs). We would ask you to advise us on which staff member will be best to approach regarding this information.

5. We will then ask you to distribute parent (or carer) consent forms, and the questionnaires to all parents of adolescents who completed the questionnaires in school.
6. If you choose to distribute paper copies of questionnaires, we will provide these and sealable envelopes so parents can return them to school. We would ask you to keep the returned consent forms/questionnaires secure until we collect them.
7. We would be keen to work with you to think about how we can encourage parents to complete the questionnaires (e.g. putting on an information evening, our research team coming along to existing parent events, such as parent's evening).
8. We will then ask you to send parents a reminder to complete the questionnaires (e.g., send parents a reminder text-message).

Study 2

1. We will use information provided in the questionnaires completed by adolescents and their parents to help identify adolescents who *may* be experiencing anxiety and/or depression. However, the questionnaires are not always accurate so we will contact parents where responses from the adolescent or their parent suggest that the adolescent may be experiencing difficulties and we will invite these adolescents to take part in the second study. This will include a more detailed assessment of their child's anxiety and/or depression.
2. In study 2, adolescents will be asked a standard set of questions relating to their anxiety and/or depression in order to determine whether they meet diagnostic criteria for an anxiety disorder or depression. This assessment will only involve the young person. We will ask you to provide us with an appropriate location in your school where these one-to-one assessments with adolescents could take part. Each assessment will take approximately 1.5 hours and will be conducted by experienced and trained researchers. We will provide parents with a report of the assessment, together with information about accessing professional help.
3. If the adolescent has an anxiety disorder and/or depression, we may contact their parents again and invite the parent and their child to each take part in an interview. In this interview, we will ask parents and adolescents about their experience of accessing and seeking help for the young person's mental health problems. We will ask you to provide us with an appropriate location in your school where these one-to-one interviews with adolescents could take part.

Other important information

The project has been reviewed by the University of Reading Research Ethics Committee, and this committee has given the study favourable opinion to conduct. All researchers involved in the project have been through the enhanced Disclosure and Barring Service checking process and received approval by the School of Psychology and Clinical Language Studies for working with children and adolescents. This research project is a part of a doctoral thesis and your school will be acknowledged in the thesis.

We hope that you will be interested in working together with us. We will be in touch with you soon, but if you have any questions in the meantime, please feel free to contact us.

Yours sincerely,
Jerica Radez
Doctoral Researcher
Email: j.radez@pgr.reading.ac.uk
Tel: [redacted]

Dear Parent/Carer,

We would like to invite you and your child to take part in our study

Improving Access to Treatment for Anxiety and Depression in Adolescence IAT-ADA

Parent Information Leaflet

Anxiety disorders and depression are common mental health disorders in young people and one in five adolescents report struggling with mental health difficulties on a daily basis.

Anxiety and depression in young people can be effectively treated. However, approximately 2/3 of young people facing anxiety and/or depression fail to get the help they need.

Our study aims to address this problem by…

Developing a short screening questionnaire of anxiety and depression symptoms to help teachers, GPs and other professionals better identify adolescents who may need help.

What will we do?

1. We will give two questionnaires of common symptoms of anxiety and depression to large numbers of young people in schools.

2. We will also collect some background information about young people from their schools to make sure we include a large and diverse sample of young people.

3. We will ask you to complete the same two questionnaires about your child and give us a few details about yourself.

4. If your child's scores are high on one of the questionnaires, we might contact you again to ask them a standard set of questions about the nature of their difficulties.

What happens next?

- If you agree for you/your child to participate, you do not need to do anything at this point.
- A group of researchers will come to your child's school and give out the questionnaires and collect background information. Your child will be asked to provide their assent/consent at this point as well.
- You will be sent a consent form and the same two questionnaires about your child a couple of weeks later and asked to complete them in paper or electronically. This will take you about 15 minutes.
- If you do not want you/your child to take part, please complete the opt-out form and return it to school and send using the sealable envelope. You can also complete the opt-out form online: https://reading.onlinesurveys.ac.uk/iat-ada-parent-info-and-opt-out

To help us develop an accurate short screening questionnaire it is important that we collect information from parents as well as young people themselves.

We would also like you to know that…

- Questionnaire responses will be stored on a secure University server using a unique ID and kept confidential. The only time we would share information with the school is if we believe someone is at serious risk of harm.
- This study has been reviewed by the University of Reading Ethics Committee, and this committee has given the study a favourable opinion for conduct.

- If taking part in this study is upsetting for your child, then our researchers will be on hand to provide support and guidance about further input from local services if necessary.
- All the researchers involved in working with your child have been through the enhanced Disclosure and Barring Service checking process and received approval to work with young people.
- Your/your child's participation in our study is entirely voluntary and you are free to withdraw at any point.
- For more information about collecting, using and storing your data, please see the Privacy Notice available on the study's website.

Who to talk to if I have concerns regarding my child's mental health?

You can seek support from your GP and National organisations such as Young Minds (https://youngminds.org.uk/)

If you have any questions about current study, feel free to contact us directly.

Principal Investigator:
Dr Polly Waite
Email: p.l.waite@reading.ac.uk
Tel: [redacted]

Doctoral Researcher:
Jerica Radez
Email: j.radez@pgr.reading.ac.uk
Tel: [redacted]

Researchers:
Dr Tessa Reardon
Email: t.reardon@reading.ac.uk
Prof Cathy Creswell
Email: c.creswell@reading.ac.uk

The results from this study will form part of Jerica's PhD

School of Psychology and Clinical Language Sciences
University of Reading
Earley Gate
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University of Reading

Privacy Notice
Title of Study: Improving Access to Treatment for Anxiety and Depression in Adolescence – IAT-ADA

Why do we collect, use and store your personal information?
For the purpose of research in the **public interest**.
Personal information we collect helps us to **understand** and **describe the research findings**.

What personal information will we use in this study?
a) Your/your partner's: name, address, telephone number, email address, gender, employment, occupation, education, relationship to child and use of services.
   - We will collect these from **you directly**

b) Your child's: name, date of birth, gender, ethnicity, school year, having English as a second language, eligibility for free school meals and the presence of statement of special educational needs
   - We will collect these from **your child's school**

c) Your child's: anxiety, mood and use of services.
   - We will collect these from **you and your child directly**

How will we keep your personal information safe?
We will store all your personal information on a **secure University network**. Your personal information will be stored under a **unique ID**. We will have a document that links your/your child's name and contact details to your unique ID and we will store this document separately from all other information we hold about you.

We may share data collected as part of the research study with other researchers outside of the University but this will be in a format that **does not identify you**. Any data that is published as a result of the research study will not identify you.

How long will we store your personal information?
We will only store your personal information **for as long as it is required for research purposes** and **appropriate safeguards** are in place.

Who is responsible for protecting and processing your personal information?
The University of Reading (the 'Data Controller') and (Bristol) Online Surveys (the 'Data Processor').

Who should I contact if I have concerns about data protection or my rights?
The University Data Protection Officer. Email: imps@reading.ac.uk
Information Management & Policy Services, University of Reading, Whiteknights, P O Box 217, Reading, RG6 6AH.

What are your rights under data protection law?
You have certain **rights** under data protection law which are:
1. Withdraw your consent
2. Access your personal data or ask for a copy
3. Rectify inaccuracies in personal data that we hold about you
4. Be forgotten, (i.e. your details to be removed from systems that we use to process your personal data)
5. Restrict uses of your data
6. Object to uses of your data, e.g. retention after you have withdrawn from a stud

Some restrictions apply to the above rights where data is collected and used for research purposes.

You can find out more about your rights on the website of the Information Commissioners Office (ICO) at https://ico.org.uk
You also have a right to complain the ICO if you are unhappy with how your data has been handled.

Dear Student,

We would like to invite you to take part in our study

Improving Access to Treatment for Anxiety and Depression in Adolescence IAT-ADA

Student Information Leaflet

Anxiety disorders (different fears and worry) and depression (low mood) are common mental health disorders in young people and one in five adolescents report struggling with mental health difficulties on a daily basis.

Anxiety and depression in young people can be effectively treated. However, approximately 2/3 of young people facing anxiety and/or depression fail to get the help they need.

By taking part in this study you will help us to address this problem by…
Developing a short screening questionnaire of anxiety and depression symptoms which will help us better identify adolescents who may need help.

What will we do in our study?

1. We will ask large number of young people in schools to complete two questionnaires of common symptoms of anxiety and depression and answer a couple of additional short questions.

There are no right or wrong answers to our questions. We just want to know how you feel.

2. We will also collect some background information about you from your school to make sure we include a large and diverse sample of young people.

3. We will send the same two questionnaires about you to your parents.

4. If you score high on either of questionnaires, we might contact you and your parents again to ask you a standard set of questions about the nature of your difficulties.

What happens next?

- A group of researchers will visit your school and if you agree to participate, we will ask you to sign an assent/consent form.
- We will then give out the questionnaires and you will be asked to complete them, which is going to take you about 20 minutes.
- Researchers will be there to help you with any questions you might have, and to minimise the disruptions while you are completing the questionnaires.
- If you do not want to take part, do not sign the assent/consent form. Your participation is completely up to you!

To help us develop an accurate short screening questionnaire it is important that we collect information from young people themselves as well as their parents.

We would also like you to know that…

- Questionnaire responses will be stored securely using a unique ID number and kept confidential. The only time we would share information with the school is if we believe someone is at serious risk of harm.
- This study has been reviewed by the University of Reading Ethics Committee, and this committee has given the study a favourable opinion for conduct.

- If taking part in any part of this study is upsetting for you, then our researchers will be on hand to provide support and guidance about further assistance from local services if necessary.
- Your participation in our study is entirely voluntary and you are free to withdraw at any point.
- For more information about collecting, using and storing your data, please see the Privacy Notice available on the Study's website.

Where to seek support regarding my mental health?

You can seek support from your GP. There are also many websites where you might find useful information, for instance:

https://youngminds.org.uk
https://www.mind.org.uk
https://www.nopanic.org.uk
https://www.childline.org.uk
http://www.themix.org.uk

If you have any questions regarding adolescent anxiety and/or depression or if you would like to know more about the current study, feel free to contact us directly.

Principal Investigator:
Dr Polly Waite
Email: p.l.waite@reading.ac.uk
Tel: [redacted]

Doctoral Researcher:
Jerica Radez
Email: j.radez@pgr.reading.ac.uk
Tel: [redacted]

Researchers:
Dr Tessa Reardon
Email: t.reardon@reading.ac.uk
Prof Cathy Creswell
Email: c.creswell@reading.ac.uk

The results from this study will form part of Jerica's PhD

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University of Reading

Privacy Notice

Title of Study: Improving Access to Treatment for Anxiety and Depression in Adolescence – IMPACT-ADA

Why do we collect, use and store your personal information?

For the purpose of research in the **public interest**.

Personal information we collect helps us to **understand** and **describe the research findings**.

What personal information will we use in this study?

a) Your: name, date of birth, gender, ethnicity, school year, having English as a second language, eligibility for free school meals and the presence of statement of special educational needs

- We will collect these from **your school**

b) Information about your: fears, worries, mood and help-seeking behaviour.

- We will collect these from **you and your parent/carer directly**

c) Your parent's/caregiver's: name, address, telephone number, email address, gender, employment, occupation, education, relationship to child and use of services.

- We will collect these from **them directly**

How will we keep your personal information safe?

We will store all your personal information on a **secure University network**. Your personal information will be stored under a **unique ID**. We will have a document that links your or your parent's/caregiver's name and contact details to your unique ID and we will store this document separately from all other information we hold about you.

We may share data collected as part of the research study with other researchers outside of the University but this will be in a format that **does not identify you**. Any data that is published as a result of the research study will **not identify you**.

How long will we store your personal information?

We will only store your personal information **for as long as it is required for research purposes** and **appropriate safeguards** are in place.

Who is responsible for protecting and processing your personal information?

The University of Reading (the 'Data Controller') and (Bristol) Online Surveys (the 'Data Processor').

Who should be contact if I have concerns about data protection or my rights?

The University Data Protection Officer. Email: imps@reading.ac.uk

Information Management & Policy Services, University of Reading, Whiteknights, PO Box 217, Reading, RG6 6AH.

What are your rights under data protection law?

You have certain **rights** under data protection law which are:

1. Withdraw your consent
2. Access your personal data or ask for a copy
3. Rectify inaccuracies in personal data that we hold about you
4. Be forgotten, (i.e. your details to be removed from systems that we use to process your personal data)
5. Restrict uses of your data
6. Object to uses of your data, e.g. retention after you have withdrawn from a stud

Some restrictions apply to the above rights where data is collected and used for research purposes.

You can find out more about your rights on the website of the Information Commissioners Office (ICO) at https://ico.org.uk

You also have a right to complain the ICO if you are unhappy with how your data has been handled.

School of Psychology and Clinical Language Sciences
University of Reading
Earley Gate
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University of Reading

Dear Parent/Carer,

Your child recently took part in a study Improving Access to Treatment for Anxiety and Depression in Adolescence (IAT-ADA). In the first information leaflet that you received we let you know that we might contact you again.

Some information provided in the questionnaires suggests that your child may be experiencing some fears and worries or low mood, which could affect their everyday life. Questionnaire responses can be inaccurate and therefore we would like to invite your child to take part in a detailed follow-up assessment to get a clear idea of what they are experiencing.

Details about the assessment and follow-up study are provided below.

What will we do?

1. An experienced and trained researcher will come to your child's school and do a one-to-one assessment with them in a quiet room. We will ask your child a standard set of questions about the nature of their difficulties to determine whether their anxiety or low mood are at the level required for a diagnosis. This will last approximately 1.5 hours and your child will be given a £10 Amazon voucher to compensate them for their time.

2. We will provide you with a report of our findings and details about how to access help. You will be able to use the report to help a referral to an appropriate service, if needed.

3. If your child meets the level of a diagnosis for a current anxiety disorder/depression, we may also contact you again and invite both of you to be interviewed separately about help-seeking for young people's mental health problems. Each interview will last approximately 30 minutes. We will interview young people at their school and offer parents to be interviewed at school or by phone. Each family will be given £10 Amazon voucher to compensate them for their time.

What happens next?

- We will contact you within next few days to see if you would like your child to take part in the next stage of the study. If you have any questions in the meantime, please contact us using the details on the other side of this letter.

- If you agree for your child to be assessed, please fill-out the parent consent form. You can provide consent electronically on https://reading.onlinesurveys.ac.uk/parent-consent-follow-up Alternatively, you can complete the enclosed paper copies and return them to your child's School. We will also ask you to share the 'Adolescent information leaflet' with your child so they know what to expect from the assessment.

Other important details…

- Your child will be asked to provide **assent/consent before** the assessment/interview.
- To be sure we always carry out assessments in the same way, with yours and your child's permission, we will **record the assessment**. We will also ask you/your child for permission to record the interviews about help-seeking, which will help us carry out detailed examination of your responses. All the recordings will only be accessed by members of the research team.
- Your child is free to **withdraw** from the assessment at any time without providing a reason.
- If you and your child agree to them having an assessment, we will let the school know so they can help with the arrangements. We will **not share a copy of the report with the school** unless you have specifically asked us to.
- All information collected will be kept **confidential** unless there's something in your child's responses that might indicate they are at risk of harm. In that case, we will notify the **school safeguarding lead** and follow **safeguarding procedures**, which will be previously arranged and agreed with the school. A copy of safeguarding procedures can be obtained from the school.
- All information we collect about your family, including audio recordings, will be stored under a unique ID number and will be **kept on the secure University server.**
- Interviews with you/your child will be transcribed with all the information that could identify your family removed. We might use your/your child's quotes in scientific papers and congress presentations.
- This study has been reviewed by the **University of Reading Ethics Committee**, and this committee has given the study a favourable opinion for conduct.

Who to talk to if I have concerns regarding my child's mental health?

You can seek support through your GP and national organisations such as Young Minds (Website: https://youngminds.org.uk/, Parent helpline: 0808 802 5544).

If you have any questions regarding the study, feel free to contact us by phone ([redacted] or email (j.radez@pgr.reading.ac.uk).

Yours sincerely,

Jerica Radez
Doctoral researcher
Email: j.radez@pgr.reading.ac.uk
Tel: [redacted]

Dr Polly Waite
Principal Investigator
Email:p.l.waite@reading.ac.uk
Tel: [redacted]

Yours and your child's participation in this study will help us understand the barriers for seeking help for young people's mental health problems and work towards improving access to treatment.

The results will form a part of Jerica's PhD

For more information about collecting, using and storing your/your child's data, please see the Privacy Notice at this link.

School of Psychology and Clinical Language Sciences
University of Reading
Earley Gate
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University of Reading

Dear Student,

You and/or your parent/carer recently took part in a study Improving Access to Treatment for Anxiety and Depression in Adolescence (IAT-ADA). In the first information leaflet that you received in school we let you know we might contact you and your parent again.

Some of the responses that you and/or your parent provided in the questionnaires suggest that you may be experiencing some fears or worries or low mood, which could affect your everyday life. However, questionnaires are not always accurate and that is why we would like to invite you to take part in a more detailed assessment. This will help us to get a clear idea of what you are experiencing.

Details about the assessment are outlined below.

What will we do?

1. An experienced and trained researcher will come to your school and do a one-to-one assessment with you in a quiet room. We will ask you a standard set of questions about what you are experiencing. This will last approximately 1.5 hours and you will be given £10 Amazon voucher to compensate you for your time.

2. We will write a report of our findings and details about how to access help, which will be sent to your parent/carer.

3. We might contact you and your parent again and invite you to each take part in a separate interview about help-seeking for young people's mental health problems.

We also want you to know that…

- We will ask you and your parent to provide consent before the assessment.
- You are able to withdraw from the assessment at any time without providing a reason.
- We will only let the school know about the assessment taking place if you and your parent agree.
- We will not share any information about what you are experiencing with school, unless there is something in your responses that indicates you are at the risk of harm.
- All the materials and information provided in the assessment will be securely stored on the University server.

Where to seek support regarding my mental health?

You can seek support with your GP. There are also many websites where you might find useful information, for instance:

https://youngminds.org.uk
https://www.mind.org.uk
https://www.nopanic.org.uk
https://www.childline.org.uk
http://www.themix.org.uk

If you have any questions about the study, feel free to contact us by phone (07811479928) or email (j.radez@pgr.reading.ac.uk).

Yours sincerely,

Jerica Radez
Doctoral researcher
Email: j.radez@pgr.reading.ac.uk
Tel: [redacted]

Dr Polly Waite
Principal Investigator
Email: p.l.waite@reading.ac.uk
Tel: [redacted]

Your participation in this study will help us understand the barriers for seeking help for young people's mental health problems and work towards improving access to treatment

The results will form a part of Jerica's PhD

For more information about collecting, using and storing your data, please see the Privacy Notice on the following link.

Appendix 3: Questionnaires, forms and interview topic guides

Appendix 3.1: Parent questionnaires – stage 1

Appendix 3.2: Adolescent questionnaires – stage 1

Appendix 3.3: Pupil demographic form – stage 1

Appendix 3.4: Topic guides – stage 3

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Researcher: Jerica Radez
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Tel: [redacted]

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Dear Parent/Carer,

We recently sent you the attached information about our study **Improving Access to Treatment for Anxiety and Depression in Adolescence – IAT-ADA.** The study aims to develop a short screening questionnaire of anxiety and depression which will help us better identify young people who may need help.

Along with a large number of other young people, your child took part in the study at school and completed some short questionnaires of common symptoms of anxiety and depression. To help us develop an accurate short screening questionnaire of anxiety and depression, it is important that we collect information from parents as well as young people themselves. We are therefore asking you to now complete some short questionnaires about your child, and to provide some background information about your family. **This will take you approximately 15 minutes.**

Before completing the questionnaires, please complete and sign the **consent form.**

If you have any questions regarding the study, please feel free to contact us directly.

Yours sincerely,

Jerica Radez
Doctoral Researcher
Email: j.radez@pgr.reading.ac.uk
Tel: [redacted]

Parent Questionnaire

About your child

Your child's date of birth:	/ /
Your child's gender:	

About you

Your relationship to your child:	
Your gender:	

About you (and your partner)

Employment: Please **tick** where appropriate

	You	**Your partner**
Unemployed		
Part-time work		
Full-time work		
Retired		
Full-time homemaker		

If employed, please state **current occupation**:

You	
Your partner	

Education: Please **tick** where appropriate

	You	**Your partner**
School completion		
Further education (e.g. college, vocational courses)		
Higher education (undergraduate degree)		
Postgraduate qualification		

In the last 12 months, have you contacted a professional about your child being anxious or depressed or experiencing another emotional problem? Please, select your answer.

a) YES
b) NO

Have you/your child **received** any support from a professional to help your child manage and overcome difficulties with anxiety/depression or another emotional problem in the last 12 months? Please, select your answer.

a) YES
b) NO

Do you think your child would benefit from support from a professional to help manage and overcome difficulties with anxiety/depression or another emotional problem? Please, select your answer.

a) YES
b) NO

Dear Student,

Thank you for participating in our study.

Please, answer the following three questions before completing the questionnaires.

1. Have you spoken to a professional (e.g. teacher or GP) about feeling anxious or depressed or another emotional problem in last 12 months? Please, select your answer.
   a) YES
   b) NO

2. Have you received any support from a professional to help you with difficulties with anxiety or depression or another emotional problem in the last 12 months? Please, select your answer.
   a) YES
   b) NO

3. Do you think you would benefit from support from a professional to help you with difficulties with anxiety or depression or another emotional problem? Please, select your answer.
   a) YES
   b) NO

Pupil demographics: School record details

SCHOOL NAME_____

Pupil's ID Office only	Gender	Ethnicity	Date of Birth	School Year	English as an Additional Language **(yes or no)**	Free School Meals **(yes or no)**	Special Educational Needs **(please give details)**

Adolescent- and parent-interview topic guides

Adolescent interview topic guide

Knowledge and understanding of anxiety and depression in young people

1. Can you tell me a bit about what you know about anxiety and depression?
    - Probe: How can you tell if someone your age has been experiencing anxiety and/or depression?
    - Probe: Do you know someone with anxiety and/or depression? How do you know they have been experiencing these difficulties?

Personal experience of identifying anxiety and/or depression

2. Last time we met I asked you lots of questions about how you've been feeling recently and you told me about your worries and/or low mood. To what extent do you perceive these feelings to be a problem for you?

    - Probe: What makes you think that this is (not) a problem?

3. Have you talked to other people about these feelings?

(for those who have talked to someone before)

- Probe: Who did you talk to? Was there any particular reason for you to talk to them?
- Probe: Did that person (e.g. a parent/friend/partner) notice anything? Or did you tell them how you have been feeling first?

(for those who haven't talked to anyone before)

- Probe: Have you considered talking to anyone?
- Probe: Was there anything particular that stopped you from doing that?

Help-seeking attitudes and knowledge about available help/support

4. Do you think it is helpful for young people to talk to other people about feeling anxious/depressed? Who do you think that young people should talk to?
    - Probe: Do you think that young people should talk to people close to them (like family, partners, (online) friends)? Who do you think they should talk to? Is there any particular reason to talk to them?
    - Probe: Do you think that young people should talk to someone else (like teacher, GP, school nurse, year tutor)? Who do you think they should talk to? Is there any particular reason to talk to them?

5. Can you tell me a bit about what you know about available help/support for young people experiencing anxiety and/or depression?
    - Probe: Where did you find out about these things?
    - Probe: Would you know where to find help for experiencing anxiety and/or depression? Where would you go?

6. Some young people who experience anxiety and/or depression want to get some help with these feelings and talk to a professional about it. What do you think about young people who seek professional help for their mental health problems?
    - Probe: How would you describe a person who seeks help for their mental health problems?
    - Probe: Do you know anyone who has sought professional help for the problems with their fears, worrying and mood? What do you think of them?

Help-seeking/accessing experience and barriers/facilitators to help-seeking/accessing

7. Have you at any point in the past sought professional help to help you managing your difficult emotions, such as fears, worries and/or low mood?

(for those who did seek help for problems in the past)

Can you describe that experience to me?

- Probe: Who did you seek help with? Was there any reason for choosing them? How was that help for you?

8. Have you sought any professional help for the (current) problems with your fears, worries and/or low mood?

(for those who did seek help for their anxiety and/or depression)

Who did you speak to?

- Probe: Have you tried to speak to someone else than your close ones about your problems (like teacher, GP, school nurse, year tutor)?

9. Has anything stopped you from seeking help?

(for those who have sought professional help)

- Probe: Has anything or anyone helped you when trying to seek help?

(for those who have not sought professional help)

- Probe: Has anything/anyone else stopped you from seeking help?

10. If you did get support from someone. What do you think that that would look like?

- Probe: Can you describe to me your expectations of that support?
- Probe: What would you expect from the relationship between you and the professional?
- Probe: Would you expect that the professional help would help you with dealing with your problems?

11. Assuming that you would decide to seek help. What kind of person would you find the easiest to talk to?
    - Probe: What kind of person would make you want to talk to them about your anxiety and/or depression?
    - Probe: What kind of person would make you trust them?

(for those who have sought professional help)

- Probe: Was there anything about that person that made you decide to speak to them?

(for those who have not sought professional help)

- Probe: Was there anything about the specific person that made you decide *not* to speak to them?

12. Can you think of anything that may make it easier for young people experiencing anxiety and/or depression to seek help?
    - Probe: What do you think that the school could do to make it easier for young people like you to access help?
    - Probe: What do you think that other people around you (like parents, friends) could do to make it easier for young people like you to access help?
    - Probe: Can you think of any other tools (such as IT tools, social media) that could make the process of accessing help for your fears, worries and/or low mood easier?
    - Probe: What do you think that a process of help-seeking would look like in the ideal world?

Parent interview topic guide

Knowledge and understanding of anxiety and depression in young people

1. Can you tell me a bit about what you know about anxiety and depression in young people?
   - Probe: How can you tell if a young person has been experiencing anxiety and/or depression?
   - Probe: Do you know any young person with anxiety and/or depression? How do you know they have been experiencing these difficulties?

Experience of identifying anxiety and/or depression in their child

2. Last time I met with your child I asked them lots of questions about how they've been feeling recently and they told me about their worries and/or low mood and I sent you both a report summarising what they told me. Can you tell me what do you think about that report?
   - Probe: Did anything in the report come as surprise*?*
   - Probe: Did you (or anyone else in the family) notice any change in your child? What did you notice?

(for those who have noticed changes in their child)

- Probe: Can you tell me when was the first time you thought your child may be experiencing problems with anxiety and/or depression?
- Probe: What made you think that they are experiencing these difficulties?
- Probe*:* Have you done anything in particular to understand what's been going on with your child (e.g. spoken to someone, or did a research on anxiety/depression)?

3. Have you and your child ever talked about their worries/low mood? Can you tell me a bit about that?

(for those who have talked with their children before)

- Probe: Do you remember who initiated the conversation?
- Probe: Do you remember what was going on for your child at that time? How long ago was that?
- Probe: Do you remember how the conversation went? Do you think that your child found it helpful?
- Probe: Was there anything that stopped you from having these conversations?

(for those who have not talked with their children before)

- Probe: What do you think that stopped you or made it hard for you to have these conversations?

4. Have you and your child talked recently about their fears, worries and/or low mood?
   - Probe: Do you remember who initiated the conversation?

- Probe: Do you remember how the conversation went? Do you think that your child found it helpful?
- Probe: Was there anything that stopped you from having these conversations?
- Probe: Have you and your child spoken about getting support from other people, such as their school nurse, GP, year tutor?

(for those who have not talked with their children recently)

- Probe: What do you think that stopped you from having these conversations?

5. Do you think that your child talked to anyone (else) close to them about difficulties with their fears, worries and mood? Who do you think they talked to? What do you think that made them talk to them?
   - Probe: Do you think that your child talked to someone else (like their GP, school nurse, year tutor) about difficulties with their fears, worries and mood? Who do you think they talked to? What do you think that made them talk to them?
   - Probe: Have you spoken to any of those people on your child's behalf/about your child's difficulties?

   (for those who have not talked to anyone else)

   - Probe: What do you think that stopped you and/or your child from having these conversations with other people?

Help-seeking attitudes and knowledge about available help/support

6. Do you think it is helpful for young people to talk to other people about feeling anxious/depressed? Who do you think that young people should talk to?
   - Probe: Do you think that young people should talk to people close to them (like family, partners, and (online) friends)? Who do you think they should talk to? Is there any particular reason to talk to them?
   - Probe: Do you think that young people should talk to someone else (like teacher, GP, school nurse, year tutor)? Who do you think they should talk to? Is there any particular reason to talk to them?
   - Probe: Do you think it is helpful for parents to talk to other people if their child is feeling anxious or low?

7. Can you tell me a bit about what you know about available help/support for young people experiencing anxiety and/or depression?
   - Probe: Where did you find out about these things?
   - Probe: Would you know where to find help if your child would be experiencing difficulties with anxiety and/or depression? Where would you go?

Help-seeking/accessing experience and barriers/facilitators to help-seeking/accessing

8. Have you at any point in the past tried to get professional help to help you and your child managing their difficult emotions, such as fears, worries and/or low mood?

(for those who did seek help for problems in the past)

Can you describe that experience to me?

- Probe: Who did you seek help with? Was there any reason for choosing them? How was that help for you?

(*for those who did not seek help for problems in the past)*

How do you think that the help would look like?

9. Have you sought any professional help for the (current) problems with your child's fears, worries and/or low mood?

(for those who did seek help for their anxiety and/or depression)

Who did you speak to?

- Probe: Have you tried to speak to any professional (like your child's GP, year tutor, school nurse)?

10. Has anything stopped you from seeking help for your child's fears, worries and/or low mood?

(for those who have sought professional help)

- Probe: Has anything or anyone helped you when trying to seek help?

(for those who have not sought professional help)

- Probe: Has anything/anyone else stopped you from seeking help?

11. Can you think of anything that may make it easier for young people experiencing anxiety and/or depression and their parents/families to seek help?
    - Probe: What do you think that the school(s) could do to make it easier for young people like you to access help?
    - Probe: What do you think that close to young people (such as you – parents, and friends) could do to make it easier for young people like you to access help?
    - Probe: Can you think of any other tools (such as IT tools, social media) that could make the process of accessing help for young people's fears, worries and/or low mood easier?
    - Probe: How do you think that a process of help-seeking would look like in the ideal world?

Appendix 4: Consent and opt-out forms

Appendix 4.1: Parent opt-out form – stage 1

Appendix 4.2: Adolescent assent form – stage 1

Appendix 4.3: Adolescent consent form – stage 1

Appendix 4.4: Parent consent form – stage 1

Appendix 4.5: Parent consent form – stage 2

Appendix 4.6: Adolescent assent form – stage 2

Appendix 4.7: Adolescent consent form – stage 2

Appendix 4.8: Parent consent form (audio recording) - stage 2

Appendix 4.9: Adolescent consent form (audio recording) – stage 2

Appendix 4.10: Parent consent form – stage 3

Appendix 4.11: Adolescent assent form – stage 3

Appendix 4.12: Adolescent consent form – stage 3

Appendix 4.13: Parent consent form (audio recording) – stage 3

Appendix 4.14: Adolescent consent form (audio recording) – stage 3

Appendix 4.15: Parent consent form – stage 3

Appendix 4.16: Parent consent form (audio recording) – stage 3

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OPT OUT FORM

*Please only complete and return this form if you **DO NOT** want your child to take part in this study*

I **do not** agree to my child taking part in this study

Your child's name: _____

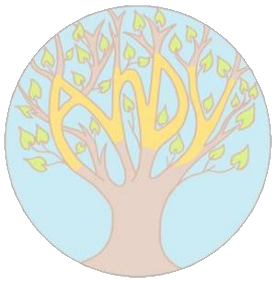
Your name: _____

Your child's school: _____

Your child's year group: _____

Signature: _____

Date: _____



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Young Person Assent Form for Questionnaire Completion

Improving Access to Treatment for
Anxiety and Depression in Adolescence - IAT-ADA

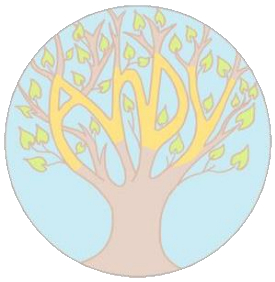
	Please **initial** each box to show agreement.
1. I confirm that I have read and understand the information leaflet for the above study. I have had the opportunity to consider the information, ask questions and (if applicable) have had these answered satisfactorily.	
2. I understand that my participation is voluntary and that we are free to withdraw at any time, without giving a reason.	
3. I understand that the project has been reviewed by the University of Reading Research Ethics Committee and has been given a favourable ethical opinion for conduct.	
4. I agree to the school providing the researcher with background information about me including my date of birth, year group, gender, ethnicity, whether I have English as an additional language or not, and whether I receive free school meals or not.	
5. I agree to my parents being contacted again if questionnaire responses indicate I may have difficulties with anxiety/depression.	
6. I understand that my responses will be stored and available to other authenticated researchers only if they agree to maintain the confidentiality of the information.	
7. I agree to take part in this study.	

Your Name _____

School name _____ Year group_____

Signature _____

Date _____



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Young Person Consent Form for Questionnaire Completion

Improving Access to Treatment for
Anxiety and Depression in Adolescence - IAT-ADA

	Please **initial** each box to show agreement.
1. I confirm that I have read and understand the information leaflet for the above study. I have had the opportunity to consider the information, ask questions and (if applicable) have had these answered satisfactorily.	
2. I understand that my participation is voluntary and that we are free to withdraw at any time, without giving a reason.	
3. I understand that the project has been reviewed by the University of Reading Research Ethics Committee and has been given a favourable ethical opinion for conduct.	
4. I agree to the school providing the researcher with background information about me including my date of birth, year group, gender, ethnicity, whether I have English as an additional language or not, and whether I receive free school meals or not.	
5. I agree to my parents being contacted again if questionnaire responses indicate I may have difficulties with anxiety/depression.	
6. I understand that my responses will be stored and available to other authenticated researchers only if they agree to maintain the confidentiality of the information.	
7. I agree to take part in this study.	

Your Name _____

School name_____ Year group_____

Signature _____

Date _____

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Parent/Guardian Consent Form for Questionnaire Completion
Improving Access to Treatment for
Anxiety and Depression in Adolescence - IAT-ADA

	Please **initial** each box to show agreement.
1. I confirm that I have read and understand the information leaflet for the above study. I have had the opportunity to consider the information, ask questions and (if applicable) have had these answered satisfactorily.	
2. I understand that my and my child's participation is voluntary and that we are free to withdraw at any time, without giving a reason.	
3. I agree to researchers contacting me if responses given on questionnaires completed by me or my child suggest my child may be experiencing problems with fears, worries or low mood. I understand these questionnaires are not always accurate so we will be offered a more detailed assessment of my child's anxiety and/or depression symptoms.	
4. I understand that the project has been reviewed by the University of Reading Research Ethics Committee and has been given a favourable ethical opinion for conduct.	
5. I understand that my responses will be stored and available to other authenticated researchers only if they agree to maintain the confidentiality of the information.	
6. I agree to take part in this study.	

Your Child's Name _____

Your Child's School _____ Year group_____

Your Name: _____ Relationship to child: _____

Address: _____

Email: _____ Telephone: _____

Signed _____ Date _____

Please, circle the preferred way (mail, email or telephone) of getting back in touch with you.

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Parent Consent Form for Follow-up Assessment

Improving Access to Treatment for Anxiety and Depression in Adolescence – IAT-ADA

	Please **initial** each box to show agreement.
1. I confirm that I have read and understand the information leaflet for the current study and about follow-up assessment. I have had the opportunity to consider the information, ask questions and (if applicable) have had these answered satisfactorily.	
2. I understand that my child's participation is voluntary and that they are free to withdraw at any time, without giving a reason.	
3. I agree to researchers contacting me again if my child's responses on the assessment suggest they meet the criteria for a current anxiety disorder/depression, and inviting me and my child to participate in an interview about help-seeking for young people's mental health problems.	
4. I understand that my child's responses will be stored and available to other authenticated researchers only if they agree to maintain the confidentiality of the information.	
5. I understand that the project has been reviewed by the University of Reading Research Ethics Committee and has been given a favourable ethical opinion for conduct.	
6. I agree to take part in this study.	

Your Child's Name _____

Your Child's School _____ Year group_____

Your Name: _____ Relationship to child: _____

Signed _____ Date _____

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Young Person Assent Form for Follow-up Assessment

Improving Access to Treatment for
Anxiety and Depression in Adolescence – IAT-ADA

	Please **initial** each box to show agreement.
1. I confirm that I have read and understand the information leaflet about the follow-up assessment. I have had the opportunity to consider the information, ask questions and (if applicable) have had these answered satisfactorily.	
2. I understand that my participation is voluntary and that we are free to withdraw at any time, without giving a reason.	
3. I understand that the project has been reviewed by the University of Reading Research Ethics Committee and has been given a favourable ethical opinion for conduct.	
4. I agree to researchers contacting me again if my responses on the assessment suggest that I meet the criteria for a current anxiety disorder/depression, and inviting me and my parent/carer to participate in the interview about help-seeking for young people's mental health problems.	
5. I understand that my responses will be stored and available to other authenticated researchers only if they agree to maintain the confidentiality of the information.	
6. I agree to take part in this study.	

Your Name _____

School name _____ **Year group**_____

Signature _____

Date _____

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Young Person Consent Form for Follow-up Assessment

Improving Access to Treatment for
Anxiety and Depression in Adolescence – IAT-ADA

	Please **initial** each box to show agreement.
1. I confirm that I have read and understand the information leaflet about the follow-up assessment. I have had the opportunity to consider the information, ask questions and (if applicable) have had these answered satisfactorily.	
2. I understand that my participation is voluntary and that we are free to withdraw at any time, without giving a reason.	
3. I understand that the project has been reviewed by the University of Reading Research Ethics Committee and has been given a favourable ethical opinion for conduct.	
4. I agree to researchers contacting me again if my responses on the assessment suggest that I meet the criteria for a current anxiety disorder/depression, and inviting me and my parents to participate in the interview about help-seeking for young people's mental health problems.	
5. I understand that my responses will be stored and available to other authenticated researchers only if they agree to maintain the confidentiality of the information.	
6. I agree to take part in this study.	

Your Name _____

School name_____ **Year group**_____

Signature _____

Date _____

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Parent Consent form for Audio Recordings of Follow-up Assessment

Improving Access to Treatment for
Anxiety and Depression in Adolescence - IAT-ADA

In order to make sure we carry out all the assessments the same way, we ask parents if we can make audio recordings of the assessment with their child.

Audio recording is an important part of our research as it allows us to listen to what was said again afterwards if there is anything we need to check. Nevertheless, we want to make it clear that everyone has the right to refuse permission for audio recording. We will only record the assessment if you and your child agree with this. Even if you give us permission, you have the right at any time to ask that all of the recording, or a piece of the recording is erased.

All audio recordings will be treated as confidential material. They will be stored on a secured drive and only seen by the members of the research team. They will be deleted after the assessment has been discussed with a senior clinician.

Please, tick as appropriate:

I give permission for audio recording of assessment with my child.	YES	☐
	NO	☐

Name of Child: _____

Name of Parent: _____

Parent signature: _____ Date: _____

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Young Person Consent form for Audio Recordings of Follow-up Assessment

Improving Access to Treatment for
Anxiety and Depression in Adolescence – IAT-ADA

In order to make sure we carry out all the assessments the same way, we ask young people if we can make audio recordings of the assessment.

Audio recording is an important part of our research as it allows us to listen to what was said again afterwards if there is anything we need to check. Nevertheless, we want to make it clear that everyone has the right to refuse permission for audio recording. We will only record the assessment if you and your parent agree with this. Even if you give us permission, you have the right at any time to ask that all of the recording, or a piece of the recording is erased.

All audio recordings will be treated as confidential material. They will be stored on a secured drive and only seen by the members of the research

Please, tick as appropriate:

I give permission for my assessment to be tape recorded.	YES	☐
	NO	☐

Your name: _____Date: _____

Name of person taking consent: _____

Signature: _____ Date: _____

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Parent Consent Form for Qualitative In-depth Interview with Young Person

Improving Access to Treatment for
Anxiety and Depression in Adolescence – IAT-ADA

	Please **initial** each box to show agreement.
1. I confirm that I have read and understand the information leaflet about the qualitative in-depth interview. I have had the opportunity to consider the information, ask questions and (if applicable) have had these answered satisfactorily.	
2. I understand that my child's participation is voluntary and that they are free to withdraw at any time, without giving a reason.	
3. I understand that the project has been reviewed by the University of Reading Research Ethics Committee and has been given a favourable ethical opinion for conduct.	
4. I understand that my child's responses will be stored and available to other authenticated researchers only if they agree to maintain the confidentiality of the information.	
5. I agree for my child to take part in this study.	

Your Child's Name _____

Your Child's School _____ Year group_____

Your Name: _____ Relationship to child: _____

Signed _____ Date _____

University of Reading
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School of Psychology and Clinical Language Sciences
University of Reading
Earley Gate
Whiteknights Road
Reading
RG6 6AL

Young Person Assent Form for Qualitative In-depth Interview

Improving Access to Treatment for
Anxiety and Depression in Adolescence – IAT-ADA

	Please **initial** each box to show agreement.
1. I confirm that I have read and understand the information leaflet about the qualitative in-depth interview. I have had the opportunity to consider the information, ask questions and (if applicable) have had these answered satisfactorily.	
2. I understand that my participation is voluntary and that we are free to withdraw at any time, without giving a reason.	
3. I understand that the project has been reviewed by the University of Reading Research Ethics Committee and has been given a favourable ethical opinion for conduct.	
4. I understand that my responses will be stored and available to other authenticated researchers only if they agree to maintain the confidentiality of the information.	
5. I agree to take part in this study.	

Your Name _____

School name _____ **Year group**_____

Signature _____

Date _____

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Young Person Consent Form for Follow-up Assessment

Improving Access to Treatment for
Anxiety and Depression in Adolescence – IAT-ADA

	Please **initial** each box to show agreement.
1. I confirm that I have read and understand the information leaflet about the follow-up assessment. I have had the opportunity to consider the information, ask questions and (if applicable) have had these answered satisfactorily.	
2. I understand that my participation is voluntary and that we are free to withdraw at any time, without giving a reason.	
3. I understand that the project has been reviewed by the University of Reading Research Ethics Committee and has been given a favourable ethical opinion for conduct.	
4. I agree to researchers contacting me again if my responses on the assessment suggest that I meet the criteria for a current anxiety disorder/depression, and inviting me and my parents to participate in the interview about help-seeking for young people's mental health problems.	
5. I understand that my responses will be stored and available to other authenticated researchers only if they agree to maintain the confidentiality of the information.	
6. I agree to take part in this study.	

Your Name _____

School name_____ **Year group**_____

Signature _____

Date _____

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Parent Consent form for Audio Recordings of Qualitative In-depth Interview with Young Person

Improving Access to Treatment for
Anxiety and Depression in Adolescence – IAT-ADA

We audio record all interviews so that we can accurately capture what you have said. Afterwards we will transcribe the interview into a written format.

All audio recordings will be treated as confidential material. They will be stored on a secured drive and only seen by the members of the research team.

Please, tick as appropriate:

I give permission for the interview to be audio-recorded.	YES	☐
	NO	☐

Name of Child: _____

Name of Parent: _____

Parent signature: _____ Date: _____

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Young Person Consent form for Audio Recordings

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Anxiety and Depression in Adolescence – IAT-ADA

We audio record all interviews so that we can accurately capture what you have said. Afterwards we will transcribe the interview into a written format.

All audio recordings will be treated as confidential material. They will be stored on a secured drive and only seen by the members of the research team.

Please, tick as appropriate:

I give permission for the interview to be audio-recorded.	YES NO	☐ ☐

Your name: _____Date: _____

Name of person taking consent: _____

Signature: _____ Date: _____

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Parent Consent Form for Qualitative In-depth Interview

Improving Access to Treatment for Anxiety and Depression in Adolescence – IAT-ADA

	Please **initial** each box to show agreement.
1. I confirm that I have read and understand the information leaflet about the qualitative in-depth interview. I have had the opportunity to consider the information, ask questions and (if applicable) have had these answered satisfactorily.	
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason.	
3. I understand that the project has been reviewed by the University of Reading Research Ethics Committee and has been given a favourable ethical opinion for conduct.	
4. I understand that my responses will be stored and available to other authenticated researchers only if they agree to maintain the confidentiality of the information.	
5. I agree to take part in this study.	

Your Child's Name _____

Your Child's School _____ Year group_____

Your Name: _____ Relationship to child: _____

Signed _____ Date _____

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Parent Consent form for Audio Recordings of Qualitative In-depth Interview

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We audio record all interviews so that we can accurately capture what you have said. Afterwards we will transcribe the interview into a written format

All audio recordings will be treated as confidential material. They will be stored on a secured drive and only seen by the members of the research team.

Please, tick as appropriate:

I give permission for the interview to be audio-recorded.	YES	☐
	NO	☐

Name of Child: _____

Name of Parent: _____

Parent signature: _____ Date: _____

Appendix 5: Justification of using the opt-out procedure

Justification of using the opt-out procedure (Study 1) – Improving Access to Treatment for Adolescent Anxiety and Depression- IAT-ADA

In the first stage of the PhD project (Study 1), we plan to use an opt-out approach to recruit participants. We recognise that this approach presents some ethical issues that need to be addressed, particularly in the context of new data protection regulations (GDPR), and therefore felt it would be helpful to detail the rationale and justification for this approach.

1. Maximise the study's capacity to develop an appropriate screening tool for the general population

School based studies using an opt-in parental consent procedure have substantially lower student participation rates than those that use opt-out procedure (e.g. Eaton, et al, 2004, Chartier et al 2008). Moreover, mental health research in schools that requires active parental permission systematically excludes certain demographic and high risk groups (e.g. Liu, Cox, Washburn, Croff, & Crethar, 2017) which in itself poses ethical issues, and results in biased samples that limit generalisations to the wider population. Previous studies have shown that required active permission (opt-in) lowers student participation (e.g. Eaton, Lowry, Brener, Grunbaum, & Kann, 2004) and systematically excludes specific demographic and high risk groups, such as adolescents with harmful alcohol consumption (e.g. Frissell et al., 2004). Results from a recent meta-analysis of 15 studies including adolescents engaging in risky behaviour showed significantly lower response rates for studies using active consent than those using passive parent consent procedure. Gender, age and ethnical sample biases were observed in active consent studies as well. In relation to risky behaviour, studies using active consent procedure showed lower rates of self-reported substance use than studies using active consent procedure (Liu et al, 2017). The same trend of sample biases can be observed from the studies with adolescents experiencing emotional problems. Chartier et al. (2008) have compared the adolescent participation in school-based screening for depression. They have found out that the participation was dramatically reduced when children were required to have a written parental permission.

Based on the previous research findings, we could expect that using alternative (opt-in) parent consent approach in our Study 1 would result in a **significant participation bias**, and **limit the study's capacity to draw conclusions surrounding the functioning of the used questionnaire measures** (the RCADS and the MFQ) in a wider community sample. Furthermore, using active consent approach could result in **systematic exclusion of certain groups of young people**, especially those at risk, hence **making the study less ethical**.

References:

Chartier, M., Vander Stoep, A., McCauley, E., Herting, J. R., Tracy, M., & Lymp, J. (2008). Passive Versus Active Parental Permission : Implications for the ... *Journal of School Health*, *78*(3), 157–164.

Eaton, D. K., Lowry, R., Brener, N. D., Grunbaum, J. A., & Kann, L. (2004). Passive versus active parental permission in school-based survey research: Does the type of permission affect prevalence estimates of risk behaviors? *Evaluation Review*, *28*(6), 564–577. https://doi.org/10.1177/0193841X04265651

Frissell, K. C., McCarthy, D. M., D'Amico, E. J., Metrik, J., Ellingstad, T. P., & Brown, S. A. (2004).

Impact of consent procedures on reported levels of adolescent alcohol use. *Psychology of Addictive Behaviors*. Brown, Sandra A.: Department of Psychology, University of California, San Diego, 9500 Gilman Drive, La Jolla, CA, US, 92093-0109, s3brown@ucsd.edu: Educational Publishing Foundation. https://doi.org/10.1037/0893-164X.18.4.307

Liu, C., Cox, R. B., Washburn, I. J., Croff, J. M., & Crethar, H. C. (2017). The Effects of Requiring Parental Consent for Research on Adolescents' Risk Behaviors: A Meta-analysis. *Journal of Adolescent Health*, *61*(1), 45–52. https://doi.org/10.1016/j.jadohealth.2017.01.015

2. Opt-out parental consent is acceptable to parents, young people and schools

As detailed in the application form, we discussed this study with the AnDY Research Advisors Group, and both adolescent and their parents agreed that our proposed opt-out approach would be acceptable as long as young people have the opportunity to opt out themselves, which is the case in the current study. Indeed, our research team has considerable experience of using similar questionnaires with secondary students, and we have successfully adopted an opt-out consent approach (e.g. UREC 16/58).

3. Schools are encouraged to raise awareness of common mental health problems

Mental health and emotional well-being are typically incorporated into Personal, Social, Health and Economic (PSHE) programmes in secondary schools and are therefore not usually an unfamiliar subject area. Moreover, the recent 'Future in Mind' government report (Department of Health and Social Care, 2015) encourages schools to adopt a 'whole school' approach to promoting mental health and increasing students' awareness and understanding of common mental health problems.

4. Parents will be provided with full information about the study and have the opportunity to request their child does not participate

We will seek advice from each participating school regarding the best way to distribute information to ensure that it reaches *all* parents. In the past we have found that schools routinely disseminate information to parents electronically (via a website or electronic newsletter, and through SMS reminders), and they have advised us that this is most effective way to reach all parents. However, should a school recommend distributing paper copies of study materials, we will do this to ensure that all parents have received information about the study.

5. Compliance with GDPR

The new data protection law (GDPR) requires that we have a lawful basis for collecting and processing personal data. The personal data we will collect and process as part of this research is necessary for 'the performance of a task carried out in the public interest' (i.e. consent will not be the lawful basis for collecting personal data) (Ec.europa.eu, 2016, Article 6).

GDPR does also require that personal data is used 'transparently' (Information Commission Office [ICO], 2018). As detailed above, we will distribute study information to all parents that details what personal data will be collected and how it will be used. As detailed above, we will work with schools to identify the most appropriate way/s to distribute this information to ensure it reaches all parents that is consistent with methods they routinely use to distribute information to schools.

References:

Ec.europa.eu. (2016). Art. 6 GDPR – Lawfulness of Processing. *General Data Protection Regulation (GDPR)*. Retrieved from: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679&from=EN

ICO (2018, May 15). Lawful basis for Processing. Retrieved from: https://ico.org.uk/for-organisations/guide-to-the-general-data-protection-regulation-gdpr/principles/lawfulness-fairness-and-transparency/

Department of Health and Social Care (2015). *Future in mind: promoting, protecting and improving our children and young people's mental health and wellbeing.* Retrieved from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/414024/Childrens_Mental_Health.pdf

Conclusions

We tried to justify the usage of opt-out procedure in Study 1 by referring to previous research, (new) legal regulations and previous research experiences within the University of Reading. To conclude, we would like to emphasise that we will seek advice from participating school regarding the best way to distribute information to *all* parents (or guardians) to ensure they have the opportunity to request that their child does not participate in the study. Different forms of study materials (paper and electronic) will be carefully prepared ahead.

Appendix 6: Patient and public involvement (PPI) input

Appendix 6.1: PPI involvement in planning Study 2

Appendix 6.2: PPI involvement regarding using an item assessing adolescents' risk of suicide

AnDY Research Advisory Group (10th March 2018)

Young people's views

- Assessing symptoms of anxiety only or anxiety and depression:
  - Anxiety and depression both common in young people and symptoms of both should be assessed during the screening
- Questionnaire selection:
  - The RCADS preferred over other questionnaires introduced during the slot (i.e. the Youth RADAR, the SDQ)
  - 4-point rating scale (such as in the RCADS) preferred over the 3-point rating scale (e.g. the SDQ)
  - Young people want to be asked more simple questions too (e.g. 'Do you want help?') → solution: before completing the questionnaires, young people will be asked three questions about help-seeking
- Questionnaire administration:
  - Young people would be worried about the information being shared with schools → solution: make it explicit that responses will be shared with schools only if they indicate any risk
  - Young people want to be informed what will happen after they complete the questionnaires → solution: make it clear to them 1) what is the purpose of the study, 2) where they can get help, and 3) how the data is going to be handled
  - To elicit the most honest answers, young people should be encouraged to respond with the first answer that pops into their minds → solution: providing clear instructions to young people when administering the questionnaires

Parents' views

- Assessing symptoms of anxiety only or anxiety and depression:
  - Anxiety and depression both equally important, especially in adolescents, and should be assessed during the screening
- Questionnaire selection:
  - All questionnaires presented (the RCADS, SDQ, Youth RADAR) look 'boring', more like tests, especially RCADS → solution: would need to engage young people by saying 'we are interested in what you think/how you feel'; include more colourful materials
  - Parents like the Youth RADAR as it has positive items too
- Questionnaire administration:
  - Questionnaire responses should be anonymous → solution: assigning each student a unique numerical ID code straight after the screening and removing any personalised data from questionnaire forms as soon as possible; reassuring adolescents that their responses will be only shared in cases where they indicate any risk
  - Young people might be influenced by peers when completing the questionnaires → solution: researchers and school staff working together to minimise the disruptions during the questionnaire completion
  - Provide information about the study, including where they can access help for their difficult emotions → solution: designing information leaflet with help resources

Consultation with school and medical professionals

- Should the screen only assess anxiety or anxiety AND depressive symptoms as well?
  - Having a combined measure of anxiety and depressive symptoms more beneficial from the perspective of general practitioners, teachers, and SENCOs
  - However, the screening questionnaire should have separate scales for anxiety and depression
- How to increase parental engagement in completing questionnaire forms?
  - Emphasise the benefits of the study through information leaflets
  - Use appropriate words and phrases; avoid medical phrases
  - Offer parents to complete the questionnaires online
  - Include a prize draw
  - Asks schools to mention the project during the parent information evenings

Views of parents, young people, mental health professionals and educational professionals

For	Against
One of the most common symptoms of adolescent depression	Parents/teachers do not always see it as one of the core symptoms of adolescent depression (as one parent said: 'adolescents have mood swings and will have these thoughts at some point')
Some parents see it as an important question to ask	Some parents might complain if their children are asked these questions in schools
Teachers generally see it as an important question to ask	Teachers don't like the responsibility of asking these questions; they don't feel they have the knowledge on how to deal with the students who would say 'yes'
CAMHS clinicians would want to know about it	Some schools/principals might oppose it due to wrong beliefs that asking these questions will facilitate suicidal behaviours
Young people feel comfortable with answering risk questions	Asking this question might not be helpful if the schools a) don't have an action plan for the students that say 'yes' or b) don't do anything with the students that say 'yes'
Best way to check suicidal thoughts is to check directly	Difficult to assure confidentiality in school setting (especially in cases of whole-school screening)
	This one question is not a risk assessment - if teachers identify students at risk for depression, they should do a proper risk assessment with them (i.e. asking only one question does not give enough information about someone's risk)