



1 | Depression in children



Depression in children is rare. However, there have been concerns that we may be seeing an increase in depression emerging at an early age. In this section, we consider how childhood and risk factors for depression in children have changed over the past two decades. Next, we examine findings from a new meta-analysis that assesses whether the prevalence of depression in children has increased over time.

Childhood as a critical window of opportunity for depression prevention

The mental health field has struggled to recover from the myth that children do not experience depression. It wasn't until the 1980s that depression was recognised as a disorder that could occur in childhood ([American Psychiatric Association, 1980](#)) and only recently have we begun to understand that it may occur as early as 3 years of age ([Luby, 2010](#)). Accordingly, depression in children often goes unrecognised. Given that childhood represents a 'window of opportunity' where the critical foundations of emotion regulation are built, delayed recognition of depression impedes opportunities to prevent dysfunctional emotional and behavioural patterns from crystallising into serious disorders.

A lack of early intervention can have lifelong consequences. Compared to depression that first emerges in adolescence or adulthood, depression that emerges in childhood is associated with risk for poorer health outcomes, including increased emergency department visits and hospitalisations (Klein et al., 1999; Korczak & Goldstein, 2009), greater suicidality (Zisook et al., 2007), and increased risk for other psychiatric conditions (Klein et al., 1999). Although evidence supports a range of interventions for childhood depression (Clark et al., 2012), many healthcare professionals report a lack of training in how to manage depression in children (Olson et al., 2001). As a result, parents seeking help for their child with depression are less likely to receive appropriate treatment than are parents seeking help for their adolescent (Sawyer et al., 2019).

How has childhood changed?

Children today are expected to live longer than ever before. Compared to previous decades, children suffer fewer lethal injuries from accidents, fewer children smoke or drink alcohol, and childhood mortality rates have decreased; especially for those aged 1–4 (Australian Institute of Health and Welfare [AIHW], 2022a). As couples are choosing to have fewer children (AIHW, 2022b), children often have a greater share of their parents' time and resources (Lawson & Mace, 2009; Sandberg & Hofferth, 2001). In parallel, rising parental concerns over child safety (Commonwealth of Australia, 2010) mean that children have greater restrictions placed on their levels of independence. Children now spend more time at home with their parents, and more time on sedentary screen-based activities, than in previous decades (Mullan, 2019). To combat rising rates of childhood obesity, public health campaigns promote children's engagement in sport and other physical pursuits (Government of New South Wales, 2018; National Institute for Health and Care Excellence, 2009). This funnels children into organised, supervised activities, which contrasts with the unsupervised, independent play that formerly characterised childhood.

Although children's overall health and wellbeing has improved on many fronts, below we consider whether some of the changes that have occurred may be coinciding with changes in key risk factors for childhood depression.

Sleep, diet, and exercise

Depression is associated with a range of lifestyle factors, including poor diet, a sedentary lifestyle and disrupted sleep. This relationship is bidirectional: diet, exercise and sleep all influence risk for depression, and depression, in turn, makes it more difficult to maintain a healthy diet, have a consistent sleep schedule, and engage in physical activity (Fang et al., 2019; Pinto Pereira et al., 2014; Polivy & Herman, 2005; Quach et al., 2018).

Evidence suggests that there have been significant changes to the lifestyles of children in terms of their sleep, body weight/size, and physical activity in recent years. The most recent population study of Australian children's health found that 1 in 7 children experience sleep problems almost every day (Redmond et al., 2016). Furthermore, only around 1 in 4 children get the recommended 60 minutes of physical activity a day, with children over the age of 9 likely to be more sedentary (AIHW, 2022a).

Changes in family stress and parenting

Family stress and parenting behaviours have an impact on a child's mental health. Factors such as parental abuse and neglect are among the strongest predictors of depression in children (Hankin, 2015), and have increased over time (AIHW, 2022a). Exposure to domestic violence, which remains high in Australia and was exacerbated by the COVID-19 pandemic (Piquero et al., 2021), also increases a child's risk for depression (Evans et al., 2008). In addition to these well-studied risk factors, there is some evidence for the potential adverse mental health impacts of overly involved and negative parenting styles. An overly involved parenting style is one that is controlling and overprotective. A negative parenting style is one that lacks warmth or is overly critical of a child's performance. Children of parents who exhibit these parenting styles may fail to develop important coping skills, may lack self-assurance, and may be more prone to anxiety and depression (McLeod et al., 2007; Segrin et al., 2013; Hudson et al., 2019).

Some research suggests that parenting behaviours have changed over the past 2 decades. Parents today spend more time with their children than they did in previous generations, and spend more time monitoring, supervising, and scheduling their children's activities (Dotti Sani & Treas, 2016). These changes may lend themselves to a more overly involved parenting style. While parental involvement may help to foster child safety, overprotection can be a risk factor for psychosocial problems. In addition, although parental involvement can have positive effects on children's achievements and performance, parental academic pressure has the opposite effect (Boonk et al., 2018).

Screen time

Children are more connected with technology than ever before – using technology to access social media, entertainment, and education. Many health authorities recommend that children's screen time should not exceed 2 hours per day (American Academy of Pediatrics, 2013), but this limit is often exceeded. For example, in Australia, the average daily screen time is over 2 hours for those aged 4–5, and over 3–4 hours for those aged 12–13 (Yu & Baxter, 2015). Greater screen time may impact physical activity levels for children (ten Velde et al., 2021) as well as the amount and quality of children's sleep (Sharma et al., 2021). However, more research is needed to better understand how screens are being used to determine if there is any potential link between screen time and children's risk for depression.

How many children experience depression?

What research on childhood depression prevalence tells us

There has been recent discussion about whether depression in children and young people is on the rise. This is not a new question. In the early 2000s there were similar concerns about rising rates of depression in children and teens due to an increase in prescriptions of antidepressant medications and data showing an increase in teen suicides (Costello et al., 2006). In response to these concerns, a meta-analysis (i.e., a study of studies) examined rates of depression diagnoses in studies comprising nearly 60,000 children and teens born between 1965 and 1996. The results indicated that depression prevalence among children was not in fact increasing (Costello et al., 2006).

Much has changed since the early 2000s, yet data on the recent prevalence of depression in Australian children is limited. To date we have data from just 2 time points (1998 and 2013–14), obtained from the Australian Child and Adolescent Survey of Mental Health and Wellbeing. The data reveals a slight increase in depression prevalence in girls but not in boys (Figure 1).

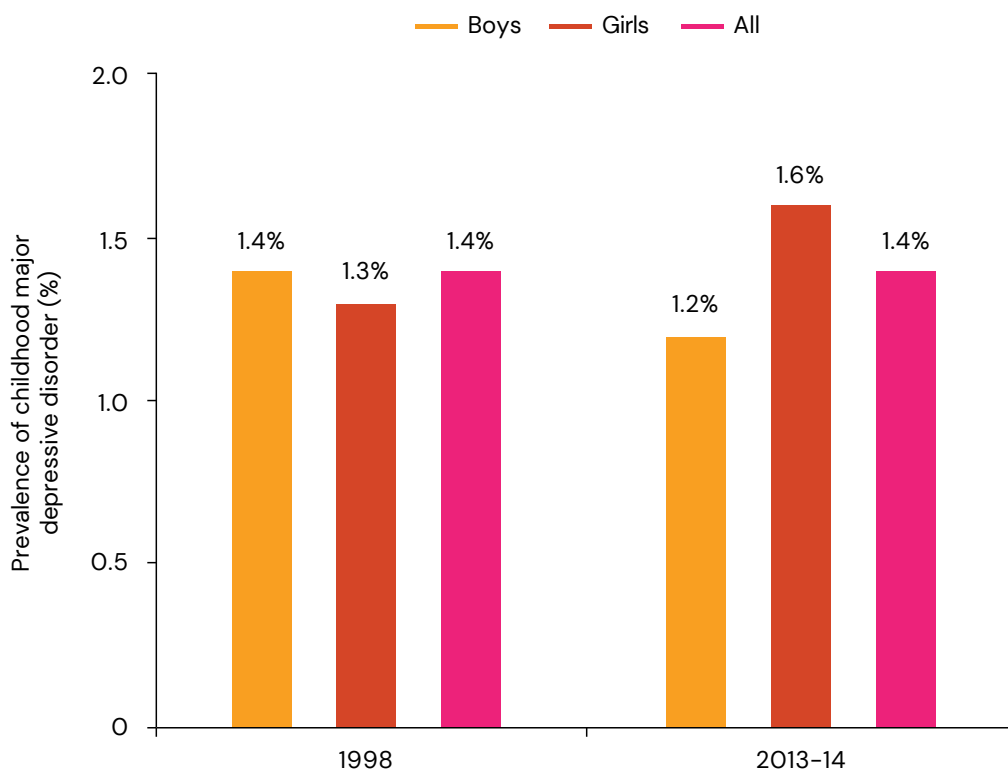


Figure 1. Prevalence of major depressive disorder in the 2 most recent population-based cohorts of Australian children aged 6–11 years (Lawrence et al., 2015).

Has the prevalence of childhood depression changed over the past 2 decades?

As we currently lack recent data on the prevalence of depression in children, the Black Dog Institute conducted a rapid review and meta-analysis to examine whether rates of childhood depression have changed over the last 2 decades. This review included all studies that provided prevalence estimates for diagnosed depression in children under 13 years old using data that was representative of the general population. As this was an update to the meta-analysis by Costello and others (2006), all studies published since 2004 (the upper time frame for studies included in this prior analysis) were included. In total, 33 studies were identified and included, with the most recent eligible study being published in 2019.

The estimated prevalence of childhood depressive disorders overall was found to be 1.4%. In terms of individual depressive disorder diagnoses, we found childhood prevalence estimates of 0.86% for major depressive disorder; 0.35% for dysthymia; and 2.47% for disruptive mood dysregulation disorder. In terms of gender differences, the estimated prevalence of depressive disorders overall was 0.99% for girls and 1.13% for boys.

A change in childhood depression prevalence over time would be indicated by higher rates of depression in children in recent years compared to those of children of the same age in previous years (known as a 'birth cohort effect'). Our results showed no evidence of birth cohort effects, indicating that the prevalence of childhood depression has likely not changed significantly from 2004 to 2019. However, we found that a child's age was a significant predictor of depressive disorder prevalence; for every extra year older a child was, their prevalence of depression increased by 0.27%.

The data indicates that, on average, older children have higher depressive disorder prevalence than younger children, but that the relative pattern of depressive disorder prevalence within children has not changed over time.

Depressive symptoms in children since the COVID-19 pandemic

It is important to note that none of the studies included in this latest meta-analysis included data collected beyond 2019. This is likely because diagnoses of depression in children usually require an in-person diagnostic interview from a clinician, and this would have been more challenging in the context of pandemic-related restrictions. Beyond 2019, all relevant studies focused instead on assessing depressive symptom severity using parent or child self-report questionnaires, which can be administered more easily online or over the phone.

Depressive symptoms that are self-reported are not directly comparable to depression that is diagnosed by a clinician. Evaluating the severity of depressive symptoms, however, can provide some insight into the proportion of children who are experiencing depressive symptoms that are elevated beyond the normal ranges observed for that age group.

Accordingly, as a precursory consideration of what the current childhood depression prevalence rates since the COVID-19 pandemic might look like, we present here results of a recent study conducted by the Black Dog Institute that evaluated depressive symptom severity in a sample of Australian children (Sicouri et al., 2022).

Data on depressive symptom severity was obtained from a sample of 602 Australian children from May to November of 2020 using a validated depressive symptom scale. We used a specific cut-off based on normative pre-pandemic symptom data in children to identify children in our sample who had levels of depressive symptoms considered to be clinically significant (i.e., above a normal range). Using this self-report scale, we would expect 2% of children to score in the clinically significant range for depressive symptoms, which is slightly above, although broadly consistent with, the population prevalence estimates observed for diagnosed depression in the Australian Child and Adolescent Survey of Mental Health and Wellbeing. Our data showed that during the pandemic, 23.4% of children scored in this range (Figure 2). This is substantially higher than expected and indicates that rates of depressive symptoms in Australian children during the COVID-19 pandemic were elevated well beyond normal levels.

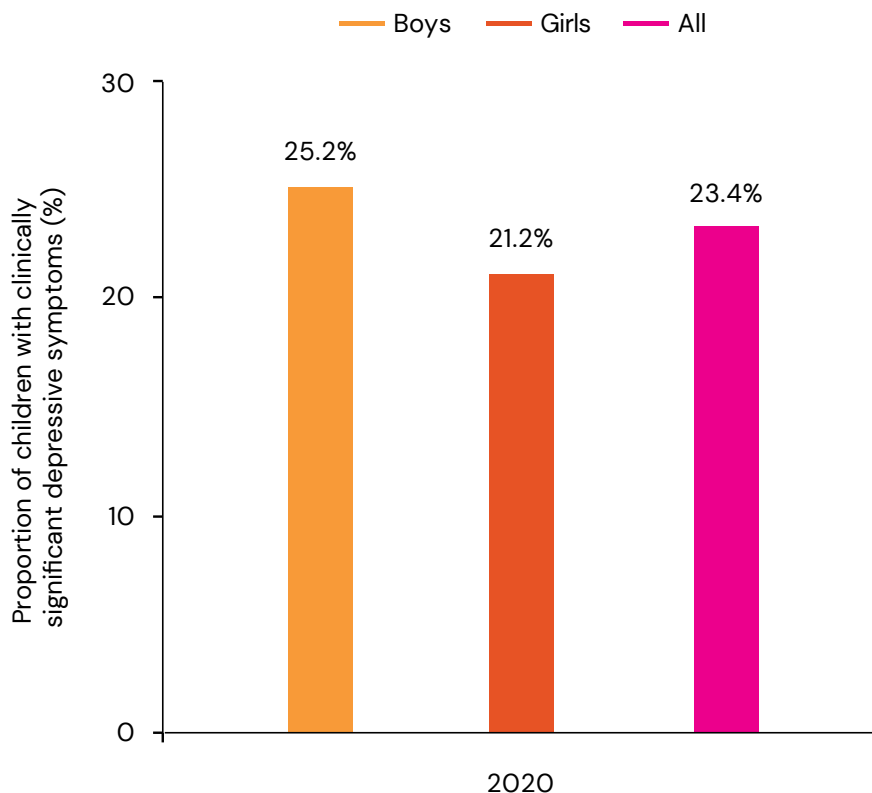


Figure 2. Proportion of Australian children aged 4–12 years of age experiencing clinically significant levels of depressive symptoms during the COVID-19 pandemic (n = 602).

Changes in the severe consequences of depression in children

While not an outcome that is unique to depression, suicide is nevertheless a potentially severe outcome of depression (Hawton et al., 2013), so it also makes sense to consider whether suicide rates in children have changed over time. Suicide amongst children is rare; Australian suicide rates for those aged 14 or under have remained below 0.0008% between 2010 and 2020 and have not changed significantly over time (AIHW, 2022c). Increasing trends are instead more relevant for older adolescents and young adults (AIHW, 2022c).

Similarly, self-harm can also be a negative outcome of depression, and is particularly relevant when considering antidepressant treatments (Fortune & Hawton, 2005). In Australia, there was a marked jump in cases of self-harm for children aged 14 or under after 2012, which was particularly prominent for girls (AIHW, 2022a). Furthermore, there is some evidence that rates of self-harm amongst children have increased during the COVID-19 pandemic (Ougrin et al., 2022).

What factors account for the increase in depressive symptoms in children since the COVID-19 pandemic?

The data from our review suggests that rates of diagnosed depression in children, at least prior to the COVID-19 pandemic, were not increasing. However, since the COVID-19 pandemic, there has been an increase in clinically significant depressive symptoms. A complex interaction of biological (e.g., genetic factors, pubertal onset) and environmental factors (e.g., lifestyle factors, family stress) contribute to the onset and maintenance of childhood depression. The reason one child experiences depression may differ vastly from the reason another child experiences depression. In the next part of this section, we consider whether specific factors have changed during the COVID-19 pandemic that may account for the increase in depressive symptoms.

Increased parental stress

Recent data from the United Kingdom showed that parent stress was higher during the COVID-19 restrictions. These effects were particularly pronounced for parents of children aged 4 to 11 years old, compared to those of secondary or pre-school aged children, and were also stronger for parents who were living in a single-parent household (Skripkauskaitė et al., 2022). This may reflect the demands of caretaking and home schooling. Research has also shown that families who applied for government financial assistance during COVID-19 reported higher levels of child depressive symptoms, indicating that increased financial hardship during COVID-19 may account for an uptick in child depressive symptoms (Sicouri et al., 2022).

Changes in children's diet, sleep and exercise

The disruption in children's routines as a result of school closures may have exacerbated unhealthy lifestyle factors among children during the pandemic. Around one-third of children aged 8 to 11 reported worse sleep quality during the COVID-19 restrictions than before, and these changes in perceived sleep quality were associated with poorer wellbeing (Illingworth et al., 2022). Physical activity and fruit and vegetable consumption in children aged 3 to 16 were also lower during COVID-19 restrictions than before (López-Bueno et al., 2020).

Technology use

Children's use of technology has increased since the COVID-19 pandemic (Stagi et al., 2020), with estimates of daily screen use increasing by 50 minutes on average for children aged 3 to 7 years (Ribner et al., 2021). While technology use can be an important avenue for children to connect socially with their peers, there are concerns that increased technology use may further displace healthy behaviours such as physical activity and sleep. In addition, significant amounts of unmonitored screen time in children may increase their risk of negative online experiences such as cyberbullying or exposure to harmful content.

The data from our meta-analysis suggests that rates of diagnosed depression in children, at least before the COVID-19 pandemic, were not increasing. However, depressive symptom data collected in Australia since the pandemic suggests that we have seen a significant increase in the number of children experiencing clinically significant levels of depressive symptoms. A key question is whether this increase in symptoms reflects a commensurate increase in the prevalence of depression diagnoses in children. We need urgent research to understand the current rates of depressive disorders in Australian children so that we can better address children's mental health needs in the coming years.

Perspective from Child and Family East (CAFE)



CAFE is a multi-disciplinary mental health team in South East Sydney that provides specialised mental health services for children aged 0 to 12 and their families. Depression is a common issue we encounter, along with anxiety, challenging behaviours and trauma.

From early infancy, children naturally seek out a responsive caregiver for safety, reassurance, and to ensure that their needs are being met. When caregivers can be responsive to the child's needs, the child is likely to form what is known as a 'secure attachment'. Securely attached children are more likely to experience safety and trust in loving relationships, to have good emotion regulation skills, and to have feelings of confidence and self-worth. A secure attachment is therefore one of the most important resources children have when it comes to managing their mental health.

At CAFE, we often see first-hand the degree to which social and economic factors can impede the development of a secure attachment between a child and their caregiver. Factors such as unemployment, financial strain, housing instability, and food insecurity can mean that parents may lack the resources necessary to meet their child's basic needs; a lack of maternal care and social isolation can leave parents with insufficient physical and social support to manage their own health and wellbeing; domestic and family violence represents fundamental attack on the parent-child bond and can make it impossible for parents to create a safe and secure environment for their child.

Compounding this, many parents who experience these stressors have themselves come from generations of struggle and inequality. Many did not experience safe, supportive care from a caregiver when they were a child, and so lack a blueprint for what this should look like as they move through parenthood themselves. From this standpoint, it is abundantly clear how social and economic circumstances perpetuate the intergenerational transmission of depression from parent to child. Despite their best efforts, parents who experience social and economic adversity are not afforded the support, time, or resources required to foster the development of a secure attachment in their child.

At CAFE, a key component of our approach to treating childhood depression is to help build this positive bond between a child and their caregiver. The effectiveness of our interventions would be substantially improved with the introduction of policies that could better support families in accessing social services that help them provide a safe, consistent and predictable home environment. These include domestic violence services, trauma-informed and violence-informed child protection services, in-home NGO services, and responsive adult mental health services. This must go hand-in-hand with economic policies that ensure that families experiencing unemployment can afford housing, food and healthcare.

By better supporting parents, parents can better support their children.

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