Mental health and care needs of British children and young people aged 6-17

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Abbreviations

ADHD- Attention Deficit Hyperactivity Disorder

ADOS-Autism Diagnostic Observation Schedule

ASD-Autism Spectrum Disorder

BAME-Black, Asian, and Minority Ethnicity

CAMHS- Child and Adolescent Mental Health Services

CBCL-Child Behavior Checklist

CYP-Children and CYP

BehaviorDAWBA-Development and Well-being Assessment

DISC-IV-Diagnostic Interview Schedule for Children

ID-Intellectual Disability

LD-Learning Disability

LGBTQ-Lesbian, Gay, Bisexual, Transgender, or Queer

MH- Mental Health

ONS-Office for National Statistics

PDD-Pervasive Development Disorder

PLE-Psychotic-Like Experiences

PTSD-Post-Traumatic Stress Disorder

SDQ-Strengths and Difficulties Questionnaire

YSR-Youth Self-Report

Introduction

The mental health (MH) of children and young people (CYP)[1] is a major national and international concern. Extensive evidence points to rising levels of mental distress among CYP in many high-income societies (Collishaw, 2015; WHO, 2018). In particular, increasing rates of anxiety and depression have been widely reported (Ghandour et al., 2019; Thapar et al., 2012; The Mental Health Taskforce, 2016). The imperative to understand MH needs and develop effective and timely interventions is all the more pressing given the importance of childhood and adolescence as a critical period in the development of lifetime mental distress. The majority of lifetime MH difficulties (excluding conditions of old age) occur before the age of 24 years (Kessler et al., 2005), and can have lasting negative consequences throughout the lifecourse on a range of outcomes including educational achievement, employment prospects, and risks of substance abuse and violence. In the UK, concerns persist not only about high levels of MH need in childhood and adolescence, but also about persistent evidence of unmet MH needs in many parts of the UK due to service shortfalls (Cotgrove, 2018; The Mental Health Taskforce, 2016; UK Department of Health, 2015; UK Department of Health and UK Department of Education, 2017).

Research plays a critical role in understanding both prevalence of MH needs and policy and practice responses. Focusing on the UK, in this article we report the findings of a scoping review of the literature on CYP's MH needs, looking back over a 16-year period (2004-2020). Specifically, we focus on research published since the influential 2004 UK cross-sectional survey of CYP's MH and the associated knowledge review (hereafter '2004 ONS survey'), published by the UK Office for National Statistics (ONS) (Green et al., 2005). Data from this survey have been widely used in studies of children's MH, with the 2004

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[1] We use the phrase CYP to refer to the school age children and adolescents who are the focus of this review, except where existing parlance in the literature and practice (e.g. 'children in care') references a specific sub-group of CYP and to use the phrase CYP would interfere with meaning.

survey data and accompanying report being a particularly important turning point for tracking children's MH in the UK. Of particular note is some departure in this survey from narrow medicalised conceptions of MH need, towards the inclusion of risk and protective (contextual) factors.

Although further surveys have been conducted in the UK (ONS, 2008) and, more recently in England only (NHS, 2019), no large-scale review of the literature comparable to that developed alongside the 2004 ONS survey has been completed. By reviewing the literature since the 2004 ONS survey, we respond directly to this omission by providing vital insights into the evolution of research and knowledge regarding MH needs of CYP in the UK. A strong evidence-base on MH needs is essential, not only for informing specialist MH services, but also for providing an evidence base for adjacent fields working regularly with CYP in distress, such as social work. Alongside a review of the literature, we also review the evidence on social interventions. While there is an ample literature on clinical and behavioral interventions for CYP who experience mental distress, including numerous systematic reviews through the National Institute for Health and Care Excellence (NICE, 2021), there is a relative dearth of evidence on interventions that are embedded in the social model (Beresford, 2002; Cummins, 2018) of mental distress. The social model views mental distress as rooted in our social lives and environment, with society being both a potential cause of mental distress (e.g. effects of stigma, poverty), but also a potential solution to distress (e.g. through family support, school-based interventions, community-based programs). Because interventions stemming from the social model have been comparatively neglected in extant reviews, we include articles focusing on social but not clinical interventions in our review.

The article is divided into four sections. The next two sub-sections of the Introduction provide a brief overview of the UK policy context and the 2004 ONS survey, followed by an outline of our research questions in the third sub-section. In the next section, Methods, we summarise our scoping review methodology, including framing our inclusion and exclusion criteria. In the Results, we report our findings from the review against the categories of ‘emotional problems’, ‘conduct problems’, ‘hyperactivity disorders’ and ‘other mental health problems’. These categories follow the categories used in the 2004 ONS survey’s report, and reflect our aim to understand the development of the field subsequent to this pivotal survey. In addition, we summarise the extent to which sub-groups or minoritized populations of CYP are represented in the research. In our Discussion, we provide an overview of our findings, and engage with critical discourses on ‘mental health’ as a linguistic tool and a field of study (Deacon, 2013; Tew, 2011; Thachuk, 2011; Timimi, 2014). Finally, we draw conclusions about major gaps in the evidence base and directions for future research.

Current UK policy context

Concerning rates of mental distress among CYP are reported in the UK. In 2019, 12.8% of CYP aged 5-19 were estimated to have experienced ‘at least one mental disorder’ (NHS, 2019). That roughly 1-in-8 CYP experience MH difficulties is concerning. This concern is compounded by queries as to whether Child and Adolescent MH Services (CAMHS) are adequately equipped to meet need (Belling et al., 2014; Campbell, 2016; Cotgrove, 2018; Mattheys, 2015). National strategy documents (Department of Health, 2011; DOH, 2014) recognize the need for timely intervention, and commit to improving services and outcomes for CYP. Yet the National Health Service reports continued rises in bed occupancy and average admissions per provider in recent years, highlighting that resources are not keeping up with demand (DOH, 2014). The current public health crisis caused by COVID-19 is widely reported as having further increased distress among CYP (NHS Digital, 2020).

National strategy documents ‘No Health without Mental Health’ (Department of Health, 2011) and ‘Closing the Gap’ (DOH, 2014) recognize the need for timely intervention in order to improve CYP’s MH and commit to improving services and outcomes for CYP. During the past five years, the government has committed substantial public funds (£174m in 2015-2016) to improve frontline CAMHS under a ‘Five Year Forward’ plan (NHS, 2016). The ‘Five Year Forward’ plan aims to tackle concerns about rising MH difficulties in both the general population of CYP, and of those in care (NHS, 2016). Under the plan, Clinical Commissioning Groups, which coordinate health service provision locally, were collectively awarded £149 million in the 2015 budget, to be spent in increasing increments over the course of five years to improve specialist frontline services targeting MH provisioning for CYP. A further £25 million was added to this allocation in 2016. Despite this national attention on CYP’s MH, there has been a small increase (of 1.5%) in prevalence of MH issues over time between 1999 and 2017 (NHS, 2019), and evidence of continued unmet need across the country (DOH, 2014; Lennon, 2021).

The 2004 ONS survey of child and adolescent MH

The cross-sectional 2004 ONS survey aimed to capture the stability or otherwise of CYP’s MH during the first half of 2004 among CYP aged 5-16 years in Great Britain. The survey focused on the three commonly used groupings of childhood mental disorders, which in the survey’s parlance are: emotional problems, conduct problems and hyperactivity disorders. However, the survey also examined systematically less common ‘disorders’ experienced by CYP: autistic spectrum disorders, tic disorders, and eating disorders. The survey largely adopted the language and categories of ‘mental disorders’ as defined by the tenth edition of the International Classification of Diseases (ICD-10), aiming to capture clinically recognized sets of symptoms or behaviors which are associated with considerable distress and substantial impacts on personal functioning. However, a notable departure from the earlier survey (NHS, 2019) and an indication of some broadening out from this medicalised lens on MH was the collection of baseline information on family and broader contextual factors (socio-demographics and family structure). The 2004 ONS survey sought to capture aspects of CYP's lives not previously captured in UK surveys, including social capital, empathy, absence from school, and medication use.

The researchers used both closed- and open-ended questions to make an assessment of MH, gathering information from parents, teachers and CYP themselves (aged 11-16). The survey found that one-in-10 CYP aged 5-16 had a clinically diagnosed mental disorder. In terms of the split between categories of disorders used in the survey, 4% were reported to have an emotional disorder; 6% were reported to have a conduct disorder; 2% were reported to have a hyperactivity disorder; and 1% were reported to have a less common disorder (including e.g. autism, eating disorders). Only 2% of CYP experienced more than one type of disorder. Of particular importance were findings of greater prevalence among CYP in family circumstances characterised by greater socioeconomic stress; low income was associated with higher prevalence of mental distress in CYP, as were lone parent and reconstituted families. Where CYP lived in areas described as 'hard pressed', higher rates of distress were also reported.

The ONS 2004 survey findings have remained important national benchmarks regarding rates of mental distress among CYP. Further national surveys of CYP UK-wide and in England have since been conducted, building on the 2004 data and report. The most recent surveys for the UK and in England, report further increases in mental distress, particularly in the context of the current Covid-19 pandemic (NHS Digital, 2020).

Research Questions

In this scoping review, we assess MH literature published in the UK between 2004 and 2020. The aim of the review is to examine how researchers have approached the study of child and adolescent MH since the 2004 ONS survey. We focus on the following research questions:

1. What are the key conclusions of the literature since 2004 with respect to the prevalence and correlates of mental distress?
2. In terms of methodology, how have researchers approached the study of CYP's MH?
3. Which MH difficulties outlined in the 2004 government report feature in subsequent literature, and how have researchers extended knowledge of MH needs and social interventions through this literature?
4. What are the gaps in current research? In particular, are sub-groups (children in care; LGBTQ; BAME; migrant) of CYP who experience greater risk-factors for distress represented in research?

Methods

Because our aim is to examine how research has extended knowledge since the 2004 ONS survey and to identify knowledge gaps, we apply a scoping review methodology (Munn et al., 2018) to literature on CYP's MH in the UK published between the 2004 ONS survey and June 2020. In the PsycArticles and SocINDEX databases, which together cover a wide range of social science disciplines, we searched for the terms 'MH' and 'children' jointly. As the nature, prevalence, and measurement of MH difficulties for younger children may differ from older children (Riley, 2004), and because school-age is a common cut-off in extant research, we restricted our search to CYP aged 6-17[2]. Our initial search returned 421 articles. We removed 27 duplicates and 12 entries published prior to 2004, leaving 382 articles. Next, because our focus was on primary research on the prevalence and correlates of CYP's MH difficulties, rather than on healthcare systems, parents and teachers, and/or clinical interventions, we applied the exclusion criteria outlined in Table 1. Based on titles, abstracts, and/or full text, we excluded 331 studies. Our analysis focuses on the 51 remaining articles.

Based on categories from the 2004 ONS survey and associated report (Green et al., 2005), we examined six themes relating to CYP's MH outcomes, coding each article for whether it analysed a) emotional problems, b) conduct problems, c) hyperactivity disorders, d) autism spectrum disorders (ASD), e) motor and/or vocal tic disorders, and f) eating disorders. Due to the small number of articles focusing on themes d-f, we collapsed these into 'other forms of distress'; for brevity, and because the volume of studies on other forms of distress is far less compared to the first three categories, results for other forms of distress are presented in Web Appendix 1. Articles were read and coded by JE; JF and BK reviewed article coding. We read the full-text articles iteratively with a focus on broad emergent issues within each theme. We next reviewed articles for overall conclusions, consistency of findings across articles, and anomalous findings within each theme. Finally, we documented articles' data sources and sampling practices to understand who/what is missing.

We created a database (see Web Table 1) for: method used; analytic sample size; sampling frame (representative school-based sample; representative population-based sample; representative care facility sample; convenience or other sample); whether boys, girls

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[2] We focus on school age children because these children were the focus of the 2004 ONS survey; however, we note in the Discussion section that there is a need for further work on younger children in future research. We use the cut off of age 6 rather than age 5 for two interrelated pragmatic reasons. First, in applying search filters in search databases, child age filters are clustered in age bands, with consequences for the articles returned in our search. For example, in PsycArticles, age bands for children are birth-12 years, 2-23 months, 2-5 years, 6-12 years, and 13-17 years. Second, many studies include younger children through to age 5, which raises a question of how to include such studies to correspond to 2004 ONS survey sample and associated report findings. However, we retained studies of CYP aged 6-17 which also included children aged 5.

were sampled; age range of CYP; study design (cross-sectional; cohort; longitudinal non-cohort design); prevalence of CYP's MH condition(s) where applicable; whether children in care were sampled; validated MH assessment scale used [Strengths and Difficulties Questionnaire (SDQ); Development and Well-being Assessment (DAWBA); Child Behavior Checklist (CBCL); Youth Self-Report (YSR); Diagnostic Interview Schedule for Children (DISC-IV); other; none]; whether the authors explicitly included/considered lesbian, gay, bisexual, transgender, or queer (LGBTQ), migrant, and/or Black, Asian, and minority ethnicity (BAME) CYP; whether the authors analysed a) medications, b) service use, or c) educational issues (e.g. absences, exclusions, attendance); and whether the authors considered the MH of other family members in their analysis. From these data, we generated descriptive statistics using Stata (v.13.1).

Results

In this section, we present findings from the 51 articles included in our final sample; all studies cited in this section are studies from our sample. Although challenging to identify cross-cutting themes across such a large sample of articles that deploy different methods, samples, and psychometric tools to answer a range of different questions, we consider the articles within sub-themes following the thematic structure of the 2004 ONS survey to identify how the literature has developed in each of the following three areas since the survey: Emotional problems, conduct problems, hyperactivity disorders, and other MH difficulties. For brevity, results for other MH difficulties are presented in Web Appendix 1. We also produced a descriptive overview of study characteristics (i.e. sampling methods and sample sizes, study designs, assessment tools used), also provided in Web Appendix 1. The final sub-section in the Results section provides a descriptive analysis of the literature to document key critical gaps across the literature reviewed.

Emotional Problems

Forty-four articles (86.3%) examined ‘emotional problems’, broadly defined, making this the most common topic. Nearly all (n=40; 90.9%) relied on at least one validated psychological scale, with more than half (n=24; 54.5%) using the SDQ and a further 20.5% (n=9) using the DAWBA. Updating prevalence statistics, Mojtabai et al. (2006) found 7.7% of British CYP are reported by parents to exhibit emotional problems, which is a higher percentage than that reported by the 2004 ONS survey. Several articles grouped ‘emotional problems’ with other behaviors rather than as a separate category making it difficult to establish prevalence (see for example Emerson et al., 2007; Ewing et al., 2014). Nonetheless, using representative data, Collishaw et al. (2004) found an increase in emotional problems from 10.2% in 1974 to 16.9% in 1999. Fitzsimons et al. (2017) analysed the British Millennium Cohort Study, a longitudinal representative study of 18,827 British CYP. They found that 5.3% of CYP experienced emotional problems at age 5, while this figure increased to 11.0% by age 11.

Reflecting the interest in the 2004 ONS Survey on family factors associated with MH in CYP, a number of studies reported challenging or stressful situations at home as key in the development of emotional problems. Maternal MH difficulties and entry into and persistent poverty were identified as contributing factors (Fitzsimons et al., 2017). Edwards et al. (2008) considered the emotional impact of maternal breast cancer on CYP. They found a positive association with stress-related emotional problems for a substantial minority of adolescents. Looking specifically at CYP who had been diagnosed with an intellectual disability (ID), Emerson and Hatton (2007a, 2007b) found a strong, positive link between social disadvantage and emotional problems, arguing that the observed risk of 'psychopathology' among CYP with IDs may be the result of cumulative disadvantage. On the other hand, when mothers and CYP who had experienced domestic violence were removed to a safe place, they were an important source of support for one another's recovery (Katz, 2015).

Focusing on broader contextual factors, Meltzer et al. (2007) found CYP's perception of their neighbourhoods and whether they felt safe and trusting of people they lived among had a strong negative association with emotional disorders. The authors suggested regeneration of impoverished areas could increase CYP's perceptions of trust, honesty and safety and thus improve their MH. Tonks et al. (2010) highlighted the importance of peer support. Their study, which primarily considered the needs of CYP with acquired brain injury, found that secure peer support was an important protective factor against emotional problems. Farmer et al. (2013) highlighted that social networks also matter for CYP's emotional distress. Specifically, in kinship care arrangements, CYP with smaller social circles experienced more anxiety and depression, particularly linked to worries about health and the possible death of kinship carers.

A small but informative body of literature offers new evidence regarding higher vulnerability to MH, among particular sub-groups of CYP. Emerson and Hatton (2007b) used large-scale population data to examine differences in prevalence of between CYP with and without an ID. They found a significant difference in prevalence, with 12% of CYP with an ID experiencing an emotional disorder, compared to 3.7% of CYP without an ID. They also found differences in anxiety disorders (11.4% vs. 3.2% respectively). Markedly higher prevalence for CYP with an ID are perhaps not unexpected, but the robust evidence drawn from this work, clearly throws the spotlight on the additional needs of this population (Heptinstall et al., 2004)(Lorek et al., 2009). In two articles, the emotional difficulties of refugee CYP were the main focus. Although neither study offered robust prevalence data, the research draws attention to Post-Traumatic Stress Disorder (PTSD) in refugee CYP.

Studies that explored interventions rooted in the social model presented data to demonstrate their worth in reducing emotional problems (Eames et al., 2016; Maddern et al., 2004). Notably, Ewing et al. (2014) found improvements across all aspects of the SDQ scale after placing play-workers into school environments to work alongside CYP identified as having emotional problems. The study suggested that attention and focus from an adult can be as effective at reducing emotional problems as more expensive interventions using trained professionals. School-based research (Eames et al., 2016; Ewing et al., 2014; Fazel et al., 2009; Leavey et al., 2004; Maddern et al., 2004) demonstrated improvements in CYP's MH, resulting in less need for formal intervention. This social-based approach involved bridging the gap between home and school life, such as an inter-agency intervention programme that included domiciliary visits and support to parents (Maddern et al., 2004). Additional work found when teachers became more aware of the specific needs of refugee CYP, there was a subsequent change of approach that addressed these needs, resulting in improved emotional well-being (Fazel et al., 2009). Early interventions can address problems in the places where CYP spend most of their time, and tend to improve resilience (Eames et al., 2016).

The benefits of family-based intervention that considers the family as a dynamic unit were highlighted in studies (Robson and Gingell, 2012; Sayal et al., 2010; Webb et al., 2017). Robson and Gingell (2012) further recommended closer liaison between adult services and CAMHS given a clear link between parental and child MH. Adolescent daughters are particularly at risk if there are MH difficulties present within the home (Webb et al., 2017). Sayal et al. (2010) caution that parental concerns regarding help-seeking—namely, not being believed, stigma, and being labelled as a bad parent—may be a barrier to service uptake. This work points to an important mediator in the association between potential interventions and outcomes.

Overall, a small number of studies based on large-scale nationally representative samples extend our understanding of MH by offering a differentiating picture of MH according to CYP's age and by particular sub-groups of CYP. The variance in prevalence observed across the literature highlights how decisions about sampling and measurement can impact on the perception of CYP's MH needs. The longitudinal studies also highlight that MH needs are not static; instead, prevalence can change over time within the same group of CYP as they continue to develop and encounter new stressors. Attention to contextual factors such as neighbourhood or socio-economic disadvantage do evidence a broadening out from medicalised conceptions of needs towards a greater appreciation of the contribution that the ecology of family life makes to MH.

Conduct Problems

Two-thirds (n=34; 66.7%) of the studies we examined considered conduct 'problems'. The vast majority (n=32; 94.1%) of studies in this category used a validated scale. Again, the SDQ was the most common assessment method, with 64.7% (n=22) of studies on conduct employing the SDQ to identify problems, whereas that DAWBA was used in 23.5% (n=8) of studies. Notably, some of the research citing conduct problems discuss conduct not as a direct focus of the study, but rather merely because it is an element of the SDQ assessment tool.

In keeping with the direction of travel set by the 2004 ONS Review, a number of studies have attempted to locate conduct disorders in the wider ecology of child or family life. Several studies focused on risk and moderating factors associated with CYP's conduct problems in relation to family, school or neighbourhood. In primary survey data (n= 3,340), Meltzer et al. (2007) found conduct disorders were present in 5.7% of CYP who felt unsafe in their neighbourhoods, and that CYP who had the least trust in their neighbourhoods were seven times more likely to have a conduct disorder. Ford et al. (2004), analysed data from the 1999 British CAMHS survey. In contrast to Meltzer et al. (2007), they did not find any neighbourhood effects, but did identify poor family functioning, diminished parental MH, low maternal education, and living in a reconstituted family were positively associated with conduct problems. In their study of 25 families in which both parents and CYP had MH concerns, Robson and Gingell (2012) found that while 32% of CYP had a diagnosed conduct disorder, no parents had a diagnosed conduct disorder. Although evidence suggests a link between parental and child MH, this does not necessarily map onto diagnoses.

Comparing results from surveys conducted in 1974, 1986, and 1999, Collishaw et al. (2004) found a considerable increase in conduct disorders over time. These increases were observed across social classes, genders, and family types, with somewhat greater increases occurring in single parent families compared to other family types. The authors raised a concern about what the steady increase in conduct disorder means for individuals' life and employment chances, but also highlight broader implication for society. Although the studies cannot establish causality, conduct disorders earlier in life have been linked to cannabis (Heron et al., 2013) and alcohol use (Santosh and Mijovic, 2006), as well as to sexually abusive behavior (Vizard et al., 2007).

Findings from the Millennium Cohort Study (MCS) have shown externalising problems, including conduct disorders, are more prevalent than internalising by the age of 5 years, but that prevalence equalled out by age 11 (Fitzsimons et al., 2017). There was a gendered pattern to this finding: at 11 years, boys showed greater externalising than internalising problems. Messer et al. (2006) also found a gendered pattern to conduct problems, with boys who were subthreshold for conduct disorders being more likely than girls to go on to develop disruptive behavioral disorders. The presence of younger siblings was also found to increase conduct problems at ages 5 and 11 years in the MCS (Fitzsimons et al., 2017). Family separation was problematic for all areas and age groups, but there was some evidence that parental repartnering reduced this negative effect. While poverty had a detrimental impact on CYP's MH, the authors also noted that good parental MH was an important protective factor for fostering resilience to poverty. Fathers' age of leaving education was identified as a protective factor in CYP's MH, except in the case of conduct disorders. Frequency of contact also matters, with low frequency of contact with absent fathers being associated with an increased risk of conduct problems (Flouri, 2006).

Focusing on children in care and adopted children, Blower et al. (2004) conducted interviews with 48 children in care/CYP. They found that the majority had 'severe and disabling' psychiatric conditions despite early recognition of difficulties and attempts to provide support and care. Conduct disorders were the most prevalent (together with substance abuse) psychiatric disorder found in the sample, impacting 26% of participants. Only a handful of studies looked at refugee CYP. Leavey et al. (2004) examined psychological distress among refugee and migrant CYP. Consistent with findings from British populations (Fitzsimons et al., 2017; Messer et al., 2006), the authors found that conduct problems were more common in boys than in girls. Migrant CYP, especially younger boys, scored lower than UK-born peers for conduct problems, although they had greater emotional and peer problems. Conduct disorders were more prevalent in 14–16-year-olds when compared to their non-refugee peers. Those who drank alcohol also had higher levels of conduct disorders, although alcohol use in general was more common in UK-born CYP. Lorek et al. (2009) considered the MH of 11 CYP detained in immigration detention centres. Two were determined to be in the abnormal range and 4 were borderline for conduct disorder, having previously been well-behaved at home and at school.

Several articles considered the association between intellectual or learning disabilities and conduct problems. Using survey data from 1999 and 2004, Emerson and Hatton (2007b) found that 36% of CYP with an ID had a diagnosis of a psychiatric disorder (compared to 8% without and ID), and accounted for 14% of all British CYP with a psychiatric disorder diagnosis. With regard to conduct, they found a significant gap in prevalence, with 20.5% of CYP with an ID identified as having a conduct disorder, compared to 4.3% of CYP without an ID. They noted a link between social disadvantage and increased prevalence of conduct disorders. Further research found that, although there is an association between ID and childhood MH conditions, a sizeable portion of this link can be explained by socioeconomic disparities and household composition (Emerson et al., 2007).

Using the Reiss scale, Gobrial and Raghavan (2012) tested 150 CYP with an ID and ASD and found MH conditions in 61% of the sample. Their focus was anxiety disorders; however, of the 36% who had an anxiety disorder, conduct disorders were present in 38%. Totsika et al. (2011) found that CYP with ASD (with or without an ID) had the highest levels of conduct disorders (as well as emotional and hyperactivity disorders). Maternal emotional disorders were significantly higher when CYP were on the autism spectrum. They suggested a causal link, and argued that improving maternal MH will improve the child's behavioral problems.

Prevalence rates are highly subject to reporting discrepancies: a study of CYP in an inner-city health authority with a severe learning disability (LD) compared the reporting of teachers to the reporting of parents (Hackett et al., 2011). Teachers' data showed that 39% of the sample had a MH need, with 23% of those having conduct disorder. Parents' data showed 56% of the sample in abnormal ranges; of those, 43% were conduct disorders. Ewing et al. (2014) used a pre- and post-testing design, with assessment completed by teachers, parents/carers, and CYP. Consistent with Hackett et al. (2011), parents tended to identify conduct disorders more frequently than teachers did. The authors found that the presence of attentive adults was an effective and relatively inexpensive way of reducing conduct problems in primary school aged CYP. The results were less favourable, according to parents’/carers’ assessments, in CYP aged 11–15. Salomone et al. (2014) found that CYP with higher levels of conduct disorders were more likely to be seen by CAMHS than CYP experiencing lower levels; they suggested that the stress that conduct disorder places on parenting promotes help-seeking. In their study, teachers (but not parents) reported higher levels of conduct disorders in CYP who had limited verbal communication skills. These findings were supported by Sayal et al. (2010): 61% of CYP scored in the abnormal range for conduct disorder according to parental ratings; teachers’ ratings for the same CYP scored 80% as having conduct disorders.

There were very few studies focused primarily on interventions. Maddern et al. (2004) measured the effectiveness of a reward-based school programme designed for CYP who demonstrated behavior problems with results showing a reduction in ‘problem’ behaviors following the intervention. Eames et al. (2016) used The Team of Life narrative group methodology within a UK secondary school setting. The aim is to highlight strength and resilience through the use of sporting metaphors. There was a measurable improvement in MH in CYP in the study, including in conduct problems.

Overall, the literature adds to knowledge by confirming, albeit with smaller sample sizes, high rates of conduct disorders. Studies have also aimed to tease out both risk and moderating factors for conduct disorders, again picking up themes from the 2004 ONS survey, in relation to family and neighbourhood characteristics. The focus on children in care and CYP with ID draws attention to higher rates of conduct disorders for both groups of CYP, underscoring the service challenges.

Hyperactivity Disorders

Of the studies in our review, 64.7% (n=33) examined hyperactivity. Once again, most studies used a validated scale (n=30; 90.9%), with 69.7% (n=23) of studies employing the SDQ. A further 18.8% (n=6) deployed the DAWBA. Collishaw et al. (2004) examined prevalence in data from 1974, 1986 and 1999 and classified hyperactivity as including fidgeting, restlessness and inattention. They found a decline between 1974 (when 8.9% of CYP were hyperactive) and 1986 (7.1%) with a clear increase by 1999 (12.0%). Rates of hyperactivity were higher for boys (16.9% in 1999) than for girls (7.1% in 1999). DeJong et al. (2016) also considered prevalence, finding that 14.7% of CYP in the national sample were hyperactive, compared with 50% of the CYP in their sample of CYP adopted from care. Across studies, prevalence rates tended to be higher in clinical settings and among CYP who had been in care compared to the general population.

Importantly, this literature showed that hyperactivity is frequently correlated with other conditions. Collishaw et al. (2004) noted there was considerable comorbidity within the three data sets that they reviewed. The largest overlap was between conduct and hyperactivity problems—a correlation that existed across all three cohorts included in their study. In Emerson et al.’s study (2007), the co-incidence of attention deficit hyperactivity disorder (ADHD) with other issues was highest where CYP also experienced an ID. They found that 5.8% of CYP with ADHD also had conduct disorders (compared to 0.6% without an ID), and 1.3% of CYP with an ID experienced both emotional disorders and ADHD (compared to 0.1% without an ID). Furthermore, Ames et al.’s (2014) study, which looked at the psychological understanding of ‘psychotic like experiences’ in CYP, found that 17.5% of the sample of 40 CYP had borderline hyperactivity-inattention, and a further 17.5% had abnormal range for hyperactivity-inattention. Totsika et al. (2011) also found that a combination of ASD and ID increased the odds that the child would display hyperactivity symptoms.

Several studies focused on the correlates of hyperactivity in order to understand risk factors. Flouri (2006) found that fathers’ low frequency of contact with CYP was associated with hyperactivity. Furthermore, parents’ MH was also identified as an important correlate of hyperactivity, with maternal MH issues being particularly predictive of CYP’s hyperactivity (Fitzsimons et al., 2017; Totsika et al., 2011). Hackett and Theodosiou (2011) studied the MH needs of severely learning-disabled CYP. Of 178 students in the study, teachers’ ratings (n=148) showed that 42% of pupils were hyperactive, whereas parents’ scores (n=70) identified 63% as hyperactive. Emerson and Hatton (2007b) identified ADHD in 8.3% of CYP with an ID compared to 0.9% of CYP without an ID and with an increased prevalence of MH disorders when there are sustained adverse social conditions.

Stemming from this work on the correlates of CYP’s MH, Emmerson and Hatton (2007b) suggest reducing exposure to adverse social conditions as a primary course of action, and increasing the resilience of CYP and their families. Conversely, Ford et al. (2004), while agreeing that some MH disorders have family and/or socioeconomic correlates, argued that ADHD ‘may indicate a biological aetiology’ (2004: 493). Fitzsimmons et al. (2017) sit somewhere in between, noting that the effects of persistent poverty on CYP’s MH were more tempered for hyperactivity than for other conditions, but not negligible. All three studies used large population-based samples, which raises a question as to how they reached such diverse conclusions regarding the importance of family and socioeconomic disadvantage in the case of hyperactivity.

Research on school-based interventions show that working with parents and CYP can be effective in reducing hyperactivity. One study involved an inter-agency intervention programme that involved parents and carers and aimed to promote cooperation and anger management within a primary school (Maddern et al., 2004). Findings suggested that CYP's behavior was as a result of high levels of anxiety, and therefore addressing anxiety would improve behavior. The programme was successful at reducing CYP's anxiety, with parents and teachers reporting significantly less oppositional and ADHD type behaviors. Ewing et al. (2014) looked at the effectiveness of a school-based play intervention for CYP demonstrating behavioral problems, and found statistically significant reductions in hyperactivity following attendance on the programme. The strongest results were for those CYP who were identified as having a 'high intervention need'.

Research focusing specifically on the effectiveness of a school-based MH services for refugee CYP also found evidence of benefits (Fazel et al., 2009). While refugee CYP fared worse than the control group on a measure of overall adjustment at the baseline, they experienced considerable improvement over the course of the study, with hyperactivity among refugee CYP showing the largest positive effects of the intervention. Consistent with a social model, they concluded that MH support in the school environment, which is where CYP spend most of their time, is beneficial for vulnerable CYP.

Other work on migrant CYP occurred in immigration detention centres (Lorek et al., 2009). Results showed that, in a sample size of 24, one child was borderline and two were in abnormal ranges for hyperactivity and co-morbidities were high; all the CYP experienced depression and anxiety in addition to issues such as hyperactivity. All nine of the parents in this study experienced poor MH, to the point that 'all nine reported that they thought it would be better if they were dead' (2009: 579). However, another study found that migrant and refugee CYP had fewer hyperactivity problems than their UK-born peers, despite being more likely to come from low-income families (Leavey et al., 2004). While migrant and refugee CYP were also less likely to use alcohol, those who did had a much higher likelihood of a high hyperactivity score.

A more limited literature considered outcomes associated with hyperactivity as a primary focus of the research. Rowe et al. (2004) found that CYP identified as hyperactive faced a higher risk of unintentional burns, head injuries, and fractures; however, only fractures were associated with ADHD independent of other conditions, highlighting again the prevalence of comorbidity. Santosh and Mijovic (2006) found an increase in drug and/or alcohol use when hyperactive CYP are also on the autism spectrum, compared to CYP who are not hyperactive.

A number of important findings are discernible from this literature. It is important to recognize the role of subjectivity in assessing CYP’s hyperactivity when considering correlates, prevalence, and outcomes: some research has shown that teachers report higher levels of hyperactivity in CYP who do not have phrased speech, but parents do not report higher levels (Salomone et al., 2014). Thus, what is assessed, and by whom, has important implications for understanding hyperactivity. Importantly, the literature shows that hyperactivity is frequently correlated with other MH conditions. Additionally, a key debate in the literature centres on the relative contribution of neurobiology or environmental factors in the aetiology of hyperactivity, with studies providing inconclusive evidence on this point overall.

Gaps in the Evidence Base

As shown in Figure 1, in terms of gender and age, study inclusivity was generally unproblematic. There was, however, a gap in terms of documenting the prevalence and correlates of distress for BAME CYP. Fewer than half of all studies (n=22; 43.1%) provided any breakdown of the sample by ethnicity, and only 9.8% (n=5) explicitly examined the experiences of BAME CYP. Similarly, the experiences and needs of LGBTQ CYP have been obscured in extant literature, as sexuality and gender identity were not explicitly considered in any of the studies. The neglect of LGBTQ young people is concerning —a group at increased risk of experiencing distressing situations has been omitted entirely from an evidence base that impacts policy decisions and practice.

Also of particular concern is the limited understanding of the experiences and needs of children in public care. While only one study purposely excluded children in care (Meltzer et al., 2007), only 9.8% (n=5) examined children in care explicitly as a variable, with three of these focusing exclusively on children in care. In order to understand the experiences and potential vulnerabilities of children in public care, more attention to the unique experiences of children in care is needed, both in standalone studies and as an explanatory variable in population- and school-based studies.

Similarly, only 7.8% (n=4) of studies explicitly included or focused primarily on refugee or migrant CYP. A handful of studies looked at the correlation between learning or IDs and mental distress, but no articles considered physical disability. Although each of these groups represents only a small proportion of the population of CYP in the UK, these CYP may be more likely to experience distressing situations (Bronstein et al., 2012; Fazel et al., 2012; Mount et al., 2004; Villegas and Pecora, 2012), and may therefore differ meaningfully from to the general population of British CYP in terms of mental distress. Fundamentally, the needs of all CYP should be recognized as a matter of ethical principle, and also to ensure that policy and practice developments are inclusive and sufficiently attuned to diverse groups of CYP.

[Figure 1 here]

There is an ample literature on clinical interventions; however, clinical interventions were not part of our focus in this review. Based on studies which did consider interventions rooted in the social model, however, it is clear that family-based approaches which empower CYP to be involved in decision-making about the support they receive for mental distress show strong potential (Edbrooke-Childs et al., 2016), as do school-based interventions (Ewing et al., 2014; Fazel et al., 2009; Maddern et al., 2004). The school-based research we reviewed are suggestive of a need to improve pastoral care in schools to prevent the development of long-term problems that require more costly support.

A large share of the literature we reviewed highlighted the association between MH outcomes and IDs. A common interpretation of the negative association between IDs and MH outcomes in this literature was that an ID is a risk factor for MH difficulties (Emerson et al., 2007; Emerson and Hatton, 2007a; Gobrial and Raghavan, 2012; Totsika et al., 2011). An alternative, critical view of the link between IDs and MH might be that CYP with an ID are more at-risk of having their behavior problematized and diagnosed (e.g. Conrad, 2007).

The large share of studies relying on convenience samples, which were used in more than half of the studies we reviewed, may help to explain why some groups or issues have been relatively neglected in the literature. These samples tended to be drawn from England, with relative neglect of Wales, Scotland, and particularly Northern Ireland. The exclusion of Northern Ireland in convenience samples is echoed by its exclusion in the national survey data from 1999, 2004, 2007, and 2017; analyses including CYP from Northern Ireland were extremely rare (for a notable exception, see Fitzsimons et al., 2017 and Reilly et al, 2015). The use of convenience samples—particularly those from clinical settings—is also problematic because selection bias is likely to result in exclusion of the most vulnerable CYP, who experience mental distress but are unable to access help.

While convenience samples are common for pragmatic reasons in qualitative studies, 84.3% (n=43) of studies in our sample were quantitative. This overrepresentation of convenience samples is not the result of a wealth of qualitative evidence in the field; the lack of qualitative evidence, which would provide much-needed perspectives of CYP and parents/carers in their own words, represents a further gap in the literature. Relatedly, we also note that over half of all studies (n=27; 52.9%) we reviewed used the SDQ to understand CYP's mental well-being, and 86.3% (n=44) used some form of validated psychological measure (see Web Appendix 1 for further details). While there is undoubtedly methodological appeal of such validated measures, it is possible that reliance on these quantitative, field-specific measures discourages the collection of qualitative data. It is also possible that the measures narrow the scope of inquiry to emphasize the increasingly contested biomedical model (Deacon, 2013), thereby reducing the possibility for more critical perspectives on MH.

Conclusion

We found that an extensive body of literature has examined the MH of British CYP, with focus on prevalence, correlates, interventions, and associated outcomes. One relatively consistent, robust finding across the literature is the strong, consistent association between CYP's MH and socioeconomic disadvantage, family instability, and parental MH, highlighting these as important factors in service planning. The 2004 ONS survey adopted a broader lens in the capture of MH need by capturing family and broader contextual factors and this is clearly reflected in the literature we have reviewed. Findings from the review support the proposition that addressing these family and socioeconomic factors is a potentially efficacious avenue for intervention. More large-scale, longitudinal evidence using representative data is needed, however, to be able to generalize from the literature—particularly because clinic-based convenience samples are very likely to omit CYP who need help but are unable to access it, perpetuating the invisibility of CYP with unmet needs. Indeed, fewer than half of the studies were longitudinal, and of those that were longitudinal, some studies paired administrative data with cross-sectional primary data, meaning covariates were not measured longitudinally.

A second observation is the consistent finding across categories of MH that clinical populations and CYP with additional needs are at greater risk of mental distress. However, the literature is weighted towards conduct disorders in clinical populations of CYP, at the expense of a broader lens on the nature of CYP's distress for children in care for example. Clearly externalising behaviors are a challenge for those providing care or education; however, a narrow focus on conduct problems falls short of delivering the kind of holistic understandings that are needed to advance policy and practice.

We contend that the predominantly medicalised and problematising language used in much of the extant literature is pejorative and stigmatising. To the extent that this literature is used to inform social policies and service provision, as e.g. the 2004 UK government report suggests is the case, there is the potential for medicalised, problematising language to encourage policies and services towards a focus on 'normalcy' as an outcome, rather than on provision of support through a needs-based approach. Labels such as 'problems' and 'disorders' quite clearly and explicitly problematise CYP's difficulties. Some observers have argued that even the language of mental 'health' itself is also problematic, in that it emphasises inherent (potentially physiological) differences between people who experience distress and other people, thereby stigmatising individuals on the basis of differences in distress (Deacon, 2013; Tew, 2011; Thachuk, 2011; Timimi, 2014). The language of health is argued to promote diagnosis and pharmaceutical treatment, which does little to resolve the underlying distress arising due to, for example, a history of adverse childhood experiences.

Moreover, such medicalization may give the impression of shifts in prevalence and even social predictors of distress over time, even where underlying levels of distress remain constant (Conrad, 2007). For instance, it is difficult to disentangle Robson and Gingell's (2012) finding that documented links between parents' and CYP's MH do not necessarily correspond to a familial correlation in diagnoses. Does this finding reflect a weak association between the MH of parents and CYP? Or does it reflect the medicalization of distress, with the MH of parents and CYP being correlated, but the process of labelling distress shifting over time? Medicalization thus has the potential to confound attempts to understand the social factors which may impact on CYP's risks and experiences of mental distress.

We used extremely broad search terms specifically to ensure we were picking up studies that were not narrowly focused on specific diagnoses. Nonetheless, it is noteworthy that the majority of studies we found deployed diagnostic criteria and medicalized language. Much of the literature relied on validated psychological instruments, particularly the SDQ. The language of these validated instruments is highly medicalised, and so likely helps to explain the language used in literature reporting results from these instruments. Nonetheless, this observation does not resolve the potential for stigma arising from this language. We advocate for greater engagement by researchers and policymakers with the growing critical discourse (Conrad, 2007; Deacon, 2013; Tew, 2011; Thachuk, 2011; Timimi, 2014) on 'MH', diagnosis, biomedicine, and medicalization.

As with any study, there are some limitations to our research. While our decisions regarding search engine, terms and inclusion criteria allowed us to identify the literature we sought for this discussion, it is possible that these decisions caused us to omit some relevant and high-quality research, or indeed that a broader definition of search terms and inclusion criteria may have produced a different picture of gaps in the evidence base. For example, we excluded articles on bullying from our sample. MH is clearly a topic that intersects with bullying, and there is certainly an important literature that looks specifically at experiences with and consequences of bullying among LGBTQ youth (see for example McDermott et al., 2018; Rivers and Cowie, 2006; Ryan and Rivers, 2003). However, while often linked to poorer MH, literature on bullying is a distinct field of research. Nonetheless, a search that included bullying may have produced a different picture of gaps in the evidence base.

Additionally, we focused on school-aged CYP aged 6-17 both to limit the scope of our review, and because the 2004 ONS survey also focused on school aged children. However, this exclusion criterion eliminated some excellent and very important studies on the mental distress and needs of younger children. Mental distress among younger children is increasingly being recognized as a pressing challenge, with potential long-term escalation across childhood (Levi et al., 2019; Pitchforth et al., 2019; Ringeisen et al., 2009; Ryan et al., 2017; Schore, 2001). Further research is needed on the lasting impacts of mental distress for younger children.

Overall, our findings demonstrate that an abundant body of research documents mental distress among significant portions of the UK's CYPHowever, we identified several concerning gaps in the literature, including neglect of the experiences and needs of LGBTQ, BAME, children in care, disabled, and migrant CYP; the omission of Northern Ireland from most data sources/studies; and a dearth of qualitative data. Because these CYP are omitted from the evidence-base, it is unclear what their specific needs and challenges are, and whether these needs are being met by available specialist MH services. A more inclusive approach is needed to address potential unmet need for services among these invisibilized CYP. We also assert that assessment tools maintain a medicalised nomenclature and approach to distress, and we suggest that a greater diversity of data and a revision of extant nomenclature is needed. Finally, social care interventions to support CYP, such as school-based methods, may be an efficacious supplement to existing services to ensure that mental distress is not permitted to adversely interfere with CYP's educational trajectories and life chances.

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Webb E, Panico L, Bécares L, et al. (2017) The Inter-relationship of Adolescent Unhappiness and Parental Mental Distress. *Journal of Adolescent Health* 60(2): 196–203. DOI: 10.1016/j.jadohealth.2016.10.001.

WHO (2018) *Situation of child and adolescent health in Europe*. Copenhagen: WHO Regional Office for Europe.

Table 1. Inclusion and exclusion criteria for literature retrieval and review

Inclusion	Exclusion
Focused explicitly on CYP mental health outcomes	Aim at testing biomedical or behavioral interventions in a lab-based or observational approach
Include CYP aged 6-17	Non-empirical work, such as literature reviews, letters to editors, commentary pieces
Published between January 2004 and June 2018	Focus on the perspectives and experiences of healthcare professionals rather than CYP's experiences
Based on data collected in the UK	Examine CYP's MH specifically in relation to bullying
Published in English	Focus on parents' and/or teachers’ needs/personal narratives rather than CYP's MH experiences
Primary research, including qualitative, quantitative, and/or mixed methods	Validation of psychological scales, i.e. those seeking to assess the reliability/validity of psychological instruments
Analyse primary and/or secondary data	Cost assessments of healthcare services
Peer-reviewed	Studies focused on general health rather than MH specifically
	Studies focusing on the structure and/or effectiveness of healthcare systems
	Grey literature, e.g. conference papers, working papers, reports

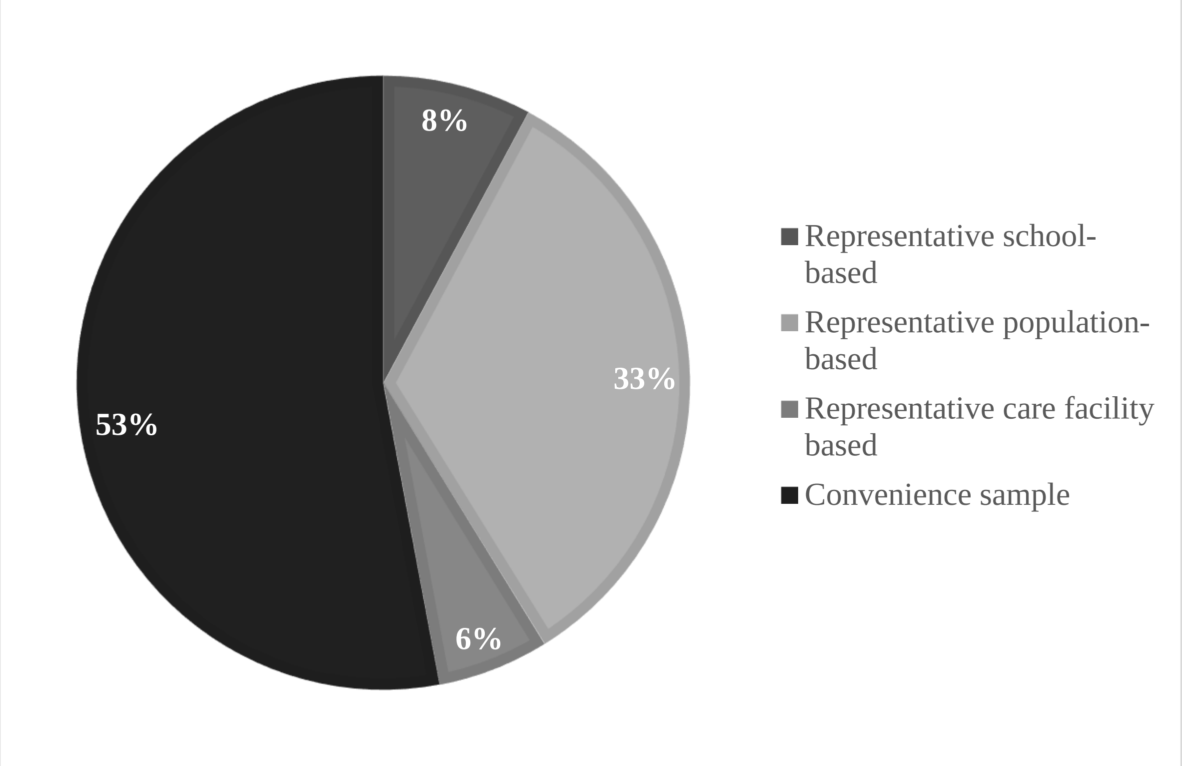
Web Appendix 1

In addition to the analysis presented in the main text, we examined the characteristics of all studies included in our sample. Beyond the main categories of MH difficulties presented in the main text, we also identified a number of less frequently investigated but still important difficulties. We outline our findings on these points below.

Study Characteristics

As shown in Web Figure 1, the majority of studies (n=27; 52.9%) relied on convenience samples (including patient records) compared to representative population-based samples (n=17; 33.3%), school-based samples (n=4; 7.8%), or care facility-based samples (n=3; 5.8%). Just under sixty percent (n=30; 58.8%) used primary data, while 41.2% (n=21) analysed secondary data, with the ONS 1999 and 2004 surveys (n=12; 23.5%) being by far the most common secondary data sources. Analytic sample sizes ranged from as small as 8 to as many as 18,660 respondents; 29.4% of the studies analysed a sample of <100 participants, while 37.3% used a sample size of 1,000+ respondents. A little over half (n=31; 60.8%) were cross-sectional, and 35.3% (n=18) were cohort studies; however, some cohort studies collected cross-sectional primary data and paired this with a longitudinal examination of e.g. CAMHS records; thus, while outcomes may have been tracked longitudinally, covariates were not. Most (n=43; 84.3%) were quantitative studies, and 13.7% (n=7) used mixed methods, while only one was purely qualitative. Even where small samples were selected and data collected via face-to-face interviews, data were frequently coded into discrete categories and analysed using quantitative techniques, with no qualitative analysis of the data presented.

Web Figure 1. Sampling frames of included studies (n=51)

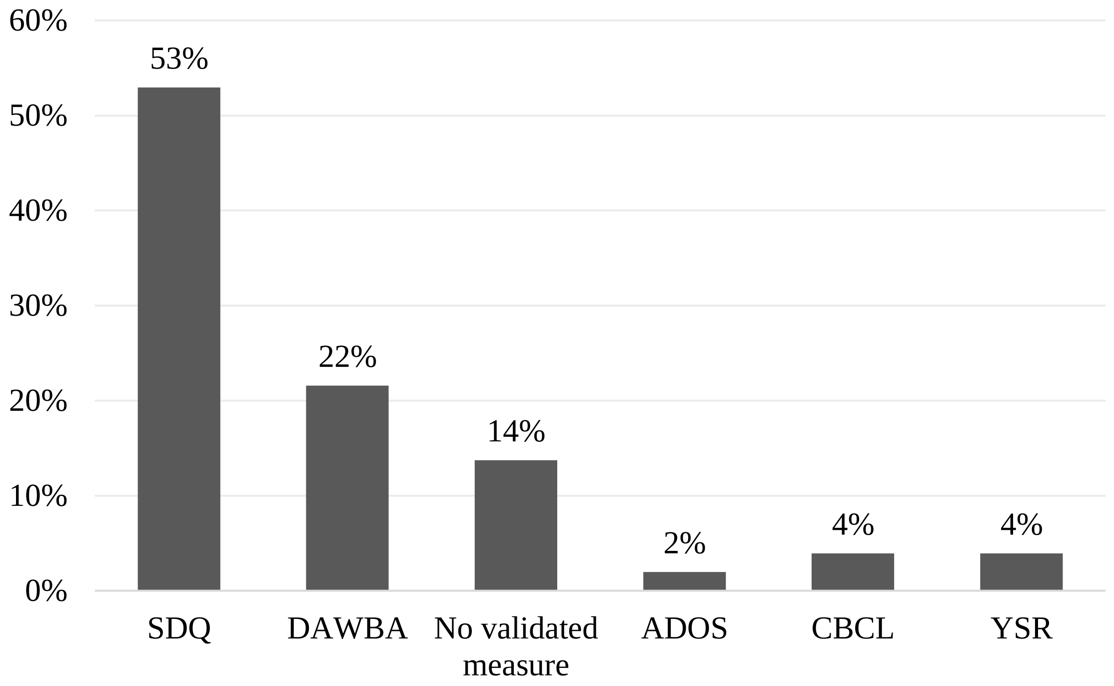


Most studies used a validated psychological assessment tool. As shown in Web Figure 2, only 13.7% (n=27) used no validated measure whatsoever. A range of assessments was used, with the Strengths and Difficulties Questionnaire (SDQ) and Development and Well-being Assessment (DAWBA) being the most common. The SDQ is typically used to screen for MH difficulties for CYP aged 3-16, assessing 5 psychological attributes (both positive and negative) via scales: emotional symptoms, conduct/behavioural problems, hyperactivity/inattention, peer relationships and prosocial behaviour. DAWBA testing is used for psychiatric diagnosis of 2-17 year olds. The assessment has up to 3 elements including an interview with parents, an interview with CYP aged 11 to 17-years, and a teacher questionnaire. Interviews are a mix of open- and closed-ended questions. More than half of the studies (n=27; 52.9%) used the SDQ, and a further one-fifth (n=11; 21.6%) used the DAWBA.

Just one study used the Autism Diagnostic Observation Schedule (ADOS), which involves an assessor rating a young person’s responses to input data for an algorithm generated diagnosis. A small number of studies (n=2; 3.9% each) employed the Child Behaviour Checklist (CBCL) or the Youth Self-Report (YSR). The CBCL, completed by a child’s primary carer, is used to assess emotional, behavioural and social difficulties. The questionnaire contains 113 questions, graded on a 3-point

Likert scale. The YSL is often use in conjunction with the CBCL and follows a similar format. It is completed by the CYP aged 11-18 years to assesses and highlight internalising and externalising behaviours. A small minority employed other assessments, such as the Mood and Feeling Questionnaire, Health of the Nation Outcome Scale for Children and Adolescents, Depression Self-Rating Scale for Children, and the Glasgow Anxiety Scale. These tools are self-report screening tools to assess depression (in the first three cases) and anxiety (in the latter case). Among the 44 studies using some form of validated assessment, 75.0% (n=33) used multiple assessments in their study, while one-quarter (n=11) used only one assessment.

Web Figure 2. Validated scales used in included studies (n=51)



While we compiled data on prevalence rates from across the studies we examined, this is uninformative. Rates in purposive samples used in some studies ranged from 0.5% to 100%, and were not representative of the population. We report prevalence rates from specific studies in sections focused on specific categories of distress.

Other Mental Health Difficulties

Comparatively less common were studies of ASD (n=9; 17.7%), motor and vocal tics (n=4; 7.84%), and eating disorders (n=8; 15.7%). Again, most studies of these forms of distress (over 75% in each category) used validated measures. The SDQ remained a common choice for assessment, though less so than for other issues at 55.6% (n=5) in studies of ASD, 75.0% (n=3) in studies of motor and vocal tics, and 50.0% (n=4) of studies of eating disorders. We discuss each of these in turn below.

In a population-based sample of 18,415 children, fewer than one percent (0.53%) were diagnosed with ASD (Totsika et al., 2011). Over half of children with an ASD diagnosis in this study also had an ID; in turn, children with both an ASD diagnosis and an ID had greater odds of also experiencing hyperactivity and conduct and emotional problems. Gobrial and Raghavan (2012) also found that children with an ID who were on the autism spectrum (n=150) experienced a higher incidence of other MH difficulties; 61% tested positive for MH difficulties, with 36% of the sample testing positive for an anxiety disorder. In a CAMHS-based sample (n=177), Edbrooke-Childs et al. (2016) found a higher prevalence of ASD, at 3% of children included in the study. Research focusing specifically on adopted children found that while only three children had an existing diagnosis of ASD, the DAWBA showed that, of 34 children, four were found to be subthreshold and a further four met the criteria for ASD (DeJong et al., 2016). In a study of ethnic variations in service utilisation of children with an ID, Dura-Vila and Hodes (2009) found that 14% of the 242 children in their study were on the autism spectrum.

A small number of articles focused on the correlates of ASD. For instance, one large-scale population-based study (n=18,415) of differences in the incidence of psychiatric disorders among children with and without an ID identified 8% of children experiencing ASD as having an ID, compared with 0.3% of children without an ID (Emerson & Hatton, 2007). Hastings et al. (2006) considered the association between maternal expressed emotion and MH and the behaviour of children with an ID. They found a bidirectional relationship, which they asserted to be causal: compared to their peers, children on the autism spectrum exhibited more internalising and externalising problems, and had mothers who were more distressed. Extending from this, Totsika et al. (2011) looked at the impact of behavioural and emotional problems in children on the autism spectrum on maternal MH, finding that it was ASD but not an ID that was associated with maternal emotional disorders. The presence of ASD with or without ID had no impact on *positive* maternal MH demonstrating, as Totskia et al. claims to be, evidence that ‘mental ill-health (emotional disorder) is not simply the conceptual opposite of well-being (positive MH)’ (2011: 97). The authors noted that socioeconomic adversity had a negative impact on maternal emotional disorders, and suggested that addressing this could improve maternal outcomes, and thereby also positively impact on children with ASD.

Reilly, Senior and Murtagh (2015) examined associations between an ASD diagnosis (as well as other MH conditions) and fragile X syndrome, Prader-Willi syndrome, velo-cadio-facial syndrome, and Williams syndrome using surveys from n=374 parents recruited from support groups. They found a gradient in prevalence of ASD by gender and these neurogenetic conditions, ranging from as low as 3% (for girls with Williams Syndrome) to as high as 44% (for boys with fragile X syndrome). Prevalence of ASD was higher for boys compared to girls across neurogenetic conditions (though sometimes only marginally), with the highest prevalence of ASD among children with fragile X syndrome for both genders. The authors expected a prevalence of MH diagnoses given previously established links between the syndromes examined and behavioural issues; they argued that, because they relied on parents’ reports of diagnosed MH conditions, this lower-than-expected prevalence reflected diagnostic overshadowing by the dominant syndrome, lack of belief in utility of dual diagnoses, or lack of access to professionals with the needed expertise. Although the authors briefly mentioned the very low response rate (32%) in their convenience sample, they did not consider this as a possible explanation of why their results might differ from previously published research in this area. Contrary to other lines of thinking, the authors here were concerned with the low levels of prescribing of medication for behavioural and or psychiatric reasons among these children.

One study considered interventions rooted in the social model which were aimed at improving emotional and behavioural outcomes for children on the autism spectrum: Salomone et al. (2014) investigated emotional and behavioural problems in children on the autism spectrum who attend specialist autism schools. Although there were inconsistencies between parent and teacher completed SDQs, the authors noted ‘levels of behavioural and emotional problems [were] found to be 3- to 4-

fold higher than the normative sample' (2014: 664). Despite the high prevalence of difficulties, 67.4% of parents reported that they had never accessed MH services for their child. The authors advocated for school-based MH services to assess and support those children with ASD.

Santosh and Mijovic (2006) studied whether a pervasive development disorder (PDD; an umbrella label for being on the autism spectrum short of having an ASD diagnosis) was a protective factor against drug and alcohol use. The study looked at 1,484 adolescents who had sought MH treatment within a 10-year period. Of those, 97 had a PDD; the remaining 1,387 adolescents were assessed as a control group. Overall, the incidence of drug and alcohol use among those with PDD was 3.1%, compared to 16.7% in the control group. Importantly, however, the control group was drawn from adolescents who had selected into treatment in a London hospital; how these findings compare to the broader population of British adolescents is not ascertainable here.

There were no articles in our sample that focused entirely on tic disorders. Rather, the condition was mentioned in passing, often observed without much comment as a secondary diagnosis. In several articles, tic disorder was included in the 'other' section of conditions in the context of descriptive statistics. Examining a broad range of MH difficulties and IDs, Emerson and Hatton (2007) found that tic disorders were identified for 0.8% of children with an ID, compared to 0.3% of children without an ID. Although not a focal point, one study of MH of adopted children noted that 20.6% of children for whom they had DAWBA data met the criteria for a tic disorder diagnosis (DeJong et al., 2016). Another study of the lack of adequate liaison between adult and child MH services when there are concurrent parent and child MH difficulties identified one child with a tic disorder (Robson & Gingell, 2012).

Studies focused specifically on eating disorders were also rare and, like tic disorders, eating disorders were often mentioned in passing as a secondary diagnosis. In their study of PDD and drug and alcohol use, for example, Santosh and Mijovic (2006) found that 6% of adolescents had an eating disorder within their control group. In a sample of 280 CYP who had exhibited sexually abusive behaviour, 9% exhibited eating disorder symptoms (Vizard et al., 2007). The DeJong et al. (2016) study on adopted children found that, of the 34 children for whom there were completed DAWBA tests, four children were subthreshold, and one met the criteria for eating disorders. Emerson and

Hatton’s (2007) study identified eating disorders in 0.2% in those with an ID, compared to 0.1% without an ID. Analysing data from the ALSPAC population-based study, Micali et al. (2015) found, including those that were subthreshold for DSM-5 diagnosis, the prevalence of eating disorders nearly doubled between the ages of 14 and 16. An eating disorder in childhood, including subthreshold, was associated with poor MH, substance misuse and self-harm in young adulthood. Several studies that included eating disorders were focused on interventions. The Edbrooke-Childs et al. (2016) that considered the worth of shared decision-making in treatments noted that, of 177 children referred to CAMHS services, 7% had an eating disorder. A similar study of concurrent child and parental MH difficulties found that, in a sample of 28 children referred to CAMHS, four had an eating disorder (Robson & Gingell, 2012).

While psychosis and schizophrenia were only mentioned in the 2004 survey in relation to parental testing, and not directly in relationship to children’s MH, they were mentioned several times in the articles in our sample. As with other conditions, population-level prevalence was not studied. However, in a study of 1,387 treatment seeking adolescents, 5% were described as having ‘schizophrenia’ (Santosh & Mijovic, 2006). The presence of psychotic-like experiences (PLE) were recognised in the literature to be common in childhood and were identified as a possible marker of distress (Hassanali et al., 2015). Levels of emotional disturbance, cognitive bias, and negative life events were all found to be significant correlates of PLE severity (Ames et al., 2014; Hassanali et al., 2015).

Ames et al. (2014) sought to understand how psychological factors influence childhood psychotic-like experiences (PLE), which they argue are often a precursor to more severe psychoses. In a sample of 40 children admitted to CAMHS, 85% reported having experienced a PLE within the last year, 47.5% had experienced 3 or more PLE and 60% had experienced a PLE in the previous fortnight. They found that emotional disturbance, cognitive bias and negative life events significantly correlated with PLE severity, and that each had an independent influence. The authors found a correlation between children’s ‘jumping to conclusions’ biases and PLEs that they identified as useful knowledge when supporting children’s appraisals of PLEs. Hassalani et al. (2015) also established a link between children’s propensity to jump to conclusions and their experiences and interpretations of

PLEs. Both papers suggest that targeted interventions such as cognitive behavioural therapy could improve children’s understanding and reasoning of PLEs thereby alleviating distress and aiding resilience.

Web Appendix 2

Below, we present two tables providing an overview of the database we created based on our reading and coding of the articles included in our sample. In Web Table 2, the information provided below is not a complete representation of the data we coded. In our database, we recorded all measures/scales of MH difficulties used, but because most studies used only one measure, inclusion of separate columns for the few studies that used several measures would result in a large number of columns and blank cells. We have included information on the primary measure used here.

Web Table 1. Article sampling and methodology details for 57 articles included in final sample

Author(s)	Article Title	Year	Method(s) used	Analytic sample size	Sampling frame	Boys sampled	Girls sampled	Age range	Study Design	Children in care examined	Focused exclusively on children in care	Purposely excluded children in care	Migrant children variable	LGBTQ children variable	Physical disabilities variable	BAME children variable
Ames, Catherine S.; Jolley, Suzanne; Laurens, Kristin R.; Maddox, Lucy; Corrigall, Richard; Browning, Sophie; Hirsch, Colette R.; Hassanali, Nedah; Bracegirdle, Karen; Kuipers, Elizabeth	Modelling psychosocial influences on the distress and impairment caused by psychotic-like experiences in children and adolescents.	2014	Quantitative	40	Convenience Sample	Yes	Yes	8-14	Cross-sectional	No	No	No	No	No	No	No
Berg, Shipra; Berg, Erlend	The youngest children in each school cohort are overrepresented in referrals to mental health services.	2014	Quantitative	9157	Representative, population-based	Yes	Yes	0-17	Cross-sectional	No	No	No	No	No	No	No
Blower, Aileen; Addo, Ama; Hodgson, Jessica; Lamington,	Mental Health of 'Looked After' Children: A Needs Assessment.	2004	Mixed methods	48	Representative, care facility based	Yes	Yes	7-17	Cohort	Yes	Yes	No	No	No	No	No

Linda; Towlson, Kate																
Collishaw, Stephan; Maughan, Barbara; Goodman, Robert; Pickles, Andrew	Time trends in adolescent mental health	2004	Quantitative	18660	Representative, population-based	Yes	Yes	15-16	Longitudinal, but not cohort	No	No	No	No	No	No	No
DeJong, Margaret; Hodges, Jill; Malik, Osman	Children after adoption: Exploring their psychological needs.	2016	Mixed methods	47	Representative, care facility based	Yes	Yes	1-17	Cross-sectional	Yes	Yes	No	No	No	No	No
Dickson, K.; Emerson, E.; Hatton, C.	Self-reported anti-social behaviour: Prevalence and risk factors amongst adolescents with and without intellectual disability.	2005	Quantitative	4525	Representative, population-based	Yes	Yes	11-15	Cross-sectional	No	No	No	No	No	No	No
Durà -Vilà, G.; Hodes, M.	Ethnic variation in service utilisation among children with intellectual disability.	2009	Quantitative	242	Convenience Sample	Yes	Yes	7-17	Cross-sectional	No	No	No	No	No	No	Yes
Eames, Vicky; Shippen, Catherine; Sharp, Helen	The Team of Life: A narrative approach to building resilience in UK school children.	2016	Mixed methods	26	Convenience Sample	Yes	No	11-15	Cohort	No	No	No	No	No	No	No
Edbrooke-Childs, Julian; Newman, Robbie; Fleming, Isobel; Deighton, Jessica; Wolpert, Miranda	The association between ethnicity and care pathway for children with emotional problems in routinely collected child and adolescent	2016	Quantitative	11592	Convenience Sample	Yes	Yes	0-25	Cohort	No	No	No	No	No	No	Yes

	mental health services data.															
Edwards, L.; Watson, M.; James-Roberts, I. St.; Ashley, S.; Tilney, C.; Brougham, B.; Osborn, T.; Baldus, C .; Romer, G	Adolescent's stress responses and psychological functioning when a parent has early breast cancer.	2008	Quantitative	56	Convenience Sample	Yes	Yes	11-17	Cross-sectional	No	No	No	No	No	No	No
Emerson, Eric; Hatton, Chris	Mental health of children and adolescents with intellectual disabilities in Britain.	2007	Quantitative	18415	Representative, population-based	Yes	Yes	5-16	Cross-sectional	No	No	No	No	No	No	No
Emerson, Eric; Hatton, Chris	Contribution of socioeconomic position to health inequalities of British children and adolescents with intellectual disabilities.	2007	Quantitative	10438	Representative, population-based	Yes	Yes	5-15	Cross-sectional	No	No	No	No	No	No	No
Emerson, Eric; Robertson, Janet; Wood, Justin	The association between area-level indicators of social deprivation and the emotional and behavioural needs of black and South Asian children with intellectual disabilities in a deprived urban environment.	2007	Quantitative	504	Representative, school-based	Yes	Yes	5-19	Cross-sectional	No	No	No	No	No	Yes	Yes

Ewing, Donna L.; Monsen, Jeremy J.; Kwoka, Maria	Behavioural and emotional well-being of children following non-directive play with school staff.	2014	Quantitative	253	Convenience Sample	Yes	Yes	3-14	Cohort	No	No	No	No	No	No	No
Farmer, Selwyn, Meakings	‘Other children say you’re not normal because you don’tlive with your parents’. Children’s views of living withinformal kinship carers: social networks, stigma andattachment to carers	2013	Mixed methods	80	Representative, population-based	Yes	Yes	0-18	Cross-sectional	No	No	Yes	No	No	No	No
Fazel, Mina; Doll, Helen; Stein, Alan	A school-based mental health intervention for refugee children: An exploratory study.	2009	Mixed methods	141	Representative, school-based	Yes	Yes	5-18	Cohort	No	No	No	Yes	No	No	Yes
Fitzsimons, Emla; Goodman, Alissa; Kelly, Elaine; Smith, James P.	Poverty dynamics and parental mental health: Determinants of childhood mental health in the UK.	2017	Quantitative	11049	Representative, population-based	Yes	Yes	5-11	Cohort	No	No	No	No	No	No	No
Flouri, Eirini	Non-resident fathers' relationships with their secondary school age children: Determinants and children's mental health outcomes.	2006	Quantitative	520	Representative, school-based	Yes	Yes	11-18	Cross-sectional	No	No	No	No	No	No	No

Ford, Tamsin; Goodman, Robert; Meltzer, Howard	The relative importance of child, family, school and neighbourhood correlates of childhood psychiatric disorder.	2004	Quantitative	8772	Convenience Sample	Yes	Yes	5-15	Cross-sectional	No	No	No	No	No	No	No
Gobrial, Ereny; Raghavan, Raghu;	Prevalence of anxiety disorder in children and young people with intellectual disabilities and autism.	2012	Quantitative	150	Convenience Sample	Yes	Yes	5-18	Cross-sectional	No	No	No	No	No	No	No
Hackett, Latha; Theodosiou, Louise; Bond, Caroline; Blackburn, Claire; Lever, Rachel	Understanding the mental health needs of pupils with severe learning disabilities in an inner city local authority.	2011	Quantitative	162	Convenience Sample	Yes	Yes	Precise ages not provided; school-based sample of school-aged children	Cross-sectional	No	No	No	No	No	No	No
Hassanali, Nedah; Ruffell, Tamatha; Browning, Sophie; Bracegirdle, Karen; Ames, Catherine; Corrigall, Richard; Laurens, Kristin R.; Hirsch, Colette; Kuipers, Elizabeth; Maddox, Lucy; Jolley, Suzanne	Cognitive bias and unusual experiences in childhood.	2015	Quantitative	86	Convenience Sample	Yes	Yes	5-14	Cross-sectional	No	No	No	No	No	No	Yes

Hastings, Richard P.; Daley, Dave; Burns, Carla; Beck, Alexandra	Maternal Distress and Expressed Emotion: Cross-Sectional and Longitudinal Relationships With Behavior Problems of Children With Intellectual Disabilities.	2006	Quantitative	75	Convenience Sample	Yes	Yes	3-19	Cohort	No	No	No	No	No	No	No
Heptinstall, Ellen; Sethna, Vaheshta; Taylor, Eric;	PTSD and depression in refugee children	2004	Quantitative	40	Convenience Sample	Yes	Yes	8-16	Cross-sectional	No	No	No	Yes	No	No	No
Heron, Jon; Barker, Edward D.; Joinson, Carol; Lewis, Glyn; Hickman, Matthew; Munafò, Marcus; Macleod, John	Childhood conduct disorder trajectories, prior risk factors and cannabis use at age 16: Birth cohort study.	2013	Quantitative	4159	Representative, population-based	Yes	Yes	16-16	Cohort	No	No	No	No	No	No	No
Katz, Emma	Recovery-Promoters: Ways in whichChildren and Mothers Support OneAnother’s Recoveries from DomesticViolence	2015	Qualitative	15	Convenience Sample	Yes	Yes	10-14	Cross-sectional	No	No	No	No	No	No	No
Leavey, Gerard; Hollins, Kathryn; King, Michael; Barnes, Jacqueline; Papadopoulos, Christopher; Grayson, Kate	Psychological disorder amongst refugee and migrant schoolchildren in London.	2004	Quantitative	329	Representative, school-based	Yes	Yes	11-16	Cross-sectional	No	No	No	Yes	No	No	No
Lorek, Ann; Ehntholt, Kimberly; Nesbitt, Anne; Wey, Emmanuel;	The mental and physical health difficulties of children held within a British	2009	Mixed methods	24	Convenience Sample	Yes	Yes	0.25-17	Cross-sectional	Yes	No	No	Yes	No	No	No

Githinji, Chipo; Rossor, Eve; Wickramasinghe, Rush	immigration detention center: A pilot study.															
Maddern, Lynn; Franey, John; McLaughlin, Vincent; Cox, Susan	An Evaluation of the Impact of an Inter-agency Intervention Programme to Promote Social Skills in Primary School Children.	2004	Quantitative	8	Convenience Sample	Yes	No	9-11	Cohort	No	No	No	No	No	No	No
Meltzer, Howard; Vostanis, Panos; Goodman, Robert; Ford, Tamsin	Children's perceptions of neighbourhood trustworthiness and safety and their mental health.	2007	Quantitative	3340	Convenience Sample	Yes	Yes	11-16	Cross-sectional	No	No	Yes	No	No	No	No
Messer, Julie; Goodman, Robert; Rowe, Richard; Meltzer, Howard; Maughan, Barbara	Preadolescent conduct problems in girls and boys	2006	Quantitative	1440	Representative, population-based	Yes	Yes	5-10	Cohort	No	No	No	No	No	No	No
Micali, Nadia; Solmi, Francesca; Horton, Nicholas J.; Crosby, Ross D.; Eddy, Kamryn T.; Calzo, Jerel P.; Sonneville, Kendrin R.; Swanson, Sonja A.; Field, Alison E.	Adolescent eating disorders predict psychiatric, high-risk behaviors and weight outcomes in young adulthood.	2015	Quantitative	11209	Representative, population-based	Yes	Yes	14-16	Longitudinal, but not cohort	No	No	No	No	No	No	No
Mojtabai, Ramin	Serious Emotional and Behavioral Problems and Mental Health Contacts in American and British Children and Adolescents.	2006	Quantitative	7970	Representative, population-based	Yes	Yes	5-16	Cross-sectional	No	No	No	No	No	No	No

Rees, Paul	The mental health, emotional literacy, cognitive ability, literacy attainment and ‘resilience’ of 'looked after children': A multidimensional, multiple-rater population based study.	2013	Quantitative	193	Representative, care facility based	Yes	Yes	7-15	Cross-sectional	Yes	Yes	No	No	No	No	No
Reilly, C.; Senior, J.; Murtagh, L	ASD, ADHD, mental health conditions and psychopharmacology in neurogenetic syndromes: Parent survey.	2015	Quantitative	381	Convenience Sample	Yes	Yes	4-19	Cross-sectional	No	No	No	No	No	No	No
Rice, Frances; Lifford, Kate J.; Thomas, Hollie V.; Thapar, Anita	Mental health and functional outcomes of maternal and adolescent reports of adolescent depressive symptoms.	2007	Quantitative	842	Representative, population-based	Yes	Yes	11-16	Cohort	No	No	No	No	No	No	No
Rice, Frances; Sellers, Ruth; Hammerton, Gemma; Eyre, Olga; Bevan-Jones, Rhys; Thapar, Ajay K.; Collishaw, Stephan; Harold, Gordon T.; Thapar, Anita	Antecedents of new-onset major depressive disorder in children and adolescents at high familial risk.	2017	Quantitative	279	Convenience Sample	Yes	Yes	9-17	Cohort	No	No	No	No	No	No	No
Robson, Julia; Gingell, Kate	Improving care for families where children and parents have concurrent mental health problems.	2012	Quantitative	28	Convenience Sample	Yes	Yes	11-16	Cross-sectional	No	No	No	No	No	No	No

Rowe, Richard; Maughan, Barbara; Goodman, Robert	Childhood Psychiatric Disorder and Unintentional Injury: Findings from a National Cohort Study.	2004	Quantitative	10438	Representative, population-based	Yes	Yes	5-15	Cross-sectional	No	No	No	No	No	No	No
Rowe, Richard; Maughan, Barbara; Moran, Paul; Ford, Tamsin; Briskman, Jackie; Goodman, Robert	The role of callous and unemotional traits in the diagnosis of conduct disorder.	2010	Quantitative	7977	Representative, population-based	Yes	Yes	5-16	Cohort	No	No	No	No	No	No	No
Salomone, Erica; Kutlu, Besterah; Derbyshire, Kayleigh; McCloy, Carlye; Hastings, Richard P.; Howlin, Patricia; Charman, Tony	Emotional and behavioural problems in children and young people with autism spectrum disorder in specialist autism schools.	2014	Quantitative	615	Convenience Sample	Yes	Yes	4-19	Cross-sectional	No	No	No	No	No	No	No
Santosh, Paramala J.; Mijovic, Angela	Does pervasive developmental disorder protect children and adolescents against drug and alcohol use?	2006	Quantitative	1484	Convenience Sample	Yes	Yes	12-18	Cross-sectional	No	No	No	No	No	No	No
Sayal, Kapil; Tischler, Victoria; Coope, Caroline; Robotham, Sarah; Ashworth, Mark; Day, Crispin; Tylee, Andre; Simonoff, Emily	Parental help-seeking in primary care for child and adolescent mental health concerns: Qualitative study.	2010	Mixed methods	34	Convenience Sample	Yes	Yes	4-15	Cross-sectional	No	No	No	No	No	No	No
Stringaris, A.; Goodman, R.	Mood lability and psychopathology in youth.	2009	Quantitative	7977	Representative, population-based	Yes	Yes	7-19	Cohort	No	No	No	No	No	No	No

Taylor, Lucy M. W.; Oldershaw, Anna; Richards, Clair; Davidson, Kate; Schmidt, Ulrike; Simic, Mima	Development and pilot evaluation of a manualized cognitive-behavioural treatment package for adolescent self-harm.	2011	Quantitative	25	Convenience Sample	Yes	Yes	12-18	Cohort	No	No	No	No	No	No	No
Toms, Gill; Totsika, Vaso; Hastings, Richard; Healy, Helen	Access to services by children with intellectual disability and mental health problems: Population-based evidence from the UK.	2015	Quantitative	7977	Convenience Sample	Yes	Yes	5-16	Cohort	No	No	No	No	No	No	No
Tonks, James; Yates, Phil; Williams, W. Huw; Frampton, Ian; Slater, Alan	Peer-relationship difficulties in children with brain injuries: Comparisons with children in mental health services and healthy controls.	2010	Quantitative	214	Convenience Sample	Yes	Yes	9-15	Cross-sectional	No	No	No	No	No	No	No
Totsika, Vasiliki; Hastings, Richard P.; Emerson, Eric; Lancaster, Gillian A.; Berridge, Damon M.	A population-based investigation of behavioural and emotional problems and maternal mental health: Associations with autism spectrum disorder and intellectual disability.	2011	Quantitative	18415	Representative, population-based	Yes	Yes	5-16	Cross-sectional	No	No	No	No	No	No	No
Vizard, Eileen; Hickey, Nicole; French, Lesley; McCrory, Eamon	Children and adolescents who present with sexually abusive behaviour: A UK descriptive study.	2007	Quantitative	280	Convenience Sample	Yes	Yes	5-21	Cross-sectional	Yes	No	No	No	No	No	No

Webb, Elizabeth; Panico, Lidia; Bécares, Laia; McMunn, Anne; Kelly, Yvonne; Sacker, Amanda	The inter-relationship of adolescent unhappiness and parental mental distress.	2017	Quantitative	1883	Representative, population-based	Yes	Yes	10-15	Cohort	No	No	No	No	No	No	No

Web Table 2. Thematic coding details for 57 articles included in final sample

Author(s)	Article Title	Year	Validated MH scale used	Name if 'other' validated scale used	Outcome: Emotional problems	Outcome: Conduct Problems	Outcome: Hyperactivity	Outcome: ASD	Outcome: Tic disorders	Outcome: Eating disorders	Analysed data on medications	Analysed data on service use	Analysed data on educational issues (e.g. absences, exclusions, attendance)	Analysed information on MH of other family members
Ames, Catherine S.; Jolley, Suzanne; Laurens, Kristin R.; Maddox, Lucy; Corrigall, Richard; Browning, Sophie; Hirsch, Colette R.; Hassanali, Nedah; Bracegirdle, Karen; Kuipers, Elizabeth	Modelling psychosocial influences on the distress and impairment caused by psychotic-like experiences in children and adolescents.	2014	SDQ		Yes	Yes	Yes	No	No	No	No	No	No	No
Berg, Shipra; Berg, Erlend	The youngest children in each school cohort are overrepresented in referrals to mental health services.	2014	No validated scale		No	No	No	No	No	No	No	Yes	No	No
Blower, Aileen; Addo, Ama; Hodgson, Jessica; Lamington, Linda; Towlson, Kate	Mental Health of 'Looked After' Children: A Needs Assessment.	2004	Other validated scale	MFQ (Mood & Feeling questionnaire)	Yes	Yes	Yes	No	No	No	No	Yes	No	No

Collishaw, Stephan; Maughan, Barbara; Goodman, Robert; Pickles, Andrew	Time trends in adolescent mental health	2004	SDQ	Yes	Yes	Yes	No	No	No	No	No	No	No
DeJong, Margaret; Hodges, Jill; Malik, Osman	Children after adoption: Exploring their psychological needs.	2016	SDQ	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Dickson, K.; Emerson, E.; Hatton, C.	Self-reported anti-social behaviour: Prevalence and risk factors amongst adolescents with and without intellectual disability.	2005	SDQ	No	No	No	No	No	No	No	No	No	No
Durà -Vilà, G.; Hodes, M.	Ethnic variation in service utilisation among children with intellectual disability.	2009	No validated scale	No	No	Yes	Yes	No	No	No	Yes	Yes	No
Eames, Vicky; Shippen, Catherine; Sharp, Helen	The Team of Life: A narrative approach to building resilience in UK school children.	2016	CBCL	Yes	Yes	No	No	No	No	No	No	No	No

Edbrooke-Childs, Julian; Newman, Robbie; Fleming, Isobel; Deighton, Jessica; Wolpert, Miranda	The association between ethnicity and care pathway for children with emotional problems in routinely collected child and adolescent mental health services data.	2016	No validated scale		Yes	No	No	No	No	No	No	Yes	No	No
Edwards, L.; Watson, M.; James-Roberts, I. St.; Ashley, S.; Tilney, C.; Brougham, B.; Osborn, T.; Baldus, C .; Romer, G	Adolescent's stress responses and psychological functioning when a parent has early breast cancer.	2008	YSR		Yes	No	No	No	No	No	No	No	No	Yes
Emerson, Eric; Hatton, Chris	Mental health of children and adolescents with intellectual disabilities in Britain.	2007	Other validated scale	DAWBA (Development and Well-Being Assessment)	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
Emerson, Eric; Hatton, Chris	Contribution of socioeconomic position to health inequalities of British children and adolescents with intellectual disabilities.	2007			Yes	Yes	No	No	No	No	No	No	No	No

Emerson, Eric; Robertson, Janet; Wood, Justin	The association between area-level indicators of social deprivation and the emotional and behavioural needs of black and South Asian children with intellectual disabilities in a deprived urban environment.	2007	Other validated scale	Nisonger Child Behavior Rating Form (N-CBRF)	Yes	Yes	Yes	No	No	No	No	No	Yes	No
Ewing, Donna L.; Monsen, Jeremy J.; Kwoka, Maria	Behavioural and emotional well-being of children following non-directive play with school staff.	2014	SDQ		Yes	Yes	Yes	No	No	No	No	No	No	No
Farmer, E.; Selwyn, J.; Meakings, S.	‘Other children say you’re not normal because you don’t live with your parents’. Children’s views of living with informal kinship carers: social networks, stigma and attachment to carers	2013	SDQ		Yes	No	No	No	No	No	No	Yes	No	No
Fazel, Mina; Doll, Helen; Stein, Alan	A school-based mental health intervention for refugee children: An exploratory study.	2009	SDQ		Yes	Yes	Yes	No	No	No	No	No	No	No

Fitzsimons, Emla; Goodman, Alissa; Kelly, Elaine; Smith, James P.	Poverty dynamics and parental mental health: Determinants of childhood mental health in the UK.	2017	SDQ		Yes	Yes	Yes	No	No	No	No	No	No	Yes
Flouri, Eirini	Non-resident fathers' relationships with their secondary school age children: Determinants and children's mental health outcomes.	2006	SDQ		Yes	Yes	Yes	No	No	No	No	No	No	Yes
Ford, Tamsin; Goodman, Robert; Meltzer, Howard	The relative importance of child, family, school and neighbourhood correlates of childhood psychiatric disorder.	2004	Other validated scale	McMaster Family	Yes	Yes	Yes	No	No	No	No	No	Yes	Yes
Gobrial, Ereny; Raghavan, Raghu;	Prevalence of anxiety disorder in children and young people with intellectual disabilities and autism.	2012	Other validated scale	GAS-ID (Glasgow Anxiety Scale)	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Hackett, Latha; Theodosiou, Louise; Bond, Caroline; Blackburn, Claire; Lever, Rachel	Understanding the mental health needs of pupils with severe learning disabilities in an inner city local authority.	2011	SDQ		Yes	Yes	Yes	No	No	No	No	Yes	No	No

Hassanali, Nedah; Ruffell, Tamatha; Browning, Sophie; Bracegirdle, Karen; Ames, Catherine; Corrigall, Richard; Laurens, Kristin R.; Hirsch, Colette; Kuipers, Elizabeth; Maddox, Lucy; Jolley, Suzanne	Cognitive bias and unusual experiences in childhood.	2015	SDQ		No	No	No	No	No	No	No	No	No	No
Hastings, Richard P.; Daley, Dave; Burns, Carla; Beck, Alexandra	Maternal Distress and Expressed Emotion: Cross-Sectional and Longitudinal Relationships With Behavior Problems of Children With Intellectual Disabilities.	2006	SDQ		Yes	Yes	Yes	Yes	No	No	No	No	No	Yes
Heptinstall, Ellen; Sethna, Vaheshta; Taylor, Eric;	PTSD and depression in refugee children	2004	Other validated scale	DSRSC (Depression Self-Rating Scale for Children)	Yes	No	No	No	No	No	No	No	No	No

Heron, Jon; Barker, Edward D.; Joinson, Carol; Lewis, Glyn; Hickman, Matthew; Munafò, Marcus; Macleod, John	Childhood conduct disorder trajectories, prior risk factors and cannabis use at age 16: Birth cohort study.	2013	SDQ	No	Yes	No	No	No	No	No	No	No	Yes
Katz, Emma	Recovery-Promoters: Ways in whichChildren and Mothers Support OneAnother’s Recoveries from DomesticViolence	2015	No validated scale	Yes	No	No	No	No	No	No	No	No	Yes
Leavey, Gerard; Hollins, Kathryn; King, Michael; Barnes, Jacqueline; Papadopoulos, Christopher; Grayson, Kate	Psychological disorder amongst refugee and migrant schoolchildren in London.	2004	SDQ	Yes	Yes	Yes	No	No	No	No	No	No	No

Lorek, Ann; Ehntholt, Kimberly; Nesbitt, Anne; Wey, Emmanuel; Githinji, Chipo; Rossor, Eve; Wickramasinghe, Rush	The mental and physical health difficulties of children held within a British immigration detention center: A pilot study.	2009	SDQ		Yes	Yes	Yes	No	No	No	No	Yes	Yes	No
Maddern, Lynn; Franey, John; McLaughlin, Vincent; Cox, Susan	An Evaluation of the Impact of an Inter-agency Intervention Programme to Promote Social Skills in Primary School Children.	2004	Other validated scale	Friendship, Anger Management and Bullying Question Sheets (3 seperate assessments)	Yes	Yes	Yes	No	No	No	No	No	Yes	No
Meltzer, Howard; Vostanis, Panos; Goodman, Robert; Ford, Tamsin	Children's perceptions of neighbourhood trustworthiness and safety and their mental health.	2007	Other validated scale	DAWBA (Development and Well-Being Assessment)	Yes	Yes	No	No	No	No	No	No	No	No
Messer, Julie; Goodman, Robert; Rowe, Richard; Meltzer, Howard; Maughan, Barbara	Preadolescent conduct problems in girls and boys	2006	SDQ		Yes	Yes	Yes	No	Yes	Yes	No	No	No	Yes

Micali, Nadia; Solmi, Francesca; Horton, Nicholas J.; Crosby, Ross D.; Eddy, Kamryn T.; Calzo, Jerel P.; Sonneville, Kendrin R.; Swanson, Sonja A.; Field, Alison E.	Adolescent eating disorders predict psychiatric, high-risk behaviors and weight outcomes in young adulthood.	2015	Other validated scale	CIS-R (Clinical Interview Schedule–Revised)	Yes	No	No	No	No	Yes	No	No	No	No
Mojtabai, Ramin	Serious Emotional and Behavioral Problems and Mental Health Contacts in American and British Children and Adolescents.	2006	SDQ		Yes	Yes	Yes	No	No	No	No	Yes	No	No
Rees, Paul	The mental health, emotional literacy, cognitive ability, literacy attainment and ‘resilience’ of 'looked after children': A multidimensional, multiple-rater population based study.	2013	SDQ		Yes	Yes	Yes	No	No	No	No	No	Yes	No
Reilly, C.; Senior, J.; Murtagh, L	ASD, ADHD, mental health conditions and psychopharmacology in neurogenetic syndromes: Parent survey.	2015	No validated scale		No	No	Yes	Yes	No	No	Yes	No	No	No

Rice, Frances; Lifford, Kate J.; Thomas, Hollie V.; Thapar, Anita	Mental health and functional outcomes of maternal and adolescent reports of adolescent depressive symptoms.	2007	Other validated scale	MFQ (Mood and Feelings questionnarire)	Yes	No	Yes	No	No	No	No	No	No	Yes
Rice, Frances; Sellers, Ruth; Hammerton, Gemma; Eyre, Olga; Bevan-Jones, Rhys; Thapar, Ajay K.; Collishaw, Stephan; Harold, Gordon T.; Thapar, Anita	Antecedents of new-onset major depressive disorder in children and adolescents at high familial risk.	2017	Other validated scale	CAPA (Child and Adolescent Psychiatric Assessment)	Yes	No	No	No	No	No	No	No	No	Yes
Robson, Julia; Gingell, Kate	Improving care for families where children and parents have concurrent mental health problems.	2012	No validated scale		Yes	Yes	Yes	No	Yes	Yes	No	No	No	Yes
Rowe, Richard; Maughan, Barbara; Goodman, Robert	Childhood Psychiatric Disorder and Unintentional Injury: Findings from a National Cohort Study.	2004	Other validated scale	DAWBA (Development and Well-Being Assessment)	Yes	Yes	Yes	No	No	No	No	No	No	Yes
Rowe, Richard; Maughan, Barbara; Moran, Paul; Ford, Tamsin; Briskman, Jackie; Goodman, Robert	The role of callous and unemotional traits in the diagnosis of conduct disorder.	2010	SDQ		Yes	Yes	Yes	No	No	No	No	No	No	No

Salomone, Erica; Kutlu, Besterah; Derbyshire, Kayleigh; McCloy, Carlye; Hastings, Richard P.; Howlin, Patricia; Charman, Tony	Emotional and behavioural problems in children and young people with autism spectrum disorder in specialist autism schools.	2014	Other validated scale	SCQ (Social Communication Questionnaire – Lifetime version)	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
Santosh, Paramala J.; Mijovic, Angela	Does pervasive developmental disorder protect children and adolescents against drug and alcohol use?	2006	Other validated scale	Maudsley Item Sheet	Yes	Yes	Yes	Yes	No	Yes	No	No	No	No
Sayal, Kapil; Tischler, Victoria; Coope, Caroline; Robotham, Sarah; Ashworth, Mark; Day, Crispin; Tylee, Andre; Simonoff, Emily	Parental help-seeking in primary care for child and adolescent mental health concerns: Qualitative study.	2010	SDQ		Yes	Yes	Yes	No	No	No	No	Yes	No	No
Stringaris, A.; Goodman, R.	Mood lability and psychopathology in youth.	2009	SDQ		Yes	Yes	Yes	No	No	No	No	No	No	Yes
Taylor, Lucy M. W.; Oldershaw, Anna; Richards, Clair;	Development and pilot evaluation of a manualized cognitive-behavioural treatment package	2011	Other validated scale	STAI (State-Trait Anxiety Inventory)	Yes	No	No	No	No	No	No	Yes	No	No

Davidson, Kate; Schmidt, Ulrike; Simic, Mima	for adolescent self-harm.													
Toms, Gill; Totsika, Vaso; Hastings, Richard; Healy, Helen	Access to services by children with intellectual disability and mental health problems: Population-based evidence from the UK.	2015	Other validated scale	DAWBA (Developmental and Well-Being Assessment)	No	No	No	No	No	No	No	Yes	No	Yes
Tonks, James; Yates, Phil; Williams, W. Huw; Frampton, Ian; Slater, Alan	Peer-relationship difficulties in children with brain injuries: Comparisons with children in mental health services and healthy controls.	2010	SDQ		Yes	Yes	Yes	No	No	No	No	No	No	No
Totsika, Vasiliki; Hastings, Richard P.; Emerson, Eric; Lancaster, Gillian A.; Berridge, Damon M.	A population-based investigation of behavioural and emotional problems and maternal mental health: Associations with autism spectrum disorder and intellectual disability.	2011	SDQ		Yes	Yes	Yes	Yes	No	No	No	No	No	Yes
Vizard, Eileen; Hickey, Nicole; French, Lesley;	Children and adolescents who present with sexually abusive behaviour: A UK descriptive study.	2007	No validated scale		Yes	Yes	No	No	No	Yes	No	No	No	Yes

McCrory, Eamon														
Webb, Elizabeth; Panico, Lidia; Bécares, Laia; McMunn, Anne; Kelly, Yvonne; Sacker, Amanda	The inter-relationship of adolescent unhappiness and parental mental distress.	2017	Other validated scale	GHQ - General Health Questionnaire	Yes	No	No	No	No	No	No	No	No	Yes