THE EFFECT OF PARENTAL INTERNALIZING SYMPTOMS AND OVERPROTECTION
ON CHILD SLEEP PROBLEMS

by

Alex Pizzo

Submitted in partial fulfillment of the requirements
for the degree of Master of Science

at

Dalhousie University
Halifax, Nova Scotia
July, 2020

TABLE OF CONTENTS

LIST OF TABLES

ABSTRACT

Parents' internalizing symptoms and parental overprotection are well established predictors of anxiety and depression in children. Impaired sleep in youth also predicts the onset of anxiety and depression later in life. To date, few investigations have looked at the impact of parental internalizing symptoms and overprotective parenting on children sleep problems. In the current thesis, we recruited 224 parents of 182 children aged 2-6 years. Parents completed questionnaires that assessed their symptoms of anxiety and depression, overprotective parenting, and children's sleep habits. Mother's symptoms of depression and father's symptoms of anxiety were related to worse sleep habits in their children. However, our sensitivity analysis did not confirm these findings. Maternal and paternal overprotection were associated with impaired sleep in children. These findings were confirmed by our sensitivity analysis. Modifying parents' overprotective parenting behaviours may improve child sleep habits, and prevent the onset of later anxiety and depressive disorders.

LIST OF ABBREVIATIONS USED

CBT   Cognitive Behavioural Therapy

CSHQ   Child Sleep Habits Questionnaire

DASS-21   Depression, Anxiety and Stress Scale

DSM-5   Diagnostic and Statistical Manual of Mental Disorders, 5th Edition

EEG   Electroencephalography

EFQ   Everyday Feeling Questionnaires

HPA-axis   Hypothalamic-Pituitary-Adrenal axis

M   Mean

POM   Parental Overprotection Measure

REM   Rapid Eye Movement

SCAARED   Screen for Adult Anxiety Related Disorders

SD   Standard Deviation

SDCS   Sleep Disturbance Scale for Children

95% C.I.   95% Confidence Interval

ACKNOWLEDGEMENTS

CHAPTER 1 INTRODUCTION

1.1 Sleep in Young Children

Sleep is vital for child development (Staton, Smith, &Thrope, 2015). Insomnia, nighttime wakings and poor quality of sleep are related to numerous problems in children and adults such as reduced cognitive functioning, poor academic achievement, poor physical health, and symptoms of psychopathology (Buckhalt, 2011; Mindell, Owens, & Carskadon, 1999; Staton, Smith, & Thrope, 2015). Indeed, sleep problems are common among individuals with mental illness (Krystal, 2012; Sutton, 2014). Sleep disturbances such as insomnia, hypersomnia, and poor sleep quality are used as diagnostic criteria for a variety of psychiatric disorders, including anxiety and depressive disorders (American Psychiatric Association, 2013; DSM-5).

For children with anxiety disorders and depression, sleep disturbances are highly prevalent (Alfano et al., 2013; Alfano, Ginsburg, & Kingery, 2007; Alfano, Pina, Zerr, & Villalta, 2010; Chase & Pincus, 2011; Chorney et al., 2007; Gregory & Sadeh, 2016; Forbes et al., 2008; Lofthouse, Gilchrist, & Splaingard, 2009; Shanahan et al., 2014). Studies that have focused on subjective reports of sleep have found that approximately 90% of youth with an anxiety disorder report having at least one sleep-related problem (Alfano, Ginsburg, & Kingery, 2007; Chase & Pincus, 2011). Moreover, a large proportion of youth living with major depressive disorder report having insomnia or hypersomnia during depressive episodes (Lofthouse, Gilchrist, & Splaingard, 2009). Objective measures of sleep such as polysomnography, actigraphy, and electroencephalography (EEG) show differences in sleep patterns of children with anxiety and depression compared to controls which include increased sleep onset latency, more night wakings, reduced latency to rapid eye movement (REM) sleep,

and reduced slow-wave sleep (Alfano et al., 2013; Forbes et al., 2008; Gregory & Sadeh, 2016; Arana-Lechuga et al., 2008).

The question remains whether sleep problems contribute to anxiety and depression development or whether they are purely a consequence of anxiety and depression. Studies have found a bidirectional relationship between youth sleep problems and internalizing symptoms (Gregory & Sadeh, 2016; Kelly & El-Sheikh, 2013). However, most of the evidence suggests that sleep problems in early childhood often predict anxiety and depression rather than anxiety and depression, predicting the onset of sleep problems (Greene, Gregory, Fone, & White, 2014; Gregory et al., 2005; Gregory & O'Connor, 2002; Gregory & Sadeh, 2016; Hysing, Siversten, Niegel, & Eberhard-Gran, 2016; Jansen et al., 2011; Kelly & El-Sheikh 2013; Mindell, Leichmann, Dumond & Sadeh 2017; Shanahan et al., 2014; Siversten et al., 2015; Steinbekk & Wichstrom 2015). Using data from the Dunedin Multidisciplinary Study, Gregory et al. (2005) found that persistent sleep problems during childhood (at 5, 7, and 9 years of age) increased odds of an anxiety disorder during early adulthood by 60%. When the authors controlled for baseline symptoms of anxiety and depression, the findings did not change. Moreover, Greene, Gregory, Fone, and White (2014) used data from the 1970 British Cohort Study to assess the effects of disturbed sleep during childhood on later depression development during adulthood. Youth with impaired sleep when they were five years old, had a 90% increased odds of depression at 34 years of age. Siversten et al. (2015), using a large sample of 32 662 offspring-mother pairs, found that short sleep duration and more nighttime wakings at 18 months predicted symptoms of anxiety and depression at the age of five. These findings remained consistent when internalizing symptoms were controlled for at baseline.

Several mechanisms can explain how sleep problems influence subsequent anxiety and depression development. Evidence suggests that sleep disturbances causes perturbations in the Hypothalamic-Pituitary-Adrenal (HPA) axis (Buckley & Shatzberg, 2005). Disturbances in the HPA-axis functioning have been found in young people with anxiety and depression (Feder et al., 2004; Forbes et al., 2006). Another possibility is that disturbed sleep is linked to poor functioning of the prefrontal cortex (Muzur, Pace-Schott, & Hobson, 2002), which is responsible for emotion regulation (Ray & Zald, 2012; Sotres-Bayon, Cain, & LeDoux, 2006). Deficits in emotion regulation are commonly associated with internalizing disorders such as anxiety and depression (Amstadter, 2008; Campbell-Sills et al., 2011; Cisler & Olatunji, 2012).

Factors such as stressful life events, low socioeconomic status (SES) and, poor physical health are well-established contributors to the onset of sleep problems in youth (Baddam et al., 2019; Bagley, Kelly, Buckhalt, & El-Sheikh, 2015; Camhi, Morgan, Pernisco, & Quan, 2000; El-Sheikh, Buckhalt, Mize, & Acebo, 2006). However, the effect of parental internalizing symptomology and overprotective parenting behaviours on child sleep habits is less well understood.

Parental internalizing symptomology contributes to impaired sleeping in children (Caldwell & Redeker, 2014; Francazio et al., 2015; Moore, Gordon, & McLean, 2011; Tyler et al., 2019). Tyler et al. (2019) found a positive relationship between parental emotional distress and child sleep problems in a sample of children aged 3 to 5 years. Francazio et al. (2015) found a positive association between parental emotional distress and child sleep problems as well as parental anxiety and child sleep problems in older youth aged 7 to 18 years (mean age = 13.2 years). Both Tyler et al. (2019) and Francazio et al. (2015), included mainly mothers and

neglected father reports. Hence, it is unclear whether fathers' internalizing symptoms are also associated with sleep in young children.

Overprotective parenting also appears to be related to disturbed sleep in young people (Shibita et al., 2016; Zaidman-Zait & Hall, 2015). Zaidman-Zait and Hall (2015) found that night wakings in young children (2 years old) was associated with parental overprotectiveness. Shibita et al. (2016) found that adults who reported their parents as being highly overprotective during childhood were more likely to experience sleep disturbances compared to adults who reported their parents as not engaging in overprotective behaviours. It is possible that overprotective parenting inhibits children from developing appropriate self-regulation techniques and therefore increases sleep problems in these youths. No prior research has examined the relationship between overprotective parenting and sleep problems in children in the preschool age range (i.e., 2 years to 6 years old).

Investigating the relationship between parental internalizing symptoms and sleep in young children as well as overprotective parenting and sleep habits in preschoolers is important, as it will help inform early interventions that aim to improve young children's sleep habits. Improving children's sleep problems as early as possible may provide the most benefit in mitigating adverse outcomes related to impaired sleep.

1.2 Parent Psychopathology and Child Sleep

Anxiety refers to feelings of nervousness or fear and worry in relation to a stress-provoking situation or stimulus. Anxiety is often considered adaptive as it may help individuals complete daily tasks and avoid potentially dangerous situations (Beesdo, Knappe, & Pine, 2009). However, impairment in day to day life or distress due to excessive anxiety is considered maladaptive and pathological (Beesdo, Knappe, & Pine, 2009). Anxiety disorders are the most

common psychiatric disorder (Kessler et al., 2005) and typically develop during childhood (Costello, Egger, & Angold, 2005). The lifetime prevalence rate of anxiety disorders is estimated to be 41.7% (Kessler et al., 2012). There are several different anxiety disorders classified in the Diagnostic Statistics Manual of Mental Disorders-5 (DSM-5) but many share similar core features: 1. excessive worry, 2. physical symptoms of anxiety (e.g., muscle tension, headaches and nausea), 3. avoidance and 4. significant distress and/or impairment (American Psychiatric Association, 2013; DSM-5).

Depression (i.e., major depressive disorder and persistent depressive disorder) is another common psychiatric disorder (Costello, Egger, & Angold, 2005; Kessler et al., 2005) with a lifetime prevalence rate estimated to be 29.9% (Kessler et al., 2012). Depression is defined as prolonged depressed mood or anhedonia that significantly impairs an individual's daily functioning and/or causes severe distress. Like anxiety disorders, depression is chronic with individuals often experiencing residual symptoms of depression outside of acute episodes (Costello et al., 2002; Paykel, 2008). Depression is highly comorbid with anxiety disorders (Merikangas et al., 2003). It also shares many features with anxiety (e.g., irritability, difficulties sleeping, and poor concentration).

Anxiety disorders and depression are associated with a host of adverse outcomes in childhood and later life such as decreased quality of life, poor physical health, impaired occupational functioning, educational underachievement, school dropout, reduced odds of completing post-secondary education, unemployment, impaired social functioning, substance abuse, and suicide (Barrera & Norton, 2009; Goodwin, 2006; Grant et al., 2016; Jaycox et al., 2009; Hallsfors et al., 2004; Katon, 2003; Katzelnick et al., 2001; La Greca & Lopez, 1998; Moitra, Beard, Weisberg, & Keller, 2011; Olantunji, Cisler, & Tolin, 2007; Saris et al., 2017;

Simon, 2003; Van Ameringen, Mancini, & Farvolden, 2003; Woodward & Fergusson, 2001). Moreover, there is a significant monetary cost incurred to the individual living with anxiety or depression and to society at large (Bodden, Dirksen, & Bogels, 2008; Fostick et al., 2010; Konnopka & Konig, 2019; Simon, 2003).

Severe mental illness (i.e., bipolar disorder and schizophrenia) is often preceded by anxiety and depression (Duffy et al., 2014; Kim-Cohen et al., 2003; Woodward & Fergusson, 2001). Kim-Cohen et al. (2003) analyzed data from the Dunedin Multidisciplinary Health and Development Study, which consisted of a complete birth cohort of over 1000 children. Children in this study were followed from birth and underwent structured clinical interviews at the ages of 11, 13, 15, 18, 21 and 26. Anxiety and major depressive disorder diagnoses made between the ages of 11 and 15 significantly predicted schizophreniform disorder at age 26. Also, bipolar disorder in adulthood is often preceded by anxiety disorder and depression diagnosis during childhood (Duffy et al., 2014; Nurnberger et al., 2011).

Effective treatments do exist for anxiety disorders and depression (Butler, Chapman, Foreman, & Beck, 2006; Deacon & Abramowitz, 2004; Hofmann & Smits, 2008; National Institute for Health Care and Excellence [NICE], 2011; National Institute for Health Care and Excellence [NICE], 2014; Richards & Richardson, 2012; Suveg et al., 2009; van Diermen et al., 2018; Walkup et al., 2008; Wood et al., 2006). However, there is often a delay between symptom onset and treatment (Christiana et al., 2000; Thompson, Issakidis, & Hunt, 2008). Moreover, the amount of time before seeking treatment for anxiety and depression is negatively associated with the age of onset (Christiana et al., 2000; Thompson, Issakidis, & Hunt, 2008). Thus, by the time individuals seek out treatment for anxiety or depression, adverse effects of the disorders (e.g.,

educational underachievement, poor occupational performance, and substance abuse) may be hard to alleviate.

Interventions designed to prevent anxiety and depression in youth have the potential to offset the adverse outcomes of the disorders. Indeed, interventions (i.e., cognitive behavioural therapy) aimed at preventing anxiety in young people have been developed and are efficacious (Ginsburg et al., 2015; Kennedy, Edwards, & Rapee, 2009; Munoz et al., 2010). These interventions, however, are not without their problems, often suffering from moderate effect sizes and changes dissipating over time (Garber et al., 2018; Ginsburg et al., 2015; Kennedy, Edwards, & Rapee, 2009; Munoz et al., 2010). Targeting youth at the highest risk for anxiety or depression and, as early as possible, may increase the efficacy of these interventions. Hence, gaining a deeper understanding of the early antecedents of anxiety disorders and depression may help improve prevention efforts. Furthermore, preventative interventions designed for young children may further reduce the burden associated with these disorders.

There are several well-established predictors of anxiety and depression, not limited to, parental history of anxiety and/or depression, behavioural inhibition, parental modeling, parental overprotection, parental negativity, and stressful life events (Aktar & Bogels, 2017; Ashford et al., 2008; Lieb et al., 2002; McLeod, Wood, & Weisz, 2007; Mian, Wainwright, Briggs-Gowan, & Carter, 2011; Platt, Williams, & Ginsburg, 2016). More recently sleep disturbances in childhood have been linked to the subsequent development of anxiety and depression in later life (Greene, Gregory, Fone, & White, 2014; Gregory et al., 2005; Gregory & O'Connor, 2002; Hysing, Siversten, Niegel, & Eberhard-Gran, 2016; Jansen et al., 2011; Kelly & El-Sheikh 2013; Mindell, Leichmann, Dumond & Sadeh 2017; Shanahan et al., 2014; Siversten et al., 2015; Steinbekk & Wichstrom 2015). These findings remain consistent when controlling for

internalizing symptoms at baseline (Gregory et al., 2005; Gregory & Sadeh, 2016; Siversten et al., 2015)

Parental internalizing symptomology (e.g., anxious and depressive symptoms) is linked to disturbed sleep in young children (Caldwell & Redeker, 2014; Francazio et al., 2015; Hamilton et al., 2020; Moore, Gordon, & McLean, 2011; Tyler et al., 2019). Previous investigations (Caldwell & Redeker, 2014; Francazio et al., 2015; Hamilton et al., 2020; Moore, Gordon, & McLean, 2011; Tyler et al., 2019), however, often neglected father reports on their own mental health and their child's sleep habits. Therefore, it's unclear whether paternal depression, anxiety, or both influence their child's sleep habits.

Understanding the impact parental symptoms of anxiety and depression have on children's sleep problems, will help inform the development of interventions that aim to improve sleep problems in youth. Furthermore, improvement in child sleep habits may subsequently prevent the onset of anxiety and depression in youth.

1.3 Parental Overprotection and Sleep Problems in Youth

Parental overprotection is a parenting style characterized by removing children from potentially risky or threatening situations and providing a degree of help during challenging tasks, which is excessive considering the child's age (Edwards, 2007). Parental overprotection is a significant predictor of childhood anxiety (Bayer, Sanson, & Hemphill, 2006; Edwards, Rapee, & Kenedy, 2010). Moreover, anxious parents are more often overprotective (Clarke, Copper, Creswell, 2013; McLeod, Wood, & Weiss, 2007; Rapee, 1997; Rapee, Schniering, & Hudson, 2009; Schneider et al., 2009; van der Bruggen, Stams, &Bogels, 2008; Wood et al., 2003). However, non-anxious parents can also engage in overprotective parenting behaviours (Hudson, Doyle, & Gar, 2009; Hudson & Rapee, 2004).

8

Overprotective parenting may increase symptoms of anxiety via its effects on children's perception of their self-efficacy (Emerson, Ogielda, & Rowse, 2019). Restricting children from potentially dangerous or risky situations does not allow them to confront their negative beliefs regarding threat and inhibits the development of effective coping strategies to deal with challenging environments. In turn, this may reinforce the child's belief in their inadequacy in dealing with risky situations and increases avoidance.

Recent studies have found a positive association between parental overprotection and sleep problems in youth (Shibita et al., 2016; Zaidman-Zait and Hall, 2015). Sleep difficulties in children also predict the onset of later anxiety diagnosis (Gregory et al., 2005; Gregory & O'Connor, 2002; Hysing, Siversten, Niegel, & Eberhard-Gran, 2016; Jansen et al., 2011; Kelly & El-Sheikh 2013; Mindell, Leichmann, Dumond & Sadeh 2017; Shanahan et al., 2014; Siversten et al., 2015; Steinbekk & Wichstrom 2015). For example, Gregory et al., 2005 found that youth with persistent difficulties sleeping had a 60% increased odds of developing anxiety during early adulthood. These findings remained consistent when internalizing symptoms at baseline were controlled for. Hence, parental overprotection may also increase symptoms of anxiety in youth by disrupting children's sleep habits.

Previous investigations (Shibita et al., 2016; Zaidman-Zait and Hall, 2015) that have assessed the relationship between parental overprotection and sleep, however, suffer from methodological issues. For example, Shibita et al. (2016) asked adult participants to report on their parents' overprotective parenting when the participant was a child and assessed their current sleep habits. This design's weakness is retrospective reporting of parenting behaviours, which are prone to inaccuracies (Bell & Bell, 2018). Zaidman-Zait and Hall (2015) assessed the relationship between overprotective parenting and sleep problems in two-year-olds. Sleep

problems were assessed using two questions (i.e., the presence and length of night wakings). Using night wakings as the only measure of impaired sleeping is problematic as numerous sleep behaviours significantly undermine sleep. Furthermore, only mothers reported on their child's sleep habits.

Understanding the relationship between overprotective parenting and sleep problems in children may inform the development of interventions aimed at helping young children sleep better and, consequently, may prevent the onset of anxiety in these children.

1.4 Aims and Hypotheses

In the current thesis, we determined the association between maternal and paternal symptoms of anxiety/depression and sleep problems in their children aged 2 to 6 years old. We hypothesized that both maternal and paternal symptoms of anxiety/depression would be associated with sleep problems in their preschool-aged children.

We also investigated the relationship between parental overprotection and sleep habits in preschool aged children 2 to 6 years old. We hypothesized that both mother and father overprotective behaviours would be related to impaired sleep in their children**.**

We improved upon previous designs by using a comprehensive measure of sleep difficulties in children (Child Sleep Habits Questionnaire). Also, we obtained reports on parental overprotection and child sleep habits from both mothers and fathers.

CHAPTER 2 METHODS

2.1 Participants

Participants were parents of children aged 2 to 6 years old. We included families regardless of the parents' or child's sex or gender. We included biological parents, foster parents, step-parents, and adoptive parents. If two parents were involved in parenting, both were asked to participate; however, if only one parent decided to participate, they were eligible to do so. We recruited participants primarily through daycares and afterschool programs. We required parents to be able to speak and read English. We did not use any other inclusion or exclusion criteria.

2.2 Design

We used a cross-sectional design for the current study. Parents who participated completed questionnaires that assessed their child's sleep habits. Parents also completed questionnaires that assessed their own anxiety, depression, and overprotective parenting behaviours. We only collected information from parent reports. Children themselves did not provide any information for the current study. The Research Ethics Board of the Nova Scotia Health Authority approved all study procedures.

2.3 Procedure

We initially contacted directors of daycares and afterschool programs via telephone. We asked if daycare directors would be willing to distribute envelopes containing information sheets and questionnaires in the cubicles of children aged 2 to 6 years attending the daycare or afterschool program. If daycare directors required more information about the study, we sent them an information sheet providing details about the purpose of the study and its outline. The envelopes dropped off to daycares contained an information sheet and four sets of questionnaires

(so that there were enough questionnaires for a family with two parents and two children if applicable).

We instructed parents to leave questionnaires blank if they were not all used (i.e., in families with one parent and/or one child). We asked parents who required questionnaires for more than two children in the eligible age range to contact investigators and request more questionnaires.

Once parents completed the questionnaires, they returned them in the envelope and sent them directly to the investigators. Envelopes that were distributed to parents were prepaid. Hence, participants were able to send the questionnaires free of charge. Parents received monetary compensation for the time spent completing each questionnaire.

2.4 Materials

Demographics and Childcare

Participants completed a series of questions asking them about the nature of their relationship to their child (i.e., Biological Mother, Biological Father, Adoptive Parent, etc.), the members of the household, their child's sex, gender and age and their siblings' sex, gender and age. Participants also reported if their child was in daycare and if so, what type of daycare, the age the child began attending daycare and the number of days per week the child spends at daycare.

Child Sleep Habits Questionnaire (CSHQ)

We assessed children's sleep habits with the Children's Sleep Habits Questionnaires (CSHQ) (Owens, Spirito & McGuinn, 2000). The original CSHQ contains a series of questions (45 items) that assess children's bedtime resistance, sleep onset delay, sleep duration, sleep anxiety, night wakings, parasomnias, sleep disordered breathing and daytime sleepiness (Owens, Spirito &

McGuinn, 2000). Example items of the CSHQ include "child resists going to bed at bedtime" and "child is afraid of sleeping alone". Items on the CSHQ are rated on 3-point scale ranging from 1 (rarely) to 3 (usually). Five items were reverse coded. Parents rated each item based on their child's sleep during the previous week. The CSHQ has been shown to have good test-retest reliability and validity, with scores on the CSHQ being able to differentiate individuals with disordered sleep compared to those without (Owens, Spirito & McGuinn, 2000). We used an abbreviated version of the CSHQ (23 items) excluding questions on sleep disordered breathing and daytime sleepiness, as they were not relevant to our research questions. Higher scores represent worse sleep in children; thus. Scores on the abbreviated version of CSHQ can range from 23 to 69.

Screen for Adult Anxiety Related Disorders

We assessed parental symptoms of anxiety with the Screen for Adult Anxiety Related Disorders (SCAARED) (Angulo et al., 2017). The SCAARED consists of 44 items that are rated on three-point scale ranging from 0 (not true) to 2 (very true) (Angulo et al, 2017). Respondents rated each item based on the past 3 months. The SCAARED has four subscales: somatic/panic/agoraphobia, generalized anxiety, separation anxiety and social anxiety (Angulo et al., 2017). The SCAARED includes items such as "I am nervous" and "it is hard for me to stop worrying". The SCAARED has high internal consistency between items in the same subscale. Moreover, the SCAARED has strong discriminant validity, as it is able to discriminate between people with and without anxiety disorders as well as, between people with different types of anxiety disorders (Angulo et al., 2017). Scores on the SCAARED can range from 0 to 88 with higher scores indicating more severe symptoms of anxiety.

Everyday Feelings Questionnaire

We assessed parental symptoms of depression with the Everyday Feelings Questionnaire (EFQ). The EFQ consists of 10 items that assess parents' depressive symptoms. Example of items on the EFQ include "able to enjoy life" or "positive about the future". All items are rated on a 5-point scale ranging from 1 (none of the time) to 5 (all the time) (Uher & Goodman, 2010). Five items were reverse coded. Participants rated each item based on the last 4 weeks. The EFQ has good internal consistency and test-retest reliability (Uher & Goodman, 2010). In addition, the EFQ has strong convergent validity as it has been shown to be strongly correlated with existing measures of depression such as the Beck Depression Inventory-II (Mann et al. 2013). Scores on the EFQ can range from 0 to 40. Higher scores represent more severe symptoms of depression.

Parental Overprotection Measure

We assessed parental overprotective behaviours with the Parental Overprotection Measure (POM) (Edwards, Rapee & Kennedy, 2007). The POM consists of 19 items that assess parental behaviours that remove children from exposure to potentially harmful experiences. Example of items on the POM include "I protect my child from criticism" and "I try to protect my child from making mistakes". Items on the POM are scored on a 5-point scale ranging from 0 (not at all) to 4 (very much) (Edwards, Rapee & Kennedy, 2007). Parents rated each item based on their typical response. The POM has good test-retest reliability as well as good internal consistency for both mother- and father-report (Edwards, Rapee & Kennedy, 2007). Furthermore, the POM has good convergent validity as it is positively related to existing questionnaire-based measures of parental overprotection as well as observational measures of parental overprotection (Edwards, Rapee & Kennedy, 2007). Scores on the POM can range from 0 to 76 with higher scores indicating more overprotection.

2.5 Data Analysis

We tested the effect of maternal symptoms of anxiety/depression on mother-reported child sleep problems, as well as, paternal symptoms of anxiety/depression on father-reported child sleep problems. We also tested the effect of maternal overprotective behaviours on mother-reported child sleep problems, as well as, the effect of paternal overprotective behaviours on father-reported child sleep problems. We used mixed-effects linear regression in STATA 15 (StataCorp, 2017). We included child age and sex as fixed covariates. We accounted for the non-independence of related individuals within families (i.e., siblings) by using random effects of family in all models. We report the standardized regression coefficients (beta) and their 95% confidence interval (95% C.I.). We report results with $p < 0.05$ as nominally statistically significant. We also report significance corrected for the number of tests (six tests, corrected p-value < 0.008).

To confirm the results of our primary analysis were not solely due to using one informant (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003; Podsakoff, Mackenzie, & Podsakoff, 2012), we carried out a sensitivity analysis. In families were both mother and father reports were obtained, we tested the effect of maternal symptoms of anxiety/depression on father-reported child sleep problems, as well as, the effect of paternal symptoms of anxiety/depression on mother-reported child sleep problems. In addition, we tested the effect of maternal overprotective parenting behaviours on father-reported child sleep problems, as well as, the effect of paternal overprotective parenting behaviours on mother-reported child sleep problems. Before we completed this sensitivity analysis, we assessed the correlation between mother-reported child sleep problems and father-reported child sleep problems.

We completed a second sensitivity analysis to determine the difference in effects between families where we obtained one parent-report versus families where we obtained two parent-reports. We only included mother-reports as all but one father reporters belonged to two parent-reports families. Initially, we conducted t-tests and chi-squared tests, when appropriate, to assess group differences between one parent-report and two parent-reports families on all study measures. We tested the effect of maternal symptoms of anxiety/depression, and overprotection on mother-reported child sleep problems in families, where we only obtained one parent-report. We also tested the effect of maternal symptoms of anxiety/depression, and overprotection on mother-reported child sleep problems in families where we obtained two parent-reports.

We conducted a third and final sensitivity analysis, where we excluded reports from non-biological parents. We tested the effect of maternal symptoms of anxiety/depression, and overprotection on mother-reported child sleep problems in biologically related mother-offspring pairs. We also tested the effect of paternal symptoms of anxiety/depression, and overprotection on father-reported child sleep problems in biologically related father-offspring pairs.

CHAPTER 3 RESULTS

3.1 Sample Characteristics

We contacted 47 daycares and afterschool programs. Of the 47 daycares/afterschool programs we contacted, 46 agreed to distribute our questionnaires to parents. Of the questionnaires distributed to parents, 15% were returned and completed. We obtained a total of 281 parental reports (184 maternal reports and 97 paternal reports) on 182 children (87 males and 95 females) from 142 families. Of the 224 parents that participated, six were not biologically related to their child. For 98 children, we acquired reports from two parents (these were 96 mother-father pairs and two children with two mothers). For 84 children, we obtained reports from only one parent (83 mother reports and 1 father report). Mothers' average age was 36.36 years old ($SD = 4.59$), and fathers' average age was 37.71 years old ($SD = 4.61$). Male children were on average 4.03 years old ($SD = 1.24$), and female children were on average 4.24 years old ($SD = 1.32$). Ethnicity of children is shown in Table 1. Tables 2 and 3 displays sample characteristics for parents/families and descriptive statistics (*means and SDs*) of all study measures.

Table 1

Child Ethnicity

	Number of Children	% of Children
Indigenous (e.g., Inuit, First Nations, Metis)	3	1.6
Arab/West Asian (e.g., Armenian, Egyptian, Iranian, Lebanese, Moroccan)	4	2.2
Black (e.g., African, Haitian, Jamaican, Somali)	13	7.2
Chinese	7	3.8
Filipino	2	1.1
South Asian	1	0.5
South East Asian	1	0.5
White (Caucasian)	148	81.3
Other	2	1.1
No Response	1	0.5

Table 2

Sample characteristics

| | Overall | Comparison Between One Parent-Report and Two Parent-Reports Families | | |
		1-parent	2-parent	
Demographics				
N Parents (% Female)	224 (64)	64 (98)	160 (51)	
Mother Mean Age (years)*(SD)*	36.36 (4.59)	36.78 *(5.23)*	36.00 *(3.98)*	$t(139) =$ -1.06, p = 0.29
Father Mean Age (years) *(SD)*	37.71 *(4.61)*	*	37.76 *(4.62)*	
Child Mean Age (years) *(SD)*	4.14 *(1.28)*	4.43 *(1.28)*	3.88 *(1.21)*	$t(182) =$ -3.12, p = 0.02
Number of Female Children (% Female)	95 (52)	44 (51)	51 (53)	X^2 (1, $N =$ 182) = 0.11, p = 0.73
Children Living in Single-Parent Household (% Yes)	8 (4)	8 (9)	0 (0)	
Families Receiving Subsidies for Daycare (%Yes)	31 (22)	17 (27)	14 (18)	X^2 (1, $N =$ 142) = 1.07, p = 0.22

Notes. We used mother reports only to make comparisons between one parent-report and two parent-reports families as there was only one father in the one parent-report group. * Information left blank so participant confidentiality would not be compromised.

Table 3

Descriptive statistics

| | Overall | Comparison Between One-Parent Report and Two-Parent Report Families | | |
		1-parent	2-parent	
Study Measures				
Mother Mean SCAARED *(SD)*	22.63*(14.15)*	22.28*(15.61)*	22.90*(12.83)*	*t*(141) = 0.25 , p = 0.80
Father Mean SCAARED *(SD)*	15.96*(11.12)*	*	15.90*(11.18)*	
Mother Mean EFQ *(SD)*	13.70 *(5.57)*	14.21*(6.16)*	13.80*(5.09)*	*t*(141) = -0.47, p = 0.64
Father Mean EFQ *(SD)*	12.99 *(6.06)*	*	13.01*(6.10)*	
Mother Mean POM *(SD)*	33.61 *(13.10)*	32.01*(14.42)*	35.07*(11.66)*	*t*(182) = 1.59, p = 0.11
Father Mean POM *(SD)*	35.05*(12.59)*	*	35.13*(12.64)*	
Mother Mean CSHQ *(SD)*	33.13 *(7.14)*	34.23 *(7.63)*	32.12*(6.55)*	*t*(182) = -2.02, p = 0.04
Father Mean CSHQ *(SD)*	32.48 *(6.39)*	*	32.50*(6.42)*	

Notes. We used mother reports only to make comparisons between one parent-report and two parent-reports families as there was only one father in the one-parent report group. *Information left blank so participant confidentiality would not be compromised. SCAARED (Screen for Anxiety Related Disorders); EFQ (Everyday Feelings Questionnaire); POM (Parental Overprotection Measure); CSHQ (Child Sleep Habits Questionnaire).

3.2 Results: Parent Psychopathology and Child Sleep

Increased levels of maternal symptoms of depression were associated with a higher severity of mother-reported child sleep problems (beta = 0.32, 95% CI 0.16 to 0.47, p < 0.001). This association remained significant after controlling for multiple testing. The association between maternal symptoms of anxiety and mother-reported child sleep problems was relatively weak and not statistically significant (beta = 0.10, 95% CI -0.04 to 0.26, p = 0.160). Paternal symptoms of depression were unrelated to father-reported child sleep problems (beta = 0.04, 95% CI -0.15 to 0.24, p = 0.666). Increased levels of fathers' symptoms of anxiety were associated with an increase in father-reported child sleep problems (beta = 0.35, 95% CI 0.11 to 0.59, p = 0.004) and the association remained significant after controlling for multiple testing (Table 4).

Sensitivity Analysis #1

We found a strong positive correlation between mother-reported and father-reported child sleep problems *r* (96) = 0.80, *p* < 0.001. Mothers' symptoms of depression were unrelated to father-reported child sleep problems (beta = 0.09, 95% CI -0.16 to 0.34, p = 0.488). We found no relationship between maternal symptoms of anxiety and father-reported child sleep problems (beta = 0.05, 95% CI -0.18 to 0.29, p = 0.665). Similarly, paternal symptoms of depression (beta = -0.13, 95% CI -0.33 to 0.07, p = 0.200) and anxiety (beta = 0.08, 95% CI -0.18 to 0.34, p = 0.529) were unrelated to mother-reported child sleep problems (Table 4).

Sensitivity Analysis #2

In families where only the mother reported, we found mothers' symptoms of depression (beta = 0.39, 95% CI 0.18 to 0.61, p < 0.001) and anxiety (beta = 0.27, 95% CI 0.07 to 0.47, p = 0.008) were positively associated with mother-reported child sleep problems. In children where

we obtained two parent-reports, the association between mothers' symptoms of depression and mother-reported child sleep problems was weaker and not statistically significant (beta = 0.21, 95% CI -0.02 to 0.44, p = 0.073). No association was found between maternal symptoms of anxiety and mother-reported child sleep problems in two parent-reports families (beta = -0.04, 95% CI -0.27 to 0.17, p = 0.661) (Table 5).

Sensitivity Analysis #3

In biologically related mother-offspring pairs we found a positive association between maternal symptoms of depression and mother-reported child sleep problems (beta = 0.34, 95% CI 0.18 to 0.50, p < 0.001). We found no relationship between maternal symptoms of anxiety and mother-reported child sleep problems (beta = 0.13, 95% CI -0.02 to 0.28, p = 0.095). In biologically related father-offspring pairs, paternal symptoms of depression were unrelated to father-reported child sleep problems (beta = 0.03, 95% CI -0.16 to 0.23, p = 0.751). In contrast, increased levels of paternal symptoms of anxiety were associated with a higher severity of father-reported child sleep problems (beta = 0.35, 95% CI 0.11 to 0.59, p = 0.004).

Table 4

The effects of parental internalizing symptoms on child sleep problems

	Mother-Reported Sleep			Father-Reported Sleep		
Variable	Beta	95% C.I.	p-value	Beta	95% C.I.	p-value
Maternal Depression	0.32	0.16 to 0.47	p < 0.001	0.09	-0.16 to 0.34	0.488
Maternal Anxiety	0.10	-0.04 to 0.26	0.160	0.05	-0.18 to 0.29	0.665
Paternal Depression	-0.13	-0.33 to 0.07	0.200	0.04	-0.15 to 0.24	0.666
Paternal Anxiety	0.05	-0.18 to 0.34	0.529	0.35	0.11 to 0.59	0.004

Notes. 95% C.I. = 95% Confidence Interval. Child age, sex and biological relatedness were controlled for in all analyses.

Table 5

The effects of maternal internalizing symptoms on mother- reported child sleep problems in families with one parent-report or two parent-reports

	One Parent-Report			Two Parent-Reports		
Variable	Beta	95% C.I.	p-value	Beta	95% C.I.	p-value
Maternal Depression	0.39	0.18 to 0.61	p < 0.001	0.21	-0.02 to 0.44	0.073
Maternal Anxiety	0.27	0.07 to 0.47	0.008	-0.04	-0.27 to 0.17	0.661

Notes. 95% C.I. = 95% Confidence Interval. Child age, sex and biological relatedness were controlled for in all analyses.

3.3 Results: Parental Overprotection and Sleep Problems in Youth

Increased levels of maternal overprotective behaviours were associated with more child sleep problems reported by mothers (beta = 0.27, 95% CI 0.12 to 0.43, p = 0.001). Increased levels of fathers' overprotective behaviours were associated with more father-reported child sleep problems (beta = 0.38, 95% CI 0.19 to 0.57, p < 0.001). Both associations remained significant after controlling for multiple testing (Table 6).

Sensitivity Analysis #1

The association between maternal overprotective behaviours and father-reported child sleep problems was relatively weak and not statistically significant (beta = 0.18, 95% CI -0.05 to 0.42, p = 0.126). We found a strong positive association between paternal overprotection and child sleep problems reported by mothers (beta = 0.38, 95% CI 0.19 to 0.58, p < 0.001) (Table 6).

Sensitivity Analysis #2

We found a positive association between maternal overprotectiveness and mother-reported child sleep problems (beta = 0.36, 95% CI 0.14 to 0.57, p = 0.001) in children where we obtained only one parent-report. In children where we obtained both mother and father reports, the association between maternal overprotection and mother-reported child sleep problems was weaker and not statistically significant (beta = 0.20, 95% CI -0.02 to 0.43, p = 0.076; Table 6).

Sensitivity Analysis #3

In biologically related mother-offspring pairs, we found a positive relationship between maternal overprotection and mother-reported child sleep problems (beta = 0.28, 95 % CI 0.13 to 0.44, p < 0.001). Similarly, in biologically related father-offspring pairs, higher levels of paternal

overprotection were related to a higher severity of father-reported child sleep problems (beta =

0.37, 95 % CI 0.18 to 0.56, p < 0.001).

Table 6

The effects of parental overprotective behaviours on child sleep problems

Variable	Mother-Reported Sleep			Father-Reported Sleep		
	Beta	95% C.I.	p-value	Beta	95% C.I.	p-value
Maternal Overprotection	0.27	0.12 to 0.43	0.001	0.18	-0.05 to 0.42	0.126 [1]
Maternal Overprotection Two Parent-Reports	0.20	-0.02 to 0.43	p = 0.076			
Maternal Overprotection One Parent-Report	0.36	0.14 to 0.57	p = 0.001	N/A	N/A	N/A [2]
Paternal Overprotection	0.38	0.19 to 0.57	p < 0.001	0.38	0.19 to 0.58	p < 0.001

Notes. 95% C.I. = 95% Confidence Interval. Child age, sex and biological relatedness were controlled for in all analyses. [1]We were only able to calculate the effect of maternal overprotection on father-reported child sleep problems if both mother and father-reports were obtained. [2]We were unable to calculate the effect of maternal overprotection on father-reported child sleep problems in children were only mothers reported.

CHAPTER 4 DISCUSSION

4.1 Summary of Results

We found maternal symptoms of depression and paternal symptoms of anxiety were related to more problematic sleep habits in the child. Our first sensitivity analysis did not confirm these findings: Maternal symptoms of depression were unrelated to father-reported child sleep problems, and paternal symptoms of anxiety were not associated with mother-reported child sleep problems. Both maternal and paternal overprotectiveness were associated with impaired sleep in children. The relationship between maternal overprotectiveness and child sleep problems was weaker in two parent-reports compared to one parent-report families. In our first analysis, we found that mothers' overprotective behaviours were numerically associated with father-reported child sleep problems. Also, we found a positive association between fathers' overprotective behaviours and mother-reported child sleep problems.

4.2 Parental Psychopathology and Sleep Problems in Youth

We found a varying pattern of results based on parental sex. Mothers' depressive symptoms were positively associated with mother-reported child sleep problems. No relationship emerged between mothers' symptoms of anxiety and mother-reported child sleep problems. In contrast, fathers' symptoms of depression were unrelated to father-reported child sleep problems. Higher levels of anxiety symptoms in fathers were associated with more father-reported child sleep problems. However, our first sensitivity analysis did not confirm the results of our primary analysis. We found no association between mothers' symptoms of anxiety/depression and father-reported child sleep problems. Also, no relationship was found between fathers' symptoms of anxiety/depression and mother-reported child sleep problems.

The findings from our primary analysis (i.e., mothers' symptoms of depression positively associated with mother-reported child sleep problems and fathers' symptoms of anxiety positively associated with father-reported child sleep problems) are in line with previous investigations that found a positive association between parental internalizing symptoms and difficulties sleeping in their child (Caldwell & Redeker, 2014; Francazio et al., 2015; Hamilton et al., 2020; Moore, Gordon, & McLean, 2011; Tyler et al., 2019). However, our findings differ from Francazio et al. (2015), who analyzed the relationship between child sleep problems and parent's internalizing symptoms in parent-offspring pairs (over 90% of parents were mothers). They found a positive relationship between parental symptoms of anxiety and offspring sleep problems. Moreover, they found no association between parents' symptoms of depression and problems sleeping in their offspring. In contrast, we found that mothers' symptoms of anxiety were unrelated to their child's sleep, and mothers' symptoms of depression were associated with worse sleep in their child.

These discrepant findings may have arisen due to methodological differences between studies. Francazio et al. (2015) recruited parents of offspring aged 8 to 17 years. Children in our sample were preschool-aged (between 2 and 6 years old). As children develop, maternal symptoms of anxiety may begin to have a more substantial effect on youth's sleep habits than maternal symptoms of depression. Also, Francazio et al. (2015) used the Sleep Disturbance Scale for Children (SDSC) (Bruni et al., 1996) to assess child sleep habits and the Depression Anxiety Stress Scales (DASS-21) (Lovibond & Lovibond, 1995) to assess parent's internalizing symptoms. The SDSC assesses sleep problems (i.e., sleep-disordered breathing and daytime sleepiness) that we did not evaluate. Furthermore, the DASS-21 assesses parent's internalizing symptoms during the past week. In contrast, we used the EFQ (depression) and SCAARED

(anxiety), which evaluated parental internalizing symptomology during the last four weeks and three months, respectively. Hence, the different measures used to assess child sleep and parental internalizing symptomology may account for the discrepant findings.

Earlier studies assessing the effect of parental psychopathology on the child's sleep often neglected paternal reports or included only a small sample of fathers (Caldwell & Redeker, 2014; Francazio et al., 2015; Moore, Gordon, & McLean, 2011; Tyler et al., 2019). Thus, previous investigations have been unable to determine the difference in effects between mothers' and fathers' internalizing symptoms on their child's sleep. To our knowledge, this is the first study that found that fathers' internalizing symptoms are related to poor sleep in their child.

It is unclear why we found mothers' symptoms of depression negatively impacted their child's sleep, but fathers' symptoms of depression did not. Similarly, it is unclear why fathers' symptoms of anxiety were associated with child sleep problems, but mothers' symptoms of anxiety were not. Parenting behaviours (e.g., overprotectiveness and parental negativity) may mediate the relationship between parental psychopathology and sleep problems in youth (Tyler et al., 2019; Zaidman-Zait & Hall, 2015). Engagement in similar parenting behaviours by mothers and fathers does not always yield the same effect on children (Edwards, Rapee, & Kennedy, 2010; Eun, Paksarian, He, & Merikangas, 2018). For example, Edwards, Rapee, and Kennedy (2010) found that maternal negativity predicted symptoms of anxiety in preschool-aged children. Paternal negativity, however, had no impact on youth anxiety. Therefore, parenting styles related to depression (i.e., parental negativity) may have a more substantial impact on child sleep if mothers engage in those behaviours compared to fathers; whereas, parenting styles related to anxiety (i.e., parental overprotectiveness) may have a stronger effect on child sleep if fathers engage in those behaviours compared to mothers.

30

Our first sensitivity analysis yielded conflicting results compared to our primary analysis. Maternal symptoms of depression and anxiety were unrelated to father-reported child sleep problems. Similarly, paternal symptoms of depression and anxiety were unrelated to maternal-reported child sleep problems. It is possible that the results from our primary analysis only arose due to using one informant of parental psychopathology and child sleep (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003; Podsakoff, Mackenzie, & Podsakoff, 2012). Also, parents' mental state influences their report on their child's behaviours (Maoz et al., 2014; Najman et al., 2000). For example, Najman et al. (2000) found that anxious and/or depressed mothers tended to rate their child as having more behavioural problems than their non-anxious/depressed partner or child themselves. Hence, parents experiencing high levels of symptoms of anxiety and or depression may rate their child as having more sleep problems than their partner due to a negative bias. The discrepant reports between depressed or anxious partners and their mentally healthy counterparts may explain why our sensitivity analysis did not confirm our primary analysis. It also calls into question the validity of previous investigation that found a relationship between parental internalizing symptoms and sleep difficulties in their child as they only used a single reporter (Caldwell & Redeker, 2014; Francazio et al., 2015; Moore, Gordon, & McLean, 2011; Tyler et al., 2019).

Mothers may be more accurate reporters regarding their child's sleep habits compared to fathers. Typically, mothers spend more time performing caregiving behaviours (i.e., feeding their child, bathing their child, and putting them bed) than fathers (Craig & Bittman, 2008; Craig & Mullan, 2011; Hatch & Posel, 2018; Schoppe-Sullivan et al., 2013). Craig and Mullan (2011), using a dataset composed of parents from various European countries and Australia, estimated that on-average fathers spend less than a third of parent time with their child. Although mothers

31

often spend more time in caregiving behaviours (Craig & Bittman, 2008; Craig & Mullan, 2011; Hatch & Posel, 2018; Schoppe-Sullivan et al., 2013) we should not discount fathers reports on their child's sleep. Different reporters have different biases and each reporter contributes unique information (Jian et al., 2019; Lewis et al., 2012; Pavlova & Uher, 2020). The discrepant findings between our primary analysis and our first sensitivity analysis highlight the need to include multiple informants in future studies assessing the relationship between parental psychopathology and child sleep. Future research should also use objective measures of child sleep (i.e., actigraphy) to reduce reporter biases.

In our second sensitivity analysis, we found that in children where we obtained one parent-report, mothers' symptoms of anxiety were positively associated with mother-reported child sleep problems. However, in children where we obtained two parent-reports, mothers' symptoms of anxiety were unrelated to mother-reported child sleep problems. Also, we found a stronger relationship between maternal depressive symptoms and mother-reported child sleep problems in children with one parent-report compared to two parent-reports. There is a small proportion of children in the one parent-report group that live in a single parent household (i.e., mother-only). It is possible that in families where we obtained only one parent-report, fathers are less involved in childcare compared to families where we obtained two parent-reports. Bernier, Tetrault, Belanger, and Carrier (2017) found a positive association between fathers' involvement with their two-year-old offspring and the amount of time their child slept one year later. Hence, differences in paternal care may account for the discrepant findings between one-parent report and two-parent reports families. Fathers who are more involved with childcare may reduce mothers' stress related to parenting, which in turn improves child sleep habits. Furthermore, a slightly higher proportion of families received subsidies to send their child to daycare in the one

parent-report group compared to the two parent-reports group. Lower income is associated with poor sleep in young children (Zhang et al., 2020). Therefore, income disparities may also account for the discrepant findings between one parent-report and two parent-reports families.

Findings from our third sensitivity analysis suggest that our results from our primary analysis were not impacted by including non-biological parent-child pairs. Similar to our primary analysis, when we excluded non-biological parent reports, we found a positive relationship between maternal symptoms of depression and mother-reported child sleep problems and no relationship between maternal symptoms of anxiety and mother-reported child sleep problems. We also found that fathers' symptoms of depression were unrelated to father-reported child sleep problems, and paternal symptoms of anxiety were positively associated with father-reported child sleep problems.

4.3 Parental Overprotection and Sleep Problems in Youth

We found that increased maternal overprotective behaviours were associated with an increase in mother-reported child sleep problems. Moreover, we found a positive association between paternal overprotective behaviours and father-reported child sleep problems.

Results from our first sensitivity analysis were similar to that of our primary analysis, suggesting that our primary analysis was not solely due to using one informant (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003; Podsakoff, Mackenzie, & Podsakoff, 2012). We found that higher levels of maternal overprotection were numerically associated with more father-reported child sleep problems. However, this relationship did not reach statistical significance and was smaller in magnitude compared to the relationship found between maternal overprotection and mother-reported child sleep problems. The number of families that provided both father and mother reports may have been too small to detect a significant effect. Moreover, the association

33

between maternal overprotection and father-reported child sleep problems was similar in magnitude to the relationship between maternal overprotection and mother-reported child sleep problems in two parent-reports families. Thus, as mothers in our first sensitivity analysis all belonged to two parent-reports families, the lack of association between maternal overprotection and father-reported child sleep problems is not surprising. Paternal overprotective behaviours were positively associated with mother-reported child sleep problems. The effect size of the relationship between paternal overprotection and mother-reported child sleep problems was identical in magnitude to that of paternal overprotection and father-reported child sleep problems.

To our knowledge, this is the first study to examine the association between parental overprotection and child sleep problems in the preschool age range. Our findings are consistent with previous investigations that found that parents' overprotective behaviors were related to impaired sleep in their offspring (Shibita et al., 2016; Zaidman-Zait and Hall, 2015). We improved upon previous designs by obtaining both mother and father reports (on measures of overprotection and youth sleep) and we used a comprehensive measure of child sleep habits (i.e., CSHQ). Hence, we provide further evidence of the relationship between poor sleep in children and higher levels of parental overprotection.

A stronger relationship emerged between paternal overprotection and father-reported child sleep problems, compared to maternal overprotection and mother-reported child sleep problems. Furthermore, the effect of fathers' overprotective behaviours on child sleep problems did not change when mothers-reported child sleep problems were used in the analysis instead of father-reported child sleep problems. Parental sex influences the outcome of parenting behaviors on young children (Edwards, Rapee, & Kennedy, 2010; Eun, Paksarian, He, & Merikangas,

2018; Moller, Nikolic, Majdanzic, & Bogels, 2016). A meta-analysis by Moller, Nikolic, Majdanzic, and Bogels (2016) found a stronger association between fathers' overprotective parenting and offspring symptoms of anxiety compared to mothers' overprotective parenting and offspring symptoms of anxiety. Mothers' are typically thought of as caregivers and protectors of their children (Bogels & Perrotti, 2011; Moller, Nikolic, Majdanzic, & Bogels, 2016). In contrast, fathers assumed role is to open children to new experiences, encourage risk-taking and independence behaviours (Bogels & Perrotti, 2011; Moller, Nikolic, Majdanzic, & Bogels, 2016). Fathers' engagement in overprotection deviates from their expected role and may be more noticeable to children than when mothers engage in similar behaviors. Hence, paternal overprotective behaviours, compared to maternal overprotection, may have a greater influence on child sleep. Our findings highlight the need to consider the role of fathers in the development of children. Fathers are typically not considered to be the primary caregivers in the household, and their impact on development of young children is often neglected.

In our second sensitivity analysis, we found a stronger relationship between maternal overprotection and mother-reported child sleep problems in children with one parent-report compared to two parent-reports. A higher proportion of families in the one parent-report group reported receiving subsidies to send their child to daycare. Lower family income is associated with worse sleep in offspring (Zhang, 2020). Hence, income disparities may account for the discrepant findings between the one parent-report and two parent-reports groups. There was a greater number of children that lived in a single-parent household in the one parent-report group compared to the two parent-reports group. For youth, living in a single-parent household is associated with impaired sleep (Rudd, Holtzworth-Munroe, D'Onofrio, & Waldron, 2019; Troxel, Lee, Hall, & Matthews, 2014). Thus, the number of parents in the household may also

account for the discrepant findings between one parent-report and two parent-reports groups. It is possible that in families where we obtained only mother-report, fathers are less involved in childcare compared to families where we obtained father-reports. Increased paternal involvement is associated with better offspring sleep habits (Bernier, Tetrault, Belanger, & Carrier, 2017). Thus, the degree of paternal involvement in the child's care may moderate the relationship between maternal overprotection and child sleep problems.

Findings from our third sensitivity analysis suggest that our results from our primary analysis were not impacted by including non-biological parent-child pairs. Similar to our primary analysis, when we excluded non-biological parent reports, we found a positive association between maternal overprotection and mother-reported child sleep problems. We also found higher levels of paternal overprotection were associated with a greater severity of father-reported child sleep problem

Overprotective parenting is a well-established antecedent of childhood anxiety (Bayer, Sanson, & Hemphill, 2006; Edwards, Rapee, & Kenedy, 2010; McLeod, Wood, & Weiss, 2007; Rapee, 1997, Wood et al., 2003). It is speculated that overprotective parenting increases symptoms of anxiety in young children by limiting their encounters with risky or dangerous situations. The lack of experience in dealing with difficult situations inhibits the development of coping strategies to deal with novel environments and does not allow the child to confront their negative beliefs regarding threat. Thus, reinforcing the child's belief in their inadequacy in dealing with risky situations and increases avoidance. We found that overprotective parenting is also associated with impaired sleep in young children. Sleep problems prospectively predict the onset of anxiety in youth (Gregory et al., 2005; Gregory & O'Connor, 2002; Hysing, Siversten, Niegel, & Eberhard-Gran, 2016; Jansen et al., 2011; Kelly & El-Sheikh 2013; Mindell,

Leichmann, Dumond & Sadeh 2017; Shanahan et al., 2014; Siversten et al., 2015; Steinbekk & Wichstrom 2015). Therefore, overprotective parenting may also increase symptoms of anxiety in young children via its adverse effects on their sleep habits.

Overprotective parenting is also associated with anxiety in parents (Clarke, Copper, Creswell, 2013; McLeod, Wood, & Weiss, 2007; Rapee, 1997; Rapee, Schniering, & Hudson, 2009; Schneider et al., 2009; van der Bruggen, Stams, & Bogels, 2008; Wood et al., 2003). Recent reports, including the current thesis, have found an association between parental internalizing symptoms and disturbed sleep in children (Caldwell & Redeker, 2014; Francazio et al., 2015; Moore, Gordon, & McLean, 2011; Tyler et al., 2019). Hence, parental overprotection may mediate the relationship between internalizing symptoms in parents and difficulties sleeping in youth. However, overprotective parenting is not unique to anxious parents (Hudson, Doyle, & Gar, 2009; Hudson & Rapee, 2004). Non-anxious parents may also engage in overprotective behaviours that negatively influence their child's sleep.

4.4 Clinical Implications

Interventions that aim to improve sleep habits in young children may benefit from our results. Behavioural interventions, such as cognitive behavioural therapy (CBT), are moderately efficacious in improving insomnia in young children (Meltzer & Mindell, 2014). Kahn, Ronen, Apter, and Sadeh (2017) conducted a randomized controlled trial to assess the efficacy of CBT in treating severe nighttime fears in preschool-aged children. At follow-up, the authors found a significant reduction in nighttime fears and the number of night wakings. A similar intervention by Rafihi- Ferreria, Silvares, Asbahr, and Ollendick (2018) found that CBT significantly improved preschool-aged children's nighttime fears and reduced the number of nights offspring co-slept with parents. These changes lasted 3-months post-intervention. It is possible that

treating internalizing symptoms in parents, may improve the efficacy of these interventions. Clinicians treating dysregulated sleep patterns in children may want to screen internalizing symptoms in parents and refer them to treatment if necessary.

We found parents' overprotective behaviours, compared to parents' internalizing symptoms, had a stronger effect on child sleep habits. Hence, modifying parents' overprotective behaviours may provide more benefit in treating impaired sleep in young children. Interventions that modify parents' overprotective behaviours are used to prevent the onset of anxiety in children and are successful (Compas et al., 2009; Ginsburg et al., 2015). Ginsburg et al. (2015) assessed the efficacy of an intervention designed to prevent the onset of anxiety in youth, between the ages of 6 and 13 who were at high risk of developing anxiety. The intervention consisted of CBT for youth and parent training (i.e., modifying parents' overprotective behaviours). At 1-year follow-up youth who underwent the intervention had lower rates of anxiety disorders and fewer symptoms of anxiety compared to youth in the control group. A similar intervention may be effective in improving young children's sleep habits.

Changing fathers' overprotective parenting behaviours, may be especially useful in ameliorating sleep difficulties in young children. However, mothers are more likely to be involved in familial based psychological interventions that treat young children's sleep difficulties (Owens, France, & Wiggs, 1999; Rafihi- Ferreria, Silvares, Asbahr, & Ollendick 2018; Tikotzky & Sadeh, 2010). Fathers may be ignored because they typically spend less time with the child (Craig & Bittman, 2008; Craig & Mullan, 2011; Hatch & Posel, 2018; Schoppe-Sullivan et al., 2013) and thus, some researchers may believe they have less of an impact on children than mothers (Bogels & Phares, 2008). Also, fathers are often harder to recruit than mothers in studies involving preschool-aged youth (Bogels & Phares, 2008). Hence, researchers

may be less likely to put in time and resources in the recruitment of fathers compared to mothers. Educating the public and the research community about the role fathers play in the development of young children's sleep problems, may increase paternal involvement in new interventions. Furthermore, creating grants or funding opportunities specifically for father involvement in research of preschool-aged children could incentivize researchers to increase their efforts in the recruitment of fathers.

4.5 Strengths and Limitations

To our knowledge, this is the first study that examined the effect of maternal and paternal internalizing symptoms on children's sleep habits. Also, this is the first study to examine the association between overprotective parenting and sleep problems in pre-school aged children. We improved upon previous designs by incorporating both mothers' and fathers' reports as well as using a comprehensive measure of sleep habits in children (i.e., CSHQ). Our sensitivity analysis allowed us to determine whether reporter biases (i.e., use of a single reporter or parental negative mental state) influenced our results from our primary analysis. However, our sensitivity analysis cannot discount all forms of reporter biases (i.e., memory bias and social desirability bias).

There are several limitations to the current study. We used a cross-sectional design and hence, were unable to make any causal statements. Due to the cross-sectional design, we were unable to establish the causality of the relationship between parental internalizing symptoms and child sleep problems or between parental overprotection and child sleep problems. Reciprocal relationships exist between parent's feelings and behaviours and their child's feelings and behaviours. For example, overprotective parenting behaviours and parental internalizing symptoms predict anxious symptoms and behaviours in children and vice versa (Hudson, Doyle,

39

& Gar, 2009; Hudson & Rapee, 2004; Huges & Gullone, 2010). Therefore, we cannot exclude the possibility of children's sleep problems contributing to the increase in internalizing symptoms and overprotective behaviours in their parents. Even though we obtained a satisfactory amount of father-reports, we still had fewer compared to mother-reports. We did not assess neurodevelopmental disorders in children (e.g., attention deficit hyperactive disorder), commonly associated with impaired sleep in youth (Bundgaard, Asmussen, Pedersent, & Bilenberg, 2017). All measures of parental psychopathology, youth sleep and parental overprotection were dependent on parental reports. Parents' reports may have been inaccurate due to poor recall of past events and reporter biases. We used the SCAARED to assess parents' symptoms of anxiety. The SCAARED does not assess symptoms of every anxiety disorder (e.g., specific phobia) or anxiety-related disorders (e.g., obsessive compulsive disorder, posttraumatic stress disorder). Furthermore, we did not have enough data to assess the impact of specific subscales (e.g., generalized anxiety disorder, social anxiety disorder, separation anxiety) of the SCAARED on child sleep. We used the EFQ to assess symptoms of depression in parents. Although the EFQ mainly measures depression, it has been used to assess well-being and distress (Uher & Goodman, 2010). In addition, we did not collect information on whether parents were diagnosed with depression and the course of depression (i.e., chronic or episodic). We had a small sample of single-parent families, which hinders the generalizability of the current results. The majority of children in our sample were white, and thus we cannot generalize our results to other ethnicities. Also, we only recruited parents from daycares and after-school programs. Therefore, we cannot generalize our findings to youth who do not attend daycare or after-school programs.

4.6 Future Directions

Future research will benefit from using a longitudinal design that will allow for inferences regarding causation. Using interview-based measures of parental psychopathology (e.g., Structured Clinical Interview for DSM-5; First, 2015), observational reports of parenting (e.g., Teaching Task; Egeland et al., 1995) and objective measures of child sleep habits (e.g., actigraphy) will help reduce reporter biases. New investigations should look at whether parents' overprotective behaviours in general or specifically related to the child's bedtime routine/sleep affect child sleep habits. Future studies should try to recruit more fathers. Obtaining more father reports may help to gain a better understanding of the relationship between parental internalizing symptoms and sleep habits in young children. Moreover, our results suggest that fathers' overprotective behaviours are strongly related to poor sleep in their child. More research assessing the effect of paternal overprotection on child sleep is needed to replicate this finding. Understanding the mechanisms that drive the association between fathers' overprotection and problems sleeping in children may help develop future interventions that aim to improve sleep in youth. Future studies should assess the differential impact parents' internalizing symptoms and overprotective behaviours have on sons and daughters. Finally, future studies should investigate the mediational effect of overprotective parenting on the association between parental internalizing symptoms and child sleep problems.

4.7 Conclusions

Mothers' and fathers' internalizing symptoms are related to sleep problems in their child. Our results suggest that mothers' symptoms of depression and fathers' symptoms of anxiety may negatively influence child sleep habits. However, our sensitivity analysis calls into question the validity of these findings. No relationship was found between maternal symptoms of

anxiety/depression and father-reported child sleep problems. Moreover, paternal symptoms of anxiety/depression were unrelated to mother-reported child sleep problems. It is thus possible that the relationship is at least partially accounted for by a reporter bias. Both mothers' and fathers' overprotective parenting behaviours are related to poor sleep habits in their child. Our first sensitivity analysis confirmed the results of our primary analysis; mothers' overprotective behaviours were numerically associated with more father-reported child sleep problems. Fathers' overprotective behaviours were positively related to mother-reported child sleep problems. Behavioural interventions, such as cognitive behavioural therapy, are moderately efficacious in improving sleep difficulties in youth (Kahn, Ronen, Apter, & Sadeh, 2017; Owens, France, & Wiggs, 1999; Rafihi- Ferreria, Silvares, Asbahr, & Ollendick 2018; Tikotzky & Sadeh, 2010). Treating parents' internalizing symptoms and changing their overprotective behaviours, in conjunction with effective behavioural interventions, may significantly improve sleep problems in youth. Future studies should assess the relationship between parental internalizing symptoms, parenting behaviours associated with anxiety and depression (i.e., negativity and overprotection), and problems sleeping in children, using a longitudinal design. Future studies should also use objective measures of parental symptoms of anxiety and depression, parenting style and sleep in youth, to help eliminate reporter biases.

REFERENCES

Aktar, E., & Bögels, S. M. (2017). Exposure to Parents' Negative Emotions as a Developmental

Pathway to the Family Aggregation of Depression and Anxiety in the First Year of Life.

Clinical Child and Family Psychology Review, *20*(4), 369–390.

https://doi.org/10.1007/s10567-017-0240-7

Alfano, C. A., Ginsburg, G. S., & Kingery, J. N. (2007). Sleep-Related Problems Among

Children and Adolescents With Anxiety Disorders. *Journal of the American Academy of

Child & Adolescent Psychiatry*, *46*(2), 224–232.

https://doi.org/10.1097/01.chi.0000242233.06011.8e

Alfano, C. A., Pina, A. A., Zerr, A. A., & Villalta, I. K. (2010). Pre-Sleep Arousal and Sleep

Problems of Anxiety-Disordered Youth. *Child Psychiatry & Human Development*, *41*(2),

156–167. https://doi.org/10.1007/s10578-009-0158-5

Alfano, C. A., Reynolds, K., Scott, N., Dahl, R. E., & Mellman, T. A. (2013). Polysomnographic

sleep patterns of non-depressed, non-medicated children with generalized anxiety disorder.

Journal of Affective Disorders, *147*(1–3), 379–384.

https://doi.org/10.1016/j.jad.2012.08.015

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders

(5th ed.)*. https://doi.org/10.1176/appi.books.9780890425596

Amstadter, A. (2008). Emotion regulation and anxiety disorders. *Journal of Anxiety Disorders*,

22(2), 211–221. https://doi.org/10.1016/j.janxdis.2007.02.004

Angulo, M., Rooks, B. T., Gill, M., Goldstein, T., Sakolsky, D., Goldstein, B., Monk, K.,

Hickey, M. B., Diler, R. S., Hafeman, D., Merranko, J., Axelson, D., & Birmaher, B.

(2017). Psychometrics of the screen for adult anxiety related disorders (SCAARED)- A

new scale for the assessment of DSM-5 anxiety disorders. *Psychiatry Research*, *253*, 84–
90. https://doi.org/10.1016/j.psychres.2017.02.034

Arana-Lechuga, Y., Nuñez-Ortiz, R., Terán-Pérez, G., Castillo-Montoya, C., Jiménez-Anguiano,
A., Gonzalez-Robles, R. O., Castro-Roman, R., & Velázquez-Moctezuma, J. (2008). Sleep-
EEG patterns of school children suffering from symptoms of depression compared to
healthy controls. *The World Journal of Biological Psychiatry*, *9*(2), 115–120.
https://doi.org/10.1080/15622970701216665

Ashford, J., Smit, F., van Lier, P. A. C., Cuijpers, P., & Koot, H. M. (2008). Early risk indicators
of internalizing problems in late childhood: A 9-year longitudinal study. *Journal of Child
Psychology and Psychiatry*, *49*(7), 774–780. https://doi.org/10.1111/j.1469-
7610.2008.01889.x

Baddam, Olvera, Canapari, Crowley, & Williamson. (2019). Childhood Trauma and Stressful
Life Events Are Independently Associated with Sleep Disturbances in Adolescents.
Behavioral Sciences, *9*(10), 108. https://doi.org/10.3390/bs9100108

Bagley, E. J., Kelly, R. J., Buckhalt, J. A., & El-Sheikh, M. (2015). What keeps low-SES
children from sleeping well: The role of presleep worries and sleep environment. *Sleep
Medicine*, *16*(4), 496–502. https://doi.org/10.1016/j.sleep.2014.10.008

Barrera, T. L., & Norton, P. J. (2009). Quality of life impairment in generalized anxiety disorder,
social phobia, and panic disorder. *Journal of Anxiety Disorders*, *23*(8), 1086–1090.
https://doi.org/10.1016/j.janxdis.2009.07.011

Bayer, J. K., Sanson, A. V., & Hemphill, S. A. (2006). Parent influences on early childhood
internalizing difficulties. *Journal of Applied Developmental Psychology*, *27*(6), 542–559.
https://doi.org/10.1016/j.appdev.2006.08.002

Beesdo, K., Knappe, S., & Pine, D. S. (2009). Anxiety and Anxiety Disorders in Children and

  Adolescents: Developmental Issues and Implications for DSM-V. *Psychiatric Clinics of*

  North America, *32*(3), 483–524. https://doi.org/10.1016/j.psc.2009.06.002

Bell, D. C., & Bell, L. G. (2018). Accuracy of Retrospective Reports of Family Environment.

  Journal of Child and Family Studies, *27*(4), 1029–1040. https://doi.org/10.1007/s10826-

  017-0948-5

Bernier, A., Tétreault, É., Bélanger, M.-È., & Carrier, J. (2017). Paternal involvement and child

  sleep: A look beyond infancy. *International Journal of Behavioral Development*, *41*(6),

  714–722. https://doi.org/10.1177/0165025416667851

Bodden, D. H. M., Dirksen, C. D., & Bögels, S. M. (2008). Societal Burden of Clinically

  Anxious Youth Referred for Treatment: A Cost-of-illness Study. *Journal of Abnormal*

  Child Psychology, *36*(4), 487–497. https://doi.org/10.1007/s10802-007-9194-4

Bögels, S. M., & Perotti, E. C. (2011). Does Father Know Best? A Formal Model of the Paternal

  Influence on Childhood Social Anxiety. *Journal of Child and Family Studies*, *20*(2), 171–

  181. https://doi.org/10.1007/s10826-010-9441-0

Bögels, S., & Phares, V. (2008). Fathers' role in the etiology, prevention and treatment of child

  anxiety: A review and new model. *Clinical Psychology Review*, *28*(4), 539–558.

  https://doi.org/10.1016/j.cpr.2007.07.011

Bruni, O., Ottaviano, S., Guidetti, V., Romoli, M., Innocenzi, M., Cortesi, F., & Giannotti, F.

  (1996). The Sleep Disturbance Scale for Children (SDSC) Construct ion and validation of

  an instrument to evaluate sleep disturbances in childhood and adolescence. *Journal of Sleep*

  Research, *5*(4), 251–261. https://doi.org/10.1111/j.1365-2869.1996.00251.x

Buckhalt, J. A. (2011). Insufficient Sleep and the Socioeconomic Status Achievement Gap: Sleep

    and Achievement. *Child Development Perspectives*, *5*(1), 59–65.

    https://doi.org/10.1111/j.1750-8606.2010.00151.x

Buckley, T. M., & Schatzberg, A. F. (2005). On the Interactions of the Hypothalamic-Pituitary-

    Adrenal (HPA) Axis and Sleep: Normal HPA Axis Activity and Circadian Rhythm,

    Exemplary Sleep Disorders. *The Journal of Clinical Endocrinology & Metabolism*, *90*(5),

    3106–3114. https://doi.org/10.1210/jc.2004-1056

Bundgaard, A.-K. F., Asmussen, J., Pedersen, N. S., & Bilenberg, N. (2018). Disturbed sleep and

    activity in toddlers with early signs of attention deficit hyperactivity disorder (ADHD).

    Journal of Sleep Research, *27*(5), e12686. https://doi.org/10.1111/jsr.12686

Butler, A., Chapman, J., Forman, E., & Beck, A. (2006). The empirical status of cognitive-

    behavioral therapy: A review of meta-analyses. *Clinical Psychology Review*, *26*(1), 17–31.

    https://doi.org/10.1016/j.cpr.2005.07.003

Caldwell, B. A., & Redeker, N. S. (2015). Maternal Stress and Psychological Status and Sleep in

    Minority Preschool Children. *Public Health Nursing*, *32*(2), 101–111.

    https://doi.org/10.1111/phn.12104

Camhi, S., Morgan, W., Pernisco, N., & Quan, S. (2000). Factors affecting sleep disturbances in

    children and adolescents. *Sleep Medicine*, *1*(2), 117–123. https://doi.org/10.1016/S1389-

    9457(99)00005-2

Campbell-Sills, L., Simmons, A. N., Lovero, K. L., Rochlin, A. A., Paulus, M. P., & Stein, M. B.

    (2011). Functioning of neural systems supporting emotion regulation in anxiety-prone

    individuals. *NeuroImage*, *54*(1), 689–696.

    https://doi.org/10.1016/j.neuroimage.2010.07.041

Chase, R. M., & Pincus, D. B. (2011). Sleep-Related Problems in Children and Adolescents With

    Anxiety Disorders. *Behavioral Sleep Medicine*, *9*(4), 224–236.

    https://doi.org/10.1080/15402002.2011.606768

Chorney, D. B., Detweiler, M. F., Morris, T. L., & Kuhn, B. R. (2007). The Interplay of Sleep

    Disturbance, Anxiety, and Depression in Children. *Journal of Pediatric Psychology*, *33*(4),

    339–348. https://doi.org/10.1093/jpepsy/jsm105

Christiana, J. M., Gilman, S. E., Guardino, M., Mickelson, K., Morselli, P. L., Olfson, M., &

    Kessler, R. C. (2000). Duration between onset and time of obtaining initial treatment

    among people with anxiety and mood disorders: An international survey of members of

    mental health patient advocate groups. *Psychological Medicine*, *30*(3), 693–703.

    https://doi.org/10.1017/S0033291799002093

Cisler, J. M., & Olatunji, B. O. (2012). Emotion Regulation and Anxiety Disorders. *Current*

    Psychiatry Reports, *14*(3), 182–187. https://doi.org/10.1007/s11920-012-0262-2

Clarke, K., Cooper, P., & Creswell, C. (2013). The Parental Overprotection Scale: Associations

    with child and parental anxiety. *Journal of Affective Disorders*, *151*(2), 618–624.

    https://doi.org/10.1016/j.jad.2013.07.007

Compas, B. E., Forehand, R., Keller, G., Champion, J. E., Rakow, A., Reeslund, K. L., McKee,

    L., Fear, J. M., Colletti, C. J. M., Hardcastle, E., Merchant, M. J., Roberts, L., Potts, J.,

    Garai, E., Coffelt, N., Roland, E., Sterba, S. K., & Cole, D. A. (2009). Randomized

    controlled trial of a family cognitive-behavioral preventive intervention for children of

    depressed parents. *Journal of Consulting and Clinical Psychology*, *77*(6), 1007–1020.

    https://doi.org/10.1037/a0016930

Costello, E. J., Egger, H. L., & Angold, A. (2005). The Developmental Epidemiology of Anxiety

    Disorders: Phenomenology, Prevalence, and Comorbidity. *Child and Adolescent*

    Psychiatric Clinics of North America, *14*(4), 631–648.

    https://doi.org/10.1016/j.chc.2005.06.003

Costello, E. J., Pine, D. S., Hammen, C., March, J. S., Plotsky, P. M., Weissman, M. M.,

    Biederman, J., Goldsmith, H. H., Kaufman, J., Lewinsohn, P. M., Hellander, M.,

    Hoagwood, K., Koretz, D. S., Nelson, C. A., & Leckman, J. F. (2002). Development and

    natural history of mood disorders. *Biological Psychiatry*, *52*(6), 529–542.

    https://doi.org/10.1016/S0006-3223(02)01372-0

Craig, L., & Bittman, M. (2008). The incremental time costs of children: An analysis of

    children's impact on adult time use in Australia. *Feminist Economics*, *14*(2), 59–88.

    https://doi.org/10.1080/13545700701880999

Craig, L., & Mullan, K. (2011). How Mothers and Fathers Share Childcare: A Cross-National

    Time-Use Comparison. *American Sociological Review*, *76*(6), 834–861.

    https://doi.org/10.1177/0003122411427673

Deacon, B. J., & Abramowitz, J. S. (2004). Cognitive and behavioral treatments for anxiety

    disorders: A review of meta-analytic findings. *Journal of Clinical Psychology*, *60*(4), 429–

    441. https://doi.org/10.1002/jclp.10255

Duffy, A., Horrocks, J., Doucette, S., Keown-Stoneman, C., McCloskey, S., & Grof, P. (2014).

    The developmental trajectory of bipolar disorder. *British Journal of Psychiatry*, *204*(2),

    122–128. https://doi.org/10.1192/bjp.bp.113.126706

Edwards, S. L., Rapee, R. M., & Kennedy, S. (2010). Prediction of anxiety symptoms in

    preschool-aged children: Examination of maternal and paternal perspectives. *Journal of*

Child Psychology and Psychiatry, *51*(3), 313–321. https://doi.org/10.1111/j.1469-7610.2009.02160.x

Edwards, S. L., Rapee, R. M., & Kennedy, S. J. (2007). *Psychometric properties of a parent-report measure of overprotection of preschool-aged children*.

Egeland B, Weinfield N, Hiester M, Lawrence C, Pierce S, Chippendale K, Powel J (1995). Teaching tasks administration and scoring manual. *Unpublished manual*.

El-Sheikh, M., Buckhalt, J. A., Mize, J., & Acebo, C. (2006). Marital Conflict and Disruption of Children's Sleep. *Child Development*, *77*(1), 31–43. https://doi.org/10.1111/j.1467-8624.2006.00854.x

Emerson, L.-M., Ogielda, C., & Rowse, G. (2019). A systematic review of the role of parents in the development of anxious cognitions in children. *Journal of Anxiety Disorders*, *62*, 15–25. https://doi.org/10.1016/j.janxdis.2018.11.002

Eun, J. D., Paksarian, D., He, J.-P., & Merikangas, K. R. (2018). Parenting style and mental disorders in a nationally representative sample of US adolescents. *Social Psychiatry and Psychiatric Epidemiology*, *53*(1), 11–20. https://doi.org/10.1007/s00127-017-1435-4

Feder, A., Coplan, J. D., Goetz, R. R., Mathew, S. J., Pine, D. S., Dahl, R. E., Ryan, N. D., Greenwald†, S., & Weissman, M. M. (2004). Twenty-four-hour cortisol secretion patterns in prepubertal children with anxiety or depressive disorders. *Biological Psychiatry*, *56*(3), 198–204. https://doi.org/10.1016/j.biopsych.2004.05.005

First, M. B. (2015). Structured Clinical Interview for the *DSM* (SCID). In R. L. Cautin & S. O. Lilienfeld (Eds.), *The Encyclopedia of Clinical Psychology* (pp. 1–6). John Wiley & Sons, Inc. https://doi.org/10.1002/9781118625392.wbecp351

Forbes, E. E., Bertocci, M. A., Gregory, A. M., Ryan, N. D., Axelson, D. A., Birmaher, B., & Dahl, R. E. (2008). Objective Sleep in Pediatric Anxiety Disorders and Major Depressive Disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*, *47*(2), 148–155. https://doi.org/10.1097/chi.0b013e31815cd9bc

Forbes, E. E., Williamson, D. E., Ryan, N. D., Birmaher, B., Axelson, D. A., & Dahl, R. E. (2006). Peri-Sleep-Onset Cortisol Levels in Children and Adolescents with Affective Disorders. *Biological Psychiatry*, *59*(1), 24–30. https://doi.org/10.1016/j.biopsych.2005.06.002

Fostick, L., Silberman, A., Beckman, M., Spivak, B., & Amital, D. (2010). The economic impact of depression: Resistance or severity? *European Neuropsychopharmacology*, *20*(10), 671–675. https://doi.org/10.1016/j.euroneuro.2010.06.001

Francazio, S. K., Fahrenkamp, A. J., D'Auria, A. L., Sato, A. F., & Flessner, C. A. (2015). Parent psychopathology as a mediator of the relationship between anxiety and sleep problems in children. *Families, Systems, & Health*, *33*(2), 146–154. https://doi.org/10.1037/fsh0000119

Garber, J., Weersing, V. R., Hollon, S. D., Porta, G., Clarke, G. N., Dickerson, J. F., Beardslee, W. R., Lynch, F. L., Gladstone, T. G., Shamseddeen, W., & Brent, D. A. (2018). Prevention of Depression in At-Risk Adolescents: Moderators of Long-term Response. *Prevention Science*, *19*(S1), 6–15. https://doi.org/10.1007/s11121-015-0626-z

Ginsburg, G. S., Drake, K. L., Tein, J.-Y., Teetsel, R., & Riddle, M. A. (2015). Preventing Onset of Anxiety Disorders in Offspring of Anxious Parents: A Randomized Controlled Trial of a Family-Based Intervention. *American Journal of Psychiatry*, *172*(12), 1207–1214. https://doi.org/10.1176/appi.ajp.2015.14091178

Goodwin, G. M. (2006). Depression and associated physical diseases and symptoms. *Dialogues in Clinical Neuroscience*, *8*(2), 259–265.

Grant, B. F., Saha, T. D., Ruan, W. J., Goldstein, R. B., Chou, S. P., Jung, J., Zhang, H., Smith, S. M., Pickering, R. P., Huang, B., & Hasin, D. S. (2016). Epidemiology of *DSM-5* Drug Use Disorder: Results From the National Epidemiologic Survey on Alcohol and Related Conditions–III. *JAMA Psychiatry*, *73*(1), 39. https://doi.org/10.1001/jamapsychiatry.2015.2132

Greene, G., Gregory, A. M., Fone, D., & White, J. (2015). Childhood sleeping difficulties and depression in adulthood: The 1970 British Cohort Study. *Journal of Sleep Research*, *24*(1), 19–23. https://doi.org/10.1111/jsr.12200

Gregory, A. M., Caspi, A., Eley, T. C., Moffitt, T. E., O'Connor, T. G., & Poulton, R. (2005). Prospective Longitudinal Associations Between Persistent Sleep Problems in Childhood and Anxiety and Depression Disorders in Adulthood. *Journal of Abnormal Child Psychology*, *33*(2), 157–163. https://doi.org/10.1007/s10802-005-1824-0

Gregory, A. M., & O'Connor, T. G. (2002). Sleep Problems in Childhood: A Longitudinal Study of Developmental Change and Association With Behavioral Problems. *Journal of the American Academy of Child & Adolescent Psychiatry*, *41*(8), 964–971. https://doi.org/10.1097/00004583-200208000-00015

Gregory, A. M., & Sadeh, A. (2016). Annual Research Review: Sleep problems in childhood psychiatric disorders - a review of the latest science. *Journal of Child Psychology and Psychiatry*, *57*(3), 296–317. https://doi.org/10.1111/jcpp.12469

Hallfors, D. D., Waller, M. W., Ford, C. A., Halpern, C. T., Brodish, P. H., & Iritani, B. (2004). Adolescent depression and suicide risk. *American Journal of Preventive Medicine*, *27*(3), 224–231. https://doi.org/10.1016/j.amepre.2004.06.001

Hamilton, J. L., Ladouceur, C. D., Silk, J. S., Franzen, P. L., & Bylsma, L. M. (2019). Higher Rates of Sleep Disturbance Among Offspring of Parents With Recurrent Depression Compared to Offspring of Nondepressed Parents. *Journal of Pediatric Psychology*, jsz079. https://doi.org/10.1093/jpepsy/jsz079

Hatch, M., & Posel, D. (2018). Who cares for children? A quantitative study of childcare in South Africa. *Development Southern Africa*, *35*(2), 267–282. https://doi.org/10.1080/0376835X.2018.1452716

Hoffman, S. G., & Smits, J. A. J. (2008). Cognitive-Behavioral Therapy for Adult Anxiety Disorders: A Meta-Analysis of Randomized Placebo-Controlled Trials. *The Journal of Clinical Psychiatry*, *69*(4), 621–632. https://doi.org/10.4088/JCP.v69n0415

Hudson, J. L., Doyle, A. M., & Gar, N. (2009). Child and Maternal Influence on Parenting Behavior in Clinically Anxious Children. *Journal of Clinical Child & Adolescent Psychology*, *38*(2), 256–262. https://doi.org/10.1080/15374410802698438

Hudson, J. L., & Rapee, R. M. (2004). From Anxious Temperament to Disorder: An Etiological Model. In R. G. Heimberg, C. L. Turk, & D. S. Mennin (Eds.), Generalized anxiety disorder: Advances in research and practice. (pp. 51–74). Guilford Press

Hughes, E. K., & Gullone, E. (2010). Reciprocal relationships between parent and adolescent internalizing symptoms. *Journal of Family Psychology*, *24*(2), 115–124. https://doi.org/10.1037/a0018788

Hysing, M., Sivertsen, B., Garthus-Niegel, S., & Eberhard-Gran, M. (2016). Pediatric sleep

  problems and social-emotional problems. A population-based study. *Infant Behavior and*

  Development, *42*, 111–118. https://doi.org/10.1016/j.infbeh.2015.12.005

Jansen, P. W., Saridjan, N. S., Hofman, A., Jaddoe, V. W. V., Verhulst, F. C., & Tiemeier, H.

  (2011). Does Disturbed Sleeping Precede Symptoms of Anxiety or Depression in

  Toddlers? The Generation R Study: *Psychosomatic Medicine*, *73*(3), 242–249.

  https://doi.org/10.1097/PSY.0b013e31820a4abb

Jaycox, L. H., Stein, B. D., Paddock, S., Miles, J. N. V., Chandra, A., Meredith, L. S., Tanielian,

  T., Hickey, S., & Burnam, M. A. (2009). Impact of Teen Depression on Academic, Social,

  and Physical Functioning. *PEDIATRICS*, *124*(4), e596–e605.

  https://doi.org/10.1542/peds.2008-3348

Jiang, Y., Capriotti, M., Beaulieu, A., Rooney, M., McBurnett, K., & Pfiffner, L. J. (2019).

  Contribution of the Behavioral Observation of Students in Schools to ADHD Assessment.

  School Mental Health, *11*(3), 464–475. https://doi.org/10.1007/s12310-019-09313-5

Kahn, M., Ronen, A., Apter, A., & Sadeh, A. (2017). Cognitive–behavioral versus non-directive

  therapy for preschoolers with severe nighttime fears and sleep-related problems. *Sleep*

  Medicine, *32*, 40–47. https://doi.org/10.1016/j.sleep.2016.12.011

Katon, W. J. (2003). Clinical and health services relationships between major depression,

  depressive symptoms, and general medical illness. *Biological Psychiatry*, *54*(3), 216–226.

  https://doi.org/10.1016/S0006-3223(03)00273-7

Katzelnick, D. J., Kobak, K. A., DeLeire, T., Henk, H. J., Greist, J. H., Davidson, J. R. T.,

  Schneier, F. R., Stein, M. B., & Helstad, C. P. (2001). Impact of Generalized Social

Anxiety Disorder in Managed Care. *American Journal of Psychiatry*, *158*(12), 1999–2007. https://doi.org/10.1176/appi.ajp.158.12.1999

Kelly, R. J., & El-Sheikh, M. (2014). Reciprocal relations between children's sleep and their adjustment over time. *Developmental Psychology*, *50*(4), 1137–1147. https://doi.org/10.1037/a0034501

Kennedy, S. J., Rapee, R. M., & Edwards, S. L. (2009). A Selective Intervention Program for Inhibited Preschool-Aged Children of Parents With an Anxiety Disorder: Effects on Current Anxiety Disorders and Temperament. *Journal of the American Academy of Child & Adolescent Psychiatry*, *48*(6), 602–609. https://doi.org/10.1097/CHI.0b013e31819f6fa9

Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime Prevalence and Age-of-Onset Distributions of DSM-IV Disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, *62*(6), 593. https://doi.org/10.1001/archpsyc.62.6.593

Kessler, R. C., Petukhova, M., Sampson, N. A., Zaslavsky, A. M., & Wittchen, H.-U. (2012). Twelve-month and lifetime prevalence and lifetime morbid risk of anxiety and mood disorders in the United States: Anxiety and mood disorders in the United States. *International Journal of Methods in Psychiatric Research*, *21*(3), 169–184. https://doi.org/10.1002/mpr.1359

Kim-Cohen, J., Caspi, A., Moffitt, T. E., Harrington, H., Milne, B. J., & Poulton, R. (2003). Prior Juvenile Diagnoses in Adults With Mental Disorder: Developmental Follow-Back of a Prospective-Longitudinal Cohort. *Archives of General Psychiatry*, *60*(7), 709. https://doi.org/10.1001/archpsyc.60.7.709

Konnopka, A., & König, H. (2020). Economic Burden of Anxiety Disorders: A Systematic

    Review and Meta-Analysis. *PharmacoEconomics*, *38*(1), 25–37.

    https://doi.org/10.1007/s40273-019-00849-7

Krystal, A. D. (2012). Psychiatric Disorders and Sleep. *Neurologic Clinics*, *30*(4), 1389–1413.

    https://doi.org/10.1016/j.ncl.2012.08.018

La Greca, A. M., & Lopez, N. (1998). Social Anxiety Among Adolescents: Linkages with Peer

    Realtions and Friendships. *Journal of Abnormal Child Psychology*, *26*(2), 83–94.

    https://doi.org/10.1023/A:1022684520514

Lewis, K. J. S., Mars, B., Lewis, G., Rice, F., Sellers, R., Thapar, A. K., Craddock, N.,

    Collishaw, S., & Thapar, A. (2012). Do parents know best? Parent-reported vs. child-

    reported depression symptoms as predictors of future child mood disorder in a high-risk

    sample. *Journal of Affective Disorders*, *141*(2–3), 233–236.

    https://doi.org/10.1016/j.jad.2012.03.008

Lieb, R., Isensee, B., Höfler, M., Pfister, H., & Wittchen, H.-U. (2002). Parental Major

    Depression and the Risk of Depression and Other Mental Disorders in Offspring: A

    Prospective-Longitudinal Community Study. *Archives of General Psychiatry*, *59*(4), 365.

    https://doi.org/10.1001/archpsyc.59.4.365

Lofthouse, N., Gilchrist, R., & Splaingard, M. (2009). Mood-related Sleep Problems in Children

    and Adolescents. *Child and Adolescent Psychiatric Clinics of North America*, *18*(4), 893–

    916. https://doi.org/10.1016/j.chc.2009.04.007

Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the Depression Anxiety Stress Scales*.

    Sydney: Psychology Foundation.

Mann, J., Henley, W., O'Mahen, H., & Ford, T. (2013). The reliability and validity of the

 Everyday Feelings Questionnaire in a clinical population. *Journal of Affective Disorders*,

 148(2–3), 406–410. https://doi.org/10.1016/j.jad.2012.03.045

Maoz, H., Goldstein, T., Goldstein, B. I., Axelson, D. A., Fan, J., Hickey, M. B., Monk, K.,

 Sakolsky, D., Diler, R. S., Brent, D., Kupfer, D. J., & Birmaher, B. (2014). The Effects of

 Parental Mood on Reports of Their Children's Psychopathology. *Journal of the American*

 Academy of Child & Adolescent Psychiatry, *53*(10), 1111-1122.e5.

 https://doi.org/10.1016/j.jaac.2014.07.005

McLeod, B. D., Wood, J. J., & Weisz, J. R. (2007). Examining the association between parenting

 and childhood anxiety: A meta-analysis. *Clinical Psychology Review*, *27*(2), 155–172.

 https://doi.org/10.1016/j.cpr.2006.09.002

Meltzer, L. J., & Mindell, J. A. (2014). Systematic Review and Meta-Analysis of Behavioral

 Interventions for Pediatric Insomnia. *Journal of Pediatric Psychology*, *39*(8), 932–948.

 https://doi.org/10.1093/jpepsy/jsu041

Merikangas, K. R., Zhang, H., Avenevoli, S., Acharyya, S., Neuenschwander, M., & Angst, J.

 (2003). Longitudinal Trajectories of Depression and Anxiety in a Prospective Community

 Study: The Zurich Cohort Study. *Archives of General Psychiatry*, *60*(10), 993.

 https://doi.org/10.1001/archpsyc.60.9.993

Mian, N. D., Wainwright, L., Briggs-Gowan, M. J., & Carter, A. S. (2011). An Ecological Risk

 Model for Early Childhood Anxiety: The Importance of Early Child Symptoms and

 Temperament. *Journal of Abnormal Child Psychology*, *39*(4), 501–512.

 https://doi.org/10.1007/s10802-010-9476-0

Mindell, J. A., Leichman, E. S., DuMond, C., & Sadeh, A. (2017). Sleep and Social-Emotional

Development in Infants and Toddlers. *Journal of Clinical Child & Adolescent Psychology*,

46(2), 236–246. https://doi.org/10.1080/15374416.2016.1188701

Mindell, J. A., Owens, J. A., & Carskadon, M. A. (1999). Developmental Features of Sleep.

Child and Adolescent Psychiatric Clinics of North America, *8*(4), 695–725.

https://doi.org/10.1016/S1056-4993(18)30149-4

Moitra, E., Beard, C., Weisberg, R. B., & Keller, M. B. (2011). Occupational impairment and

Social Anxiety Disorder in a sample of primary care patients. *Journal of Affective

Disorders*, *130*(1–2), 209–212. https://doi.org/10.1016/j.jad.2010.09.024

Möller, E. L., Nikolić, M., Majdandžić, M., & Bögels, S. M. (2016). Associations between

maternal and paternal parenting behaviors, anxiety and its precursors in early childhood: A

meta-analysis. *Clinical Psychology Review*, *45*, 17–33.

https://doi.org/10.1016/j.cpr.2016.03.002

Moore, K. M., Gordon, J. E., & McLean, L. A. (2012). Child Sleep Problems and Parental

Depression: Testing a Risk and Resistance Model. *Journal of Child and Family Studies*,

21(6), 982–991. https://doi.org/10.1007/s10826-011-9558-9

Muñoz, R. F., Cuijpers, P., Smit, F., Barrera, A. Z., & Leykin, Y. (2010). Prevention of Major

Depression. *Annual Review of Clinical Psychology*, *6*(1), 181–212.

https://doi.org/10.1146/annurev-clinpsy-033109-132040

Muzur, A., Pace-Schott, E. F., & Hobson, J. A. (2002). The prefrontal cortex in sleep. *Trends in

Cognitive Sciences*, *6*(11), 475–481. https://doi.org/10.1016/S1364-6613(02)01992-7

Najman, J. M., Williams, G. M., Nikles, J., Spence, S., Bor, W., O'Callaghan, M., Le

BROCQUE, R., & Andersen, M. J. (2000). Mothers' Mental Illness and Child Behavior

Problems: Cause-Effect Association or Observation Bias? *Journal of the American Academy of Child & Adolescent Psychiatry*, *39*(5), 592–602. https://doi.org/10.1097/00004583-200005000-00013

National Institute for Health and Care Excellence. (2011). Attention deficit hyperactivity disorder (NICE Quality Standard No. 8). Retrieved from https://www.nice.org.uk/guidance/qs9

National Institute for Health and Care Excellence. (2014). Attention deficit hyperactivity disorder (NICE Quality Standard No. 53). Retrieved from https://www.nice.org.uk/guidance/qs53

Nurnberger, J. I. (2011). A High-Risk Study of Bipolar Disorder: Childhood Clinical Phenotypes as Precursors of Major Mood Disorders. *Archives of General Psychiatry*, *68*(10), 1012. https://doi.org/10.1001/archgenpsychiatry.2011.126

Olatunji, B. O., Cisler, J. M., & Tolin, D. F. (2007). Quality of life in the anxiety disorders: A meta-analytic review. *Clinical Psychology Review*, *27*(5), 572–581. https://doi.org/10.1016/j.cpr.2007.01.015

Owens, L. J., France, K. G., & Wiggs, L. (1999). REVIEW ARTICLE: Behavioural and cognitive-behavioural interventions for sleep disorders in infants and children: A review. *Sleep Medicine Reviews*, *3*(4), 281–302. https://doi.org/10.1053/smrv.1999.0082

Owens, J. A., Spirito, A., & McGuinn, M. (2000). The Children's Sleep Habits Questionnaire (CSHQ): Psychometric Properties of A Survey Instrument for School-Aged Children. *Sleep*, *23*(8), 1–9. https://doi.org/10.1093/sleep/23.8.1d

Pavlova, B., & Uher, R. (2020). Assessment of Psychopathology: Is Asking Questions Good Enough? *JAMA Psychiatry*. https://doi.org/10.1001/jamapsychiatry.2020.0108

Paykel, E. S. (2008). Partial remission, residual symptoms, and relapse in depression. *Dialogues in Clinical Neuroscience*, *10*(4), 431–437.

Platt, R., Williams, S. R., & Ginsburg, G. S. (2016). Stressful Life Events and Child Anxiety: Examining Parent and Child Mediators. *Child Psychiatry & Human Development*, *47*(1), 23–34. https://doi.org/10.1007/s10578-015-0540-4

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of Method Bias in Social Science Research and Recommendations on How to Control It. *Annual Review of Psychology*, *63*(1), 539–569. https://doi.org/10.1146/annurev-psych-120710-100452

Rafihi-Ferreira, R. E., Silvares, E. F. M., Asbahr, F. R., & Ollendick, T. H. (2018). Brief treatment for nighttime fears and co-sleeping problems: A randomized clinical trial. *Journal of Anxiety Disorders*, *58*, 51–60. https://doi.org/10.1016/j.janxdis.2018.06.008

Rapee, R. (1997). Potential role of childrearing practices in the development of anxiety and depression. *Clinical Psychology Review*, *17*(1), 47–67. https://doi.org/10.1016/S0272-7358(96)00040-2

Rapee, R. M., Schniering, C. A., & Hudson, J. L. (2009). Anxiety Disorders During Childhood and Adolescence: Origins and Treatment. *Annual Review of Clinical Psychology*, *5*(1), 311–341. https://doi.org/10.1146/annurev.clinpsy.032408.153628

Ray, R. D., & Zald, D. H. (2012). Anatomical insights into the interaction of emotion and

    cognition in the prefrontal cortex. *Neuroscience & Biobehavioral Reviews*, *36*(1), 479–501.

    https://doi.org/10.1016/j.neubiorev.2011.08.005

Richards, D., & Richardson, T. (2012). Computer-based psychological treatments for depression:

    A systematic review and meta-analysis. *Clinical Psychology Review*, *32*(4), 329–342.

    https://doi.org/10.1016/j.cpr.2012.02.004

Rudd, B. N., Holtzworth-Munroe, A., D'Onofrio, B. M., & Waldron, M. (2019). Parental

    relationship dissolution and child development: The role of child sleep quality. *Sleep*,

    42(2). https://doi.org/10.1093/sleep/zsy224

Saris, I. M. J., Aghajani, M., van der Werff, S. J. A., van der Wee, N. J. A., & Penninx, B. W. J.

    H. (2017). Social functioning in patients with depressive and anxiety disorders. *Acta*

    Psychiatrica Scandinavica, *136*(4), 352–361. https://doi.org/10.1111/acps.12774

Schneider, S., Houweling, J. E. G., Gommlich-Schneider, S., Klein, C., Nündel, B., & Wolke, D.

    (2009). Effect of maternal panic disorder on mother–child interaction and relation to child

    anxiety and child self-efficacy. *Archives of Women's Mental Health*, *12*(4), 251–259.

    https://doi.org/10.1007/s00737-009-0072-7

Schoppe-Sullivan, S. J., Kotila, L. E., Jia, R., Lang, S. N., & Bower, D. J. (2013). Comparisons

    of levels and predictors of mothers' and fathers' engagement with their preschool-aged

    children. *Early Child Development and Care*, *183*(3–4), 498–514.

    https://doi.org/10.1080/03004430.2012.711596

Shanahan, L., Copeland, W. E., Angold, A., Bondy, C. L., & Costello, E. J. (2014). Sleep

    Problems Predict and Are Predicted by Generalized Anxiety/Depression and Oppositional

Defiant Disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*, *53*(5), 550–558. https://doi.org/10.1016/j.jaac.2013.12.029

Shibata, M., Ninomiya, T., Anno, K., Kawata, H., Iwaki, R., Sawamoto, R., Kubo, C., Kiyohara, Y., Sudo, N., & Hosoi, M. (2016). Perceived inadequate care and excessive overprotection during childhood are associated with greater risk of sleep disturbance in adulthood: The Hisayama Study. *BMC Psychiatry*, *16*(1), 215. https://doi.org/10.1186/s12888-016-0926-2

Simon, G. E. (2003). Social and economic burden of mood disorders. *Biological Psychiatry*, *54*(3), 208–215. https://doi.org/10.1016/S0006-3223(03)00420-7

Sivertsen, B., Harvey, A. G., Reichborn-Kjennerud, T., Torgersen, L., Ystrom, E., & Hysing, M. (2015). Later Emotional and Behavioral Problems Associated With Sleep Problems in Toddlers: A Longitudinal Study. *JAMA Pediatrics*, *169*(6), 575. https://doi.org/10.1001/jamapediatrics.2015.0187

Sotres-Bayon, F., Cain, C. K., & LeDoux, J. E. (2006). Brain Mechanisms of Fear Extinction: Historical Perspectives on the Contribution of Prefrontal Cortex. *Biological Psychiatry*, *60*(4), 329–336. https://doi.org/10.1016/j.biopsych.2005.10.012

Staton, S. L., Smith, S. S., & Thorpe, K. J. (2015). "Do I really need a nap?": The role of sleep science in informing sleep practices in early childhood education and care settings. *Translational Issues in Psychological Science*, *1*(1), 32–44. https://doi.org/10.1037/tps0000011

Steinsbekk, S., & Wichstrøm, L. (2015). Stability of Sleep Disorders from Preschool to First Grade and Their Bidirectional Relationship with Psychiatric Symptoms: *Journal of Developmental & Behavioral Pediatrics*, *36*(4), 243–251. https://doi.org/10.1097/DBP.0000000000000134

Sutton, E. L. (2014). Psychiatric Disorders and Sleep Issues. *Medical Clinics of North America*, *98*(5), 1123–1143. https://doi.org/10.1016/j.mcna.2014.06.009

Suveg, C., Hudson, J. L., Brewer, G., Flannery-Schroeder, E., Gosch, E., & Kendall, P. C. (2009). Cognitive-behavioral therapy for anxiety-disordered youth: Secondary outcomes from a randomized clinical trial evaluating child and family modalities. *Journal of Anxiety Disorders*, *23*(3), 341–349. https://doi.org/10.1016/j.janxdis.2009.01.003

Thompson, A., Issakidis, C., & Hunt, C. (2008). Delay to Seek Treatment for Anxiety and Mood Disorders in an Australian Clinical Sample. *Behaviour Change*, *25*(2), 71–84. https://doi.org/10.1375/bech.25.2.71

Tikotzky, L., & Sadeh, A. (2010). The role of cognitive–behavioral therapy in behavioral childhood insomnia. *Sleep Medicine*, *11*(7), 686–691. https://doi.org/10.1016/j.sleep.2009.11.017

Troxel, W. M., Lee, L., Hall, M., & Matthews, K. A. (2014). Single-parent family structure and sleep problems in black and white adolescents. *Sleep Medicine*, *15*(2), 255–261. https://doi.org/10.1016/j.sleep.2013.10.012

Tyler, D., Donovan, C. L., Scupham, S., Shiels, A. L., & Weaver, S. A. (2019). Young Children's Sleep Problems: The Impact of Parental Distress and Parenting Style. *Journal of Child and Family Studies*, *28*(8), 2098–2106. https://doi.org/10.1007/s10826-019-01429-1

Uher, R., & Goodman, R. (2010). The Everyday Feeling Questionnaire: The structure and validation of a measure of general psychological well-being and distress. *Social Psychiatry and Psychiatric Epidemiology*, *45*(3), 413–423. https://doi.org/10.1007/s00127-009-0074-9

Van Ameringen, M., Mancini, C., & Farvolden, P. (2003). The impact of anxiety disorders on

    educational achievement. *Journal of Anxiety Disorders*, *17*(5), 561–571.

    https://doi.org/10.1016/S0887-6185(02)00228-1

van der Bruggen, C. O., Stams, G. J. J. M., & Bögels, S. M. (2008). Research Review: The

    relation between child and parent anxiety and parental control: a meta-analytic review.

    Journal of Child Psychology and Psychiatry, *49*(12), 1257–1269.

    https://doi.org/10.1111/j.1469-7610.2008.01898.x

van Diermen, L., van den Ameele, S., Kamperman, A. M., Sabbe, B. C. G., Vermeulen, T.,

    Schrijvers, D., & Birkenhäger, T. K. (2018). Prediction of electroconvulsive therapy

    response and remission in major depression: Meta-analysis. *The British Journal of*

    Psychiatry, *212*(2), 71–80. https://doi.org/10.1192/bjp.2017.28

Walkup, J. T., Albano, A. M., Piacentini, J., Birmaher, B., Compton, S. N., Sherrill, J. T.,

    Ginsburg, G. S., Rynn, M. A., McCracken, J., Waslick, B., Iyengar, S., March, J. S., &

    Kendall, P. C. (2008). Cognitive Behavioral Therapy, Sertraline, or a Combination in

    Childhood Anxiety. *New England Journal of Medicine*, *359*(26), 2753–2766.

    https://doi.org/10.1056/NEJMoa0804633

Wood, J. J., McLeod, B. D., Sigman, M., Hwang, W.-C., & Chu, B. C. (2003). Parenting and

    childhood anxiety: Theory, empirical findings, and future directions. *Journal of Child*

    Psychology and Psychiatry, *44*(1), 134–151. https://doi.org/10.1111/1469-7610.00106

Wood, J. J., Piacentini, J. C., Southam-Gerow, M., Chu, B. C., & Sigman, M. (2006). Family

    Cognitive Behavioral Therapy for Child Anxiety Disorders. *Journal of the American*

    Academy of Child & Adolescent Psychiatry, *45*(3), 314–321.

    https://doi.org/10.1097/01.chi.0000196425.88341.b0

Woodward, L. J., & Fergusson, D. M. (2001). Life Course Outcomes of Young People With

    Anxiety Disorders in Adolescence. *Journal of the American Academy of Child &*

    Adolescent Psychiatry, *40*(9), 1086–1093. https://doi.org/10.1097/00004583-200109000-

    00018

Zaidman-Zait, A., & Hall, W. A. (2015). Children's night waking among toddlers: Relationships

    with mothers' and fathers' parenting approaches and children's behavioural difficulties.

    Journal of Advanced Nursing, *71*(7), 1639–1649. https://doi.org/10.1111/jan.12636

Zhang, Z., Sousa-Sá, E., Pereira, J. R., Okely, A. D., Feng, X., & Santos, R. (2020). Correlates of

    Sleep Duration in Early Childhood: A Systematic Review. *Behavioral Sleep Medicine*, 1–

    19. https://doi.org/10.1080/15402002.2020.1772264