


Regular Article

Overparenting and offspring depression, anxiety, and internalizing symptoms: A meta-analysis

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Abstract

Overparenting has been considered to contribute to offspring internalizing mental disorders from theoretical perspectives, which some empirical evidence has supported. However, existing findings are inconsistent. To facilitate the understanding of the association between overparenting and depression, anxiety, and internalizing symptoms, an examination of effect sizes is required. By employing the PRISMA method, a meta-analysis was conducted. Fifty-two articles were identified, with 38 studies examining depression, 30 studies examining anxiety, and 21 studies examining internalizing symptoms. The results show that overparenting is associated with offspring depression (mean age 19.94 years) ($k = 133$, $r = .15$, $p < .001$), anxiety (mean age 19.57 years) ($k = 101$, $r = .14$, $p < .001$), and internalizing symptoms (mean age 19.76 years) ($k = 58$, $r = .19$, $p < .001$). Moderator analyses show that the effect sizes are largely equal across SES groups, cultures, the age of offspring, child gender, and study design but may vary depending on the parental gender and report informants. Implications for interventions and future directions are discussed.

Keywords: Anxiety; Depression; Internalizing symptoms; Meta-analysis; Overparenting

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Introduction

Internalizing problems characterized by a basic disturbance in introjective moods and emotions are worldwide psychological problems, including depression, anxiety, social withdrawal, and somatic or physical problems (e.g., fear, worry, concerns, and headaches) (Zahn-Waxler et al., 2000). The global lifetime prevalence of depression was estimated to be 10.8% (Lim et al., 2018), and approximately 14.6% to 33.7% of the population might be affected by an anxiety disorder during their lifetime (Bandelow & Michaelis, 2022). Although depression and anxiety disorders are moderately to highly heritable, the etiology of depression and anxiety also results from environmental risk factors, such as parenting (Dunn et al., 2011; Franić et al., 2010). Meta-analytic studies have demonstrated that parenting (e.g., parental rejection and control) plays a significant role in children's and adolescents' depression, anxiety, and internalizing symptoms (McLeod et al., 2007; Yap & Jorm, 2015; Yap et al., 2014). However, less is known about the influences of overparenting on offspring's mental health problems.¹ Despite a growing concern about overparenting's adverse effects on offspring internalizing problems (e.g., Cui et al., 2019; Darlow et al., 2017; LeMoyné & Buchanan, 2011; Schiffrin et al., 2019a), contradictory findings have been reported that

overparenting may not be associated with depression or anxiety (Howard et al., 2022; Trbovich et al., 2021). To better understand the relationship between overparenting and offspring outcomes, the current research meta-analyzed studies on overparenting and its association with offspring depression, anxiety, and internalizing symptoms, which could provide practical implications for parental education programs and clinical implications for mental health intervention programs.

Overparenting and offspring internalizing mental disorders

Overparenting (also called helicopter parenting) has received increasing attention in the popular press and academic research in the past few decades. Cline and Fay (1990) first developed the concept of helicopter parenting to describe parents hovering around and ready to resolve problems for their offspring. Researchers contend that helicopter parenting is not a new parenting dimension but a unique parenting pattern composed of overinvolved and restrictive parenting behaviors that discourage independence or autonomy (LeMoyné & Buchanan, 2011; Schiffrin et al., 2014). Even though researchers agree that helicopter parenting and overparenting can be used interchangeably (Rousseau & Scharf, 2015; Segrin et al., 2022; Trbovich et al., 2021), overparenting has been considered the term that best represents a type of parenting style that goes beyond what most parents would do and is intentional (Garst & Gagnon, 2015). Segrin et al. (2012) defined overparenting as developmentally inappropriate parenting characterized by overinvolvement in offspring's lives and decision-making, driven by the parents'

¹For clarity, "offspring" refers to a person's son or daughter of any age, including children, adolescents, and adults. Particularly, the term "child(ren)" would only be referred to the offspring in childhood, extending from ages 1–2 to 12–13 in the current study.

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desires to ensure the offspring's success and protect them from challenges and obstacles. From this definition, the term "overparenting" not only captures the overinvolvement and excessive control but also highlights parents' good intentions.

Despite the benevolent intentions behind overparenting behaviors, the *over* part of overparenting (e.g., excessive levels of involvement and control) might adversely affect the offspring's well-being (Locke et al., 2016; Segrin et al., 2015). Researchers have provided a compelling account of the effect of overparenting on offspring's ill-being based on self-determination theory (SDT) (Ryan & Deci, 2000; Schiffrin et al., 2014). According to the SDT, there are three basic psychological needs: autonomy (the need to self-regulate an individual's experiences and actions), competence (the need to feel effectance and mastery), and relatedness (the need to feel socially connected). The basic needs framework emphasizes that people must satisfy all three needs to psychologically thrive. The excessive problem-solving for offspring and the intrusive quality of overparenting may threaten all three basic needs (Segrin et al., 2013), which has been supported by empirical evidence showing that basic psychological needs frustration may be a potential mechanism that links overparenting and emerging adults' psychological challenges (Hong, 2021; Segrin et al., 2022).

The involvement aspect of overparenting might make the offspring feel relationally connected and have protective effects, especially when the offspring faces challenges. Indeed, overparenting has been shown to be positively associated with parent-offspring relationships (Padilla-Walker & Nelson, 2012), psychological adjustment and life satisfaction (Fingerman et al., 2012), and a sense of competence among emerging adults (Shoup et al., 2009). Nevertheless, SDT has suggested that balancing the three basic psychological needs satisfaction is also vital to well-being (Sheldon & Niemiec, 2006). Overparenting may cause variability or imbalance in the satisfaction of the basic three needs. For instance, the offspring may relinquish satisfaction of autonomy in order to acquire acceptance from a controlling parent. However, there will be negative psychological consequences for the offspring's well-being, as the three basic needs are highly intercorrelated, and any frustration will cause functional costs (Ryan & Deci, 2000). In short, overparenting has been suggested to be problematic and may elicit more depression, anxiety, and internalizing symptoms in offspring from the SDT perspective.

In addition to the parent effect, offspring mental health problems are also likely to affect overparenting behaviors. There has been an increased interest in the interplay or bidirectionality between parenting behaviors and offspring development (Pinquart, 2017). For instance, Bell's model of bidirectionality proposed that parents could increase control or grant more autonomy as a response to offspring's behaviors (Bell, 1977). Furthermore, parents of offspring with mental disorders may experience more pressure and have increased anxiety (Liu et al., 2007), which could indirectly impact overparenting behaviors (Segrin et al., 2013). Jiao (2022) has demonstrated that emerging adult offspring's mental distress could prospectively predict overparenting, highlighting the associations between overparenting and offspring mental disorders that could be bidirectional.

Potential moderators of the association between overparenting and offspring outcomes

Although overparenting may be associated with more mental health issues in offspring from a theoretical perspective, individual differences in parents and offspring might help explain why the

findings of the association between overparenting and offspring mental disorders are not consistent, which could provide insights for psychotherapy and improve long-term treatment effects for children, adolescents, or emerging adults from different backgrounds. A number of potential important moderators are discussed below.

Offspring age

Overparenting has become common across different ages of offspring (Segrin et al., 2012). It also has been highlighted that parental behaviors associated with internalizing problems need to be considered within specific phases of offspring development (Yap et al., 2014). However, studies regarding the negative effects of overparenting mainly focused on emerging adulthood (Perez et al., 2020; Schiffrin et al., 2014), and few studies about overparenting were conducted on children or adolescents (Leung, 2020). Therefore, whether the offspring age may moderate the associations between overparenting and offspring mental disorders remains an open question. Given that the need for autonomy becomes increasingly salient while adolescents age into emerging adulthood and transition from a parent-offspring relationship to an adult-adult relationship (Love, 2016), it is hypothesized that the magnitude of association between overparenting and depression, anxiety, and internalizing symptoms would increase with age.

Parental and offspring gender

First, parental gender might moderate the associations between overparenting and offspring outcomes. Previous studies have shown that maternal parenting may have a greater impact on the offspring's adjustment than paternal parenting, as mothers are often the main caregiver (Nelson et al., 2011; Patock-Peckham & Morgan-Lopez, 2009). Studies also have found that mothers tend to have higher levels of overparenting than fathers (Fingerman et al., 2012; Scharf et al., 2017). However, whether maternal overparenting and paternal overparenting have different effects on offspring mental health is unclear. For instance, overparenting fathers have been found to have adult offspring with worse outcomes in areas such as college adjustment, school burnout, interpersonal sensitivity, and mindset compared to overparenting mothers (Klein & Pierce, 2009; Love et al., 2020; Rousseau & Scharf, 2015; Schiffrin et al., 2019b). Nevertheless, some studies found that both maternal and paternal overparenting were positively associated with depression symptoms among emerging adults (Cui et al., 2019; Schiffrin et al., 2019a). Alternatively, other studies suggested that paternal overparenting might be protective to some extent, which was associated with better life satisfaction and less depression (Leung, 2020; Zienty & Nordling, 2018). Therefore, exploring parental gender as a moderator may clarify the direction and strength of the associations between overparenting and offspring depression, anxiety, and internalizing symptoms.

Second, offspring gender might also be a moderator. Although female offspring are thought to be more sensitive to relational stimuli (such as parenting behaviors) based on gender role expectations (Bem, 1974), the empirical evidence regarding this suggestion is mixed. Although some studies suggested that offspring sex may not directly affect overparenting (Burke et al., 2018; Gagnon & Garst, 2019), Rousseau and Scharf (2015) found that mothers' overparenting was associated with positive outcomes among young male adults. Furthermore, Kouros et al. (2017) found that higher levels of overparenting were related to lower well-being

among female college students, suggesting that overparenting may be a stronger predictor of depression, anxiety, and internalizing symptoms for females as compared to males. Taken together, the negative outcomes of overparenting appear to skew towards female offspring.

Furthermore, given that mother–son, mother–daughter, father–son, and father–daughter dyads have been thought to represent distinct relationships (Russell & Saebel, 1997), it is possible that the magnitude of the associations between overparenting and offspring outcomes might vary depending on different parent–offspring dyads. Alternatively, based on gender congruence theory (Ruble et al., 2006), parents may have greater influences on same-gender offspring. If so, the effect sizes may be greater in same-gender parent–offspring dyads. Overall, exploring the interaction effects between parental and offspring gender on the associations between overparenting and offspring outcomes is necessary.

Culture and race

Parenting may differ among cultural and racial groups (Bornstein, 2012). Previous studies that examined the effects of overparenting on offspring in different countries also yield mixed evidence. For instance, Wang et al. (2021) suggested that overparenting may be more common and destructive to Chinese college students' mental health because parents in the collectivistic culture tend to have higher academic expectations and excessive attention to their offspring, leading to more emotional and social problems in offspring. In contrast, a cross-cultural study showed that overparenting was associated with basic needs frustration and lower psychological well-being for both American and Chinese students (Hong, 2021). Relatedly, Mousavi et al. (2016) suggested that Caucasian adolescents may be more negatively affected by parenting that limits autonomy than adolescents from other racial backgrounds, whereas Cook (2020) did not find racial differences in the association of overparenting with emerging adults' adjustment. Given these findings, it is important to explore whether culture and race may moderate the associations between overparenting and depression, anxiety, and internalizing symptoms.

Socioeconomic status

Socioeconomic status (SES) may moderate the link between overparenting and offspring mental problems. For example, parenting within a low SES family environment has been shown to be related to lower levels of support (Repetti et al., 2002) and increased risks of depression in offspring (Lemstra et al., 2008). In contrast, Romm et al. (2020) found that parental controlling behaviors may predict more offspring's risk behaviors within high SES families because of parental pressure for achievement. Although it remains to be answered whether the relation between overparenting and internalizing problems would be stronger in a low SES family or a high SES family, this study will add to the literature by examining whether the magnitude of the association between overparenting and depression, anxiety, and internalizing symptoms may vary by SES.

Methodological moderators

The informant might be an important methodological moderator when assessing overparenting behaviors and offspring outcomes. Most studies employed either offspring-report measures or parent-report measures. Considering that different informants may have

different views regarding parenting behaviors (Lanz et al., 2001) and a meta-analysis has shown that parents perceived parenting more positively than their offspring (Hou et al., 2019), report informants might affect the association between overparenting and offspring outcome. Another important methodological moderator could be study design, including cross-sectional and longitudinal designs, as previous meta-analyses have shown that effect sizes tend to be slightly larger for cross-sectional studies than for longitudinal studies (Li et al., 2019). Additionally, longitudinal studies include designs that overparenting was measured first and offspring outcomes were measured later as well as designs that offspring outcomes were measured first and overparenting was measured later. By including the two types of longitudinal study designs, we can examine not only the influence of overparenting on offspring mental disorders but also the influence of offspring mental health on overparenting.

Rationale for the current study

Previous meta-analytic studies have demonstrated that parenting behaviors (e.g., parental rejection, control, and parental autonomy support) play a significant role in children's and adolescents' psychological well-being (McLeod et al., 2007; Vasquez et al., 2016; Yap & Jorm, 2015; Yap et al., 2014). However, none of the existing meta-analyses focus on and summarize the effects of overparenting on offspring outcomes. Although Cui et al.'s (2022) systematic review showed that overparenting was related to psychological maladjustment (e.g., more depressive and anxiety symptoms) and another systematic review conducted by Vigdal and Brønneck (2022) also provided a rich source of information regarding the relationship between helicopter parenting and anxiety and depression symptoms, a meta-analysis is necessary to confirm the relationship, given mixed findings about the association between overparenting and depression or anxiety (e.g., Cui et al., 2019; Darlow et al., 2017; Howard et al., 2022; Trbovich et al., 2021). Therefore, the first goal of the current article was to answer the question of whether overparenting is related to offspring depression, anxiety, and internalizing symptoms and to understand which factors might explain the variation in effect sizes via meta-analysis.

Vigdal and Brønneck's (2022) systematic review also included overprotective parenting behaviors as helicopter parenting. Overprotective parenting has been defined as intrusive micro-management of children's activities and unnecessary strong affection when children are not in need of comforting (Padilla-Walker & Nelson, 2012). Despite the similarities between the two concepts, it remains to be tested whether helicopter parenting/overparenting is an extension of overprotective parenting in childhood (Howard et al., 2022). In addition, there has been a meta-analysis examining the relationship between parental overprotection and offspring's internalizing problems, only including studies that used the overprotection scale of the Eigna Minnen Beträffande Uppfostran (EMBU, "Memories of My Parents' Upbringing") questionnaire (de Roo et al., 2022), which is different from the scales used by the majority of the overparenting/helicopter parenting studies (i.e., Bradley-Geist & Olson-Buchanan, 2014; LeMoyné & Buchanan, 2011; Luebbe et al., 2018; Odenweller et al., 2014; Padilla-Walker & Nelson, 2012; Schiffrin et al., 2014; Segrin et al., 2012). Considering the discrepancies between overprotection and overparenting regarding concept and measurement, the current study focused exclusively on studies that used the concept of overparenting or

helicopter parenting to examine the relationship between overparenting and offspring mental health in more depth.

Method

Search procedures and selection of studies

Articles were identified for potential inclusion using the PsycINFO, Educational Resources Information Center (ERIC), APA PsycArticles, Medline, and PubMed databases from the earliest published (2011) to July 2022. A partial grey literature search was also performed on ProQuest Dissertations & Theses and Google Scholar. The Google Scholar search was limited to the first 100 most relevant articles. The search was conducted using the following search keywords in all databases: (overparenting OR “helicopter parenting”) AND (depressi* OR affect* OR mood OR anxiety OR internalising OR internalizing OR phobia OR phobic OR panic OR “post-traumatic stress disorder” OR “acute stress disorder”), which were adapted from Yap and Jorm’s (2015) meta-analysis. Articles identified were included in the current study if they: (i) measured parental overparenting, (ii) measured depression, anxiety, and internalizing symptoms of offspring, and (iii) were published in English-speaking journals. Studies were excluded if: (a) they did not measure overparenting or offspring internalizing problems, (b) they were published in non-English languages, and (c) effect sizes were not available.

A systematic search of the articles was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (see Figure 1). The online search returned 245 records, from which 163 articles remained after the exclusion of duplicates. The two authors independently analyzed the 163 abstracts to check for the eligibility criteria. Thirty records were excluded because neither one of the two authors selected their abstracts. Then, 133 records were sought for retrieval, and 127 full-text articles were available to assess eligibility. Following this stage, each author independently coded approximately half of the randomly selected articles. Of 127 articles, 75 were excluded, and 52 studies met the criteria for inclusion in the meta-analysis. In these studies, a total of 20,357 offspring with mean age ranging from 12.63 to 25.56 years participated.

Inter-rater agreement

Of the 52 eligible studies, 50% were selected randomly to be double-coded by the two authors. To calculate the inter-rater reliability, intraclass correlation (ICC) was used for continuous variables, and Cohen’s kappa was used for categorical variables. ICCs ranged from .99 to 1.00, and kappas ranged from .87 to 1.00, which showed excellent agreement. Moreover, differences in coding between the two independent coders were resolved by further discussion.

Coding of the studies

Overparenting was assessed using common measures for helicopter parenting and overparenting behaviors (e.g., Helicopter Parenting Scale, Helicopter Parenting Questionnaire, and Over-Parenting Scale), except for one that used several items from the EMBU questionnaire, which also captured the extent to which the offspring felt their parents were involving and controlling in their lives. Offspring depression included measures of depressive symptoms (e.g., Center for Epidemiologic Studies Depression Scale). Offspring anxiety included measures of anxiety symptoms, social anxiety, and panic (e.g., Inventory of Depression

and Anxiety Symptoms). Offspring internalizing symptoms included measures of stress, emotional dysregulation, worry, suicidal ideation, and psychological distress (e.g., Depression, Anxiety, and Stress Scale, Difficulties in Emotion Regulation Scale, and Penn State Worry Questionnaire). All informants were either the parent or the offspring who completed questionnaires.

To allow moderation analysis, the following variables were coded for each study. Continuous variables included sample size, race (percent of minority), culture score (individualism index was used to represent the level of individualism of the culture according to Hofstede’s (2011) score system (www.hofstede-insights.com)), offspring age at the time overparenting and offspring outcomes were measured, and offspring gender (percent of female in sample). Categorical variables included offspring age group of outcome measure (children, adolescents, or emerging adults),² parental gender (mother, father, or both parents with no exact percentage of mother/father), culture (individualism or collectivism), SES (low, middle/high, or diverse), informant of the overparenting and outcome measure (offspring-report or parent-report), informant consistency (consistent or inconsistent),³ publication status (published or unpublished), and study design. Specifically, the study design includes cross-sectional, longitudinal parent effect (overparenting was measured first with offspring outcome measured later), or longitudinal offspring effect (offspring outcome was measured first with overparenting measured later).

Data analyses

All analyses were performed in the *metafor* and *meta* package (Balduzzi et al., 2019; Viechtbauer, 2010) in *R version 4.0.3*. Pearson correlation coefficients (r) were obtained for included studies to investigate the effect size of the relationship between overparenting and depression, anxiety, and internalizing symptoms. Fisher’s r -to- z transformation was used later to transform correlational effect size to a Z score so that the sampling distribution becomes normally distributed, and the Z score was transformed back to Pearson’s r as the result for interpretation purposes (Borenstien et al., 2009).

Notably, standardized regression coefficients (β) were also used as effect sizes, as it has been suggested that β and r are extremely highly correlated and β can be substituted directly for r , regardless of the covariates in the regression equation (Borenstien et al., 2009; Peterson & Brown, 2005). Nevertheless, to explore how β might influence the results, sensitivity analyses excluding studies that used β to estimate effect sizes were performed.

When multiple effect sizes were reported within a publication, common strategies to deal with this issue include extracting only one effect size or averaging effect sizes (Lipsey & Wilson, 2001). However, a three-level meta-analysis can make it possible to include all effect sizes within the same study by taking into account the dependency of effect sizes, leading to greater statistical power (Van den Noortgate et al., 2013). Therefore, a three-level model was performed to account for the sampling variance of effect sizes at level 1, the variance within studies at level 2, and the variance between studies at level 3. In addition, Q and variance component statistics were conducted to assess heterogeneity. A significant Q

²The age ranges of children, adolescents, and emerging adults were 6–12 years, 12.1–18 years, and 18.1–29 years in the current study.

³Informant consistency was used to code whether the same informant reported overparenting and offspring outcomes.

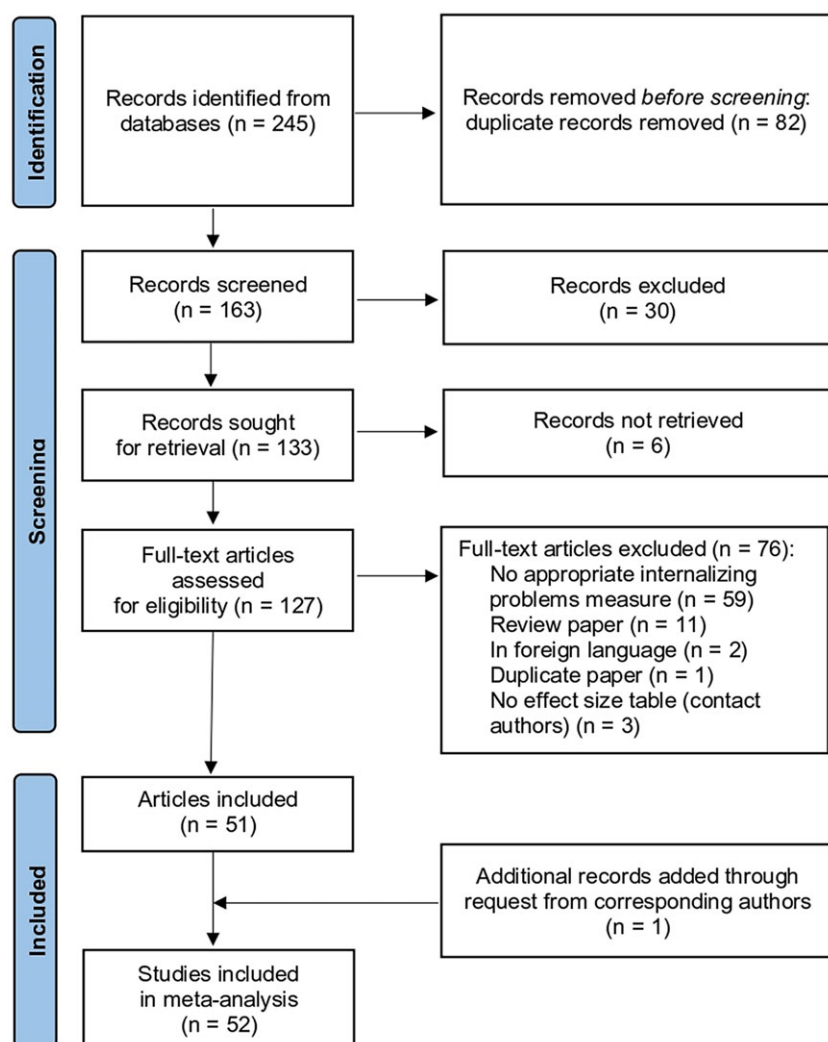


Figure 1. Preferred reporting items for systematic reviews and meta-analyses (PRISMA) flowchart showing the process of study selection for inclusion in the meta-analysis.

statistic and the sampling variance less than 75% suggest that moderators should be explored (Hunter & Schmidt, 2004).

Risk of bias

Previous research has shown that significant studies are more likely to be published, which might cause overestimated overall effect sizes (Rosenthal, 1979). Although the current study has included partial grey literature, which might help reduce publication bias (Paez, 2017), the current meta-analysis furthermore used the funnel plot and Egger test to examine publication bias. An asymmetrical funnel plot and a significant Egger's test indicate possible publication bias (Begg, 1994; Egger et al., 1997).

To maximize the sample size in the current meta-analysis, a stringent assessment of the quality of primary studies was not performed to exclude studies from the meta-analysis. However, publication status was coded to consider possible biases resulting from studies of lower methodological quality, which could be one of the criteria to assess the quality of the studies included (Hohn et al., 2019). Via *post hoc* moderation analysis, the differences between published (published studies in peer-reviewed journals) and unpublished studies (grey literature including thesis, posters, and other formats) were examined to explore whether primary

study quality may have an impact on the magnitude and directionality of effect sizes.

Results

Descriptive statistics

The current study included 52 articles. Thirty-eight studies reported 133 associations between overparenting and depression ($N = 16,139$), and the average age of offspring when depression was measured ranged from 12.63 to 25.56 years ($M = 19.94$; $SD = 2.21$). Thirty studies reported 101 associations between overparenting and anxiety ($N = 13,277$), and the average age of offspring at anxiety assessment ranged from 12.63 to 25.56 years ($M = 19.57$; $SD = 2.55$). Twenty-one studies reported 58 associations examining internalizing symptoms ($N = 9,145$), and the average age of offspring when internalizing symptoms were measured ranged from 15.33 to 25.00 ($M = 19.76$; $SD = 2.24$).

Most studies were cross-sectional (92.3%), conducted in the US (67.3%), and used the terminology "helicopter parenting" (78.8%). The offspring gender was, on average, 66.7% female. Additionally, 48.1% of included studies focused on overparenting in general parents without differentiating between mothers and fathers, 32.7% focused on both mothers and fathers, 13.4% solely focused

on mothers, and 5.8% examined maternal, paternal, and parental overparenting separately. The details of demographic characteristics of the studies can be seen in Table 1.

Although there were sufficient data, variability existed for the examination of moderators. Specifically, all 52 studies reported country (culture), offspring gender, offspring age, informant of measures, and research design. However, regarding SES, 46.2% of studies did not report SES in the sample, 25.0% had a sample of diverse SES, 26.9% had a sample of middle/high SES, and no study reported low SES. Additionally, only 67.3% of studies provided the percentage of minorities. Concerning age groups of offspring, the majority of studies (88.5%) included samples of emerging adults, 11.5% of studies were conducted with adolescent samples, and no study sampled children.

Meta-analysis of overparenting and depression

The overall effect size for the association between overparenting and offspring depression was significant and positive ($r = .15$, 95% CI [.12, .19], $p < .001$). Therefore, a higher level of overparenting was associated with more depression symptoms in offspring. The sensitivity analysis excluding five studies that used β revealed a slightly higher effect size ($r = .16$, 95% CI [.13, .19], $p < .001$), showing that using β as an effect size may not alter the results. Examination of the funnel plot (see Figure S1 in supplemental materials) and the Egger test ($p = .013$) showed evidence of publication bias, suggesting that the estimated effect size might be larger than the true effect size. The Q statistic was significant ($Q = 648.12$, $p < .001$). Moreover, the variance at the sampling, within-study, and between-study levels was 18.17%, 31.97%, and 49.87%, respectively, indicating that exploring potential moderators was necessary.

The moderator analysis results can be seen in supplemental Table S1. No significant moderation effects of culture (either continuous or categorical), SES, offspring age, offspring age group, offspring gender, informant consistency, and study design were found. No significant interaction effects were found between parental gender and offspring gender. These findings suggested that the relations between overparenting and depression might be largely equal between individualistic and collectivistic cultures and equal between middle/high and diverse SES groups. The relations may also not vary depending on the offspring's age and offspring gender. Additionally, studies that used the same report informant for overparenting and offspring depression may have similar effect sizes with studies that used different report informants. Cross-sectional studies and longitudinal studies also tended to have similar effect sizes. Moreover, the effect sizes might be equal among different parent-offspring dyads.

The moderation test of race was significant, and the association between overparenting and depression tended to be stronger among samples containing more minority offspring ($b = .003$, 95% CI [.001, .006]). Parental gender was also a significant moderator. It was found that the effect sizes for the associations between maternal overparenting and depression ($k = 70$, $r = .15$, 95% CI [.11, .20]), paternal overparenting and depression ($k = 29$, $r = .11$, 95% CI [.02, .20]), and parental overparenting and depression ($k = 34$, $r = .19$, 95% CI [.07, .30]) were all significant ($p < .001$). A follow-up comparison further suggested that the relationship for parental overparenting was significantly larger than that for paternal ($t = 2.17$, $p = .032$). However, no significant differences were found between the relationships for maternal overparenting and paternal overparenting, and between maternal overparenting

and parental overparenting. Regarding methodological moderators, results showed that effect sizes differed according to whether the offspring ($k = 110$, $r = .18$, 95% CI [.14, .21]) or the parent ($k = 23$, $r = .01$, 95% CI [-.10, .11]) reported overparenting, indicating that the association between overparenting and offspring depression was stronger when offspring reported overparenting. Regarding the informant of depression measure, the effect sizes also differed based on whether the offspring ($k = 129$, $r = .16$, 95% CI [.12, .20]) or the parent reported ($k = 4$, $r = -.12$, 95% CI [-.24, .01]). This finding indicated that higher levels of overparenting might be related to more offspring depression symptoms if the offspring reported depression. In contrast, higher levels of overparenting might be associated with fewer offspring depression symptoms if the parent reported depression. Regarding publication status, no significant moderation effect was found, showing the effect sizes between overparenting and offspring depression may be equal for published and unpublished studies.

Meta-analysis of overparenting and anxiety

The overall effect size for the association between overparenting and offspring anxiety was significant ($r = .14$, 95% CI [.11, .17], $p < .001$), suggesting a higher level of overparenting was associated with more anxiety symptoms. The sensitivity analysis excluding five studies that used β revealed basically the same effect size ($r = .14$, 95% CI [.10, .17], $p < .001$), showing that using β as an effect size hardly altered the results. Examination of the funnel plot (see Figure S2 in supplemental materials) and the Egger test ($p = .020$) showed possible publication bias. The Q statistic was significant ($Q = 391.87$, $p < .001$). Moreover, the variance at the sampling, within-study, and between-study levels was 19.58%, 42.57%, and 37.84%, respectively, indicating that the exploration of potential moderators was necessary.

The moderator analysis results can be seen in supplemental Table S2. Similar to the moderation analysis results for depression, no significant moderation effects of culture (either continuous or categorical), SES, offspring age, offspring age group, offspring gender, informant consistency, and study design were found. No significant interaction effects were found between parental gender and offspring gender. These findings suggested that the relations between overparenting and anxiety might be largely equal across cultures, SES groups, the age of offspring, offspring gender, informant consistency, study designs, and parent-offspring dyads. The moderation test of race was significant, and the association between overparenting and anxiety tended to be stronger among samples containing more minority offspring ($b = .003$, 95% CI [.001, .005]). Parental gender was also a significant moderator. It was found that the effect sizes for the associations between maternal overparenting and anxiety ($k = 48$, $r = .16$, 95% CI [.12, .21]), paternal overparenting and anxiety ($k = 27$, $r = .10$, 95% CI [.01, .18]), and parental overparenting and anxiety ($k = 26$, $r = .14$, 95% CI [.03, .25]) were all significant ($p < .001$). A follow-up comparison further suggested that the relationship for maternal overparenting was significantly larger than that for paternal ($t = -3.22$, $p = .002$). However, no significant differences were found between the relationships for maternal overparenting and parental overparenting, and between paternal overparenting and parental overparenting. Regarding methodological moderators, results showed that effect sizes differed according to whether the offspring ($k = 79$, $r = .16$, 95% CI [.13, .20]) or the parent ($k = 22$, $r = .01$, 95% CI [-.08, .11]) reported overparenting, indicating that

Table 1. Demographic characteristics of studies identified in the review

Study	Study Design				Offspring				Overparenting			
	N	Country	SES	Design	Parental gender	Percent of female	Percent of minority	Average age of outcome assessment (years)	Outcome	Constructs	Measures	Informant
Carone et al. (2022)	76	USA	N/A	C	Both	48.7	9.2	25.0	INT	Helicopter parenting	PRQ	Offspring
Cole (2020)	118	USA	Middle/high	C	Mother; father; both	76.7	25.8	18.6	DEP	Helicopter parenting	HPM	Offspring; Parent
Cook (2020)	637	USA	N/A	C	Mother; father; both	67.0	37.0	20.0	DEP; INT	Helicopter parenting	Combined HPBQ, OPS, and P-HPS	Offspring
Creste (2020)	163	USA	N/A	C	Mother; father	74.8	31.9	18.0	ANX; INT	Overparenting	L-HPS	Offspring
Cui et al. (2019) Study 1 ^a	449	USA	Middle/high	C	Mother; father	89.0	16.0	20.7	ANX; DEP; INT	Helicopter parenting	OPS	Offspring
Cui et al. (2019) Study 2 ^a	545	China	N/A	C	Mother; father	47.0	N/A	18.2	ANX; DEP	Overparenting	EMBU	Offspring
Cui et al. (2019) Study 3 ^a	306;441	Finland; USA;	Middle/high	C	Mother; father	87.1; 89.3	N/A	22.9; 20.5	ANX; DEP; INT	Helicopter parenting	OPS	Offspring
Darlow et al. (2017)	294	USA	N/A	C	Both	82.0	44.6	20.5	ANX; DEP	Helicopter parenting	L-HPS	Offspring
Etkin et al., (2022)	363	USA	N/A	C	Both	44.0	55.0	19.1	ANX; DEP	Helicopter parenting	P-HPS	Offspring
Flower (2021)	194	USA	N/A	C	Both	64.9	13.9	19.1	ANX; DEP	Helicopter parenting	HPI	Offspring
Ganaprakasam et al. (2018)	96	Malaysia	N/A	C	Both	51.0	N/A	16.0	INT	Helicopter parenting	L-HPS	Offspring
Garner (2017)	177	USA	N/A	C	Both	74.0	35.0	19.2	DEP	Helicopter parenting	L-HPS; P-HPS	Offspring
Greene et al. (2019)	355	USA	N/A	C	Both	58.9	27.6	18.0	INT	Helicopter parenting	PBI	Offspring
Hong (2021)	414; 612	USA; China	Middle/high; diverse	C	Mother; father	92.0; 69.0	25.4; N/A	20.4; 20.2	ANX; DEP	Overparenting	HPI	Offspring
Hong & Cui (2020)	432	USA	Diverse	C	Mother; father	89.6	16.2	20.2	ANX; DEP	Helicopter parenting	OPS	Offspring
Howard et al., (2022)	460	Canada	Diverse	L	Both	44.0	52.6	18.4	ANX; DEP	Helicopter parenting	P-HPS	Offspring
Jiao (2022)	748; 196	USA; China	Diverse; N/A	C & L; C	Both	57.5; 84.7	45.5; N/A	24.0; 19.3	ANX; DEP	Overparenting	HPBQ; OS	Offspring & Parent; Offspring
Jiao & Segrin (2021)	213	USA	Middle/high	C	Both	65.3	24.9	20.6	ANX	Overparenting	OS	Offspring; Parent
Karunaharan et al. (2021)	183	Malaysia	N/A	C	Both	67.8	N/A	N/A	INT	Helicopter parenting	L-HPS	Offspring
Kömürcü-Akik & Alsancak-Akbulut (2021)	324	Turkey	Middle/high	C	Mother; father; both	50.9	N/A	20.6	ANX; DEP; INT	Helicopter parenting	HPBQ; HPI	Offspring
Kouros et al. (2017)	118	USA	N/A	C	Both	83.1	43.0	19.8	ANX; INT	Helicopter parenting	HPBQ	Offspring
Lee & Kang (2018)	548	Korea	Diverse	C	Mother; father	47.9	N/A	24.9	DEP	Helicopter parenting	L-HPS	Offspring
LeMoyné & Buchanan (2011)	317	USA	Middle/high	C	Both	61.2	24.9	19.1	DEP	Helicopter parenting	L-HPS	Offspring

(Continued)

Table 1. (Continued)

Study	Study Design				Offspring				Overparenting			
	N	Country	SES	Design	Parental gender	Percent of female	Percent of minority	Average age of outcome assessment (years)	Outcome	Constructs	Measures	Informant
Leung (2020)	1735	China	Diverse	C	Mother; father	47.4	N/A	12.6	ANX; DEP	Overparenting	COS	Offspring
Leung (2021)	1074	China	Diverse	C; L	Mother; father	46.8	N/A	12.66	ANX	Overparenting	COS	Offspring
Love (2020)	532	USA	Diverse	C	Both	92.5	35.0	20.2	ANX; DEP; INT	Overparenting	OS	Offspring
Luebbe et al. (2018)	377	USA	N/A	C	Both	66.1	12.2	18.9	ANX; DEP	Helicopter parenting	HPM	Offspring
Luster (2015)	790	USA	Diverse	C	Mother	69.2	31.0	19.6	DEP; INT	Helicopter parenting	P-HPS	Parent
Moilanen & Lynn Manuel (2019)	302	USA	Diverse	C	Both	64.9	20.6	21.6	DEP	Helicopter parenting	P-HPS	Offspring
Nelson et al. (2021)	453	USA	Middle/high	C; L	Mother; father	51.0	33.0	19.0	DEP	Helicopter parenting	P-HPS	Offspring
Okray (2016)	399	Northern Cyprus	Middle/high	C	Both	50.1	N/A	18/6	DEP	Helicopter parenting	L-HPS	Offspring
Padilla-Walker et al. (2021)	458	USA	Middle/high	C	Mother; father	51.0	33.0	19.0	DEP	Helicopter parenting	P-HPS	Offspring
Pautler (2017)	87	USA	N/A	C	Mother	63.0	36.8	N/A	DEP; INT	Helicopter parenting	HPQ	Offspring
Perez et al. (2020)	360	USA	N/A	C	Both	83.6	37.2	19.9	ANX; DEP; INT	Helicopter parenting	HPI	Offspring
Ratcliff (2020)	158	USA	Middle/high	C	Mother	74.7	84.8	20.3	ANX; DEP; INT	Helicopter parenting	PBI;L-HPS; HPI;HPBQ	Offspring
Reed et al. (2016)	461	USA	Diverse	C	Mother	80.8	28.2	19.7	ANX; DEP	Helicopter parenting	HPBQ	Offspring
Reilly & Semkowska (2018)	208	Ireland	N/A	C	Both	71.2	N/A	23.4	DEP	Helicopter parenting	L-HPS; OPS; HPBQ	Offspring
Rote et al. (2020)	282	USA	N/A	C	Mother; father	71.0	43.0	19.9	INT	Helicopter parenting	P-HPS	Offspring
Rousseau & Scharf (2015)	89	Israel	Middle/high	C	Mother; father	52.8	N/A	25.6	ANX; DEP	Overparenting	OS	Parent
Schiffirin et al. (2014)	297	USA	N/A	C	Mother	88.0	15.2	19.3	ANX; DEP	Helicopter parenting	HPBQ	Offspring
Schiffirin et al. (2019a)	444	USA	Middle/high	C	Mother; father	73.1	23.3	19.6	ANX; DEP	Helicopter parenting	Combined OPS, L-HPS, and HPI	Offspring
Segrin et al. (2022)	282	USA; China	N/A	C	Both	62.4; 71.9	41.1; N/A	20.7; 19.3	INT	Overparenting	CHPS	Offspring
Segrin et al. (2013)	653	USA	Diverse	C	Both	69.0	16.0	20.0	ANX; INT	Helicopter parenting	OS	Offspring
Sherman (2015)	109	Canada	Diverse	C	Mother	60.2	34.7	23.1	ANX; DEP	Helicopter parenting	OPEAS	Offspring; Parent
Trbovich et al. (2021)	101	USA	N/A	C	Both	55.4	N/A	16.0	ANX; DEP; INT	Overparenting	OS	Parent
Turner et al. (2020)	286	USA	N/A	C	Both	70.0	36.4	19.2	DEP	Helicopter parenting	P-HPS	Offspring
Ulutas & Aksoy (2014)	422	Turkey	Diverse	C	Both	91.7	N/A	20.8	ANX	Helicopter parenting	L-HPS	Offspring

(Continued)

Table 1. (Continued)

Study	Study Design				Offspring				Overparenting			
	N	Country	SES	Design	Parental gender	Percent of female	Percent of minority	Average age of outcome assessment (years)	Outcome	Constructs	Measures	Informant
Wang et al. (2021)	648	China	Diverse	C	Both	50.3	N/A	21.0	DEP	Helicopter parenting	P-HPS	Offspring
Weitkamp & Seiffge-Krenke (2019)	2415	Diverse country	Middle/high	C	Mother; father	56.3	N/A	15.3	INT	Helicopter parenting	PAR	Offspring
Wenze et al. (2019)	104	USA	N/A	C	Mother	77.9	35.6	19.2	ANX; DEP	Helicopter parenting	HPBQ	Offspring
Zeynep (2020)	337	Turkey	N/A	C	Mother; father	59.6	N/A	22.1	INT	Helicopter parenting	PHPAS	Offspring
Zienty & Nordling (2018)	156	USA	N/A	C	Mother; father	71.2	N/A	18.0	ANX; DEP	Helicopter parenting	Combined HPBQ and P-HPS	Offspring

Note. C = cross-sectional; L = longitudinal. N/A = not available. CHPS = Consolidated Helicopter Parenting Scale (Schiffrrin et al., 2019b); COS = Chinese Overparenting Scale (Leung & Shek, 2018); EMBU = Egna Minnen av Barndoms Uppfostran (one's memories of upbringing) (Perris et al., 1980); HPI = Helicopter Parenting Instrument (Odenweller et al., 2014); HPM = Helicopter Parenting Measure (Luebbe et al., 2018); HPBQ = Helicopter Parenting Behaviors Questionnaire (Schiffrrin et al., 2014); HPQ = Helicopter Parenting Questionnaire (Pautler, 2017); L-HPS = Helicopter Parenting Scale (LeMoyné & Buchanan, 2011); OPEAS = Overparenting of Emerging Adults Scale (Sherman, 2015); OPS = Over-Parenting Scale (Bradley-Geist & Olson-Buchanan, 2014); OS = Overparenting Scale (Segrin et al., 2012); PAR = Parental Anxious Rearing (Kins et al., 2013); PHPAS = Perceived Helicopter Parenting Attitude Scale (Yilmaz, 2019); PRQ = Parental Relationship Questionnaire (Kenny, 1987); PBI = Parental Bonding Instrument (Parker et al., 1979); P-HPS = Helicopter Parenting Scale (Padilla-Walker & Nelson, 2012).

*These three articles are different studies. However, according to the same demographic characteristics and effect sizes, there were probably repeated American/Finnish samples among three studies. The repeated samples were removed from the current meta-analysis to avoid duplication.

the association between overparenting and offspring anxiety was stronger when the offspring reported overparenting. For the informant of anxiety measure, the effect sizes also differed based on whether the offspring ($k = 97$, $r = .15$, 95% CI [.11, .18]) or the parent reported ($k = 4$, $r = -.13$, 95% CI [-.25, -.02]). This finding indicated that higher levels of overparenting might be related to more offspring anxiety symptoms if the offspring reported anxiety. In contrast, higher levels of overparenting might be associated with fewer offspring anxiety symptoms if the parent reported anxiety. Regarding publication status, a significant moderation effect was found, showing that the effect sizes were larger for unpublished studies ($k = 43$, $r = .19$, 95% CI [.09, .28]) than published studies ($k = 58$, $r = .11$, 95% CI [.08, .15]), indicating lower quality studies might potentially exaggerate effect size evaluation between overparenting and offspring anxiety.

Meta-analysis of overparenting and internalizing symptoms

The overall effect size for the association between overparenting and offspring internalizing symptoms was significant ($r = .19$, 95% CI [.14, .24], $p < .001$), indicating that a higher level of overparenting was associated with more internalizing symptoms. The sensitivity analysis excluding six studies that used β revealed a slightly smaller effect size ($r = .18$, 95% CI [.13, .23], $p < .001$), showing that using β as an effect size may not alter the results. Examination of the funnel plot (see Figure S3 in supplemental materials) and the Egger test ($p < .001$) showed possible publication bias. The Q statistic was significant ($Q = 185.68$, $p < .001$). Moreover, the variance at the sampling, within-study, and between-study levels was 21.63%, 12.13%, and 66.24%, respectively, indicating that the exploration of potential moderators was necessary.

The final moderator analysis results can be seen in supplemental Table S3. No significant moderation effects of culture (either continuous or categorical), SES, offspring age, offspring age

group, offspring gender, informant consistency, and informant of overparenting measure were found. No significant interaction effects were found between parental gender and offspring gender. These findings suggested that the relations between overparenting and internalizing symptoms might be largely equal across cultures, SES groups, the age of offspring, offspring gender, informant consistency, overparenting informants, and parent-offspring dyads. The moderation test of race was significant, and the association between overparenting and internalizing symptoms tended to be stronger among samples containing more minority offspring ($b = .004$, 95% CI [.002, .006]). Parental gender was also a significant moderator. It was found that the effect sizes for the associations between maternal overparenting and internalizing symptoms ($k = 33$, $r = .17$, 95% CI [.11, .23]), paternal overparenting and internalizing symptoms ($k = 9$, $r = .14$, 95% CI [.02, .25]), and parental overparenting and internalizing symptoms ($k = 16$, $r = .23$, 95% CI [.10, .35]) were all significant ($p < .001$). A follow-up comparison further suggested that the relationship for parental overparenting was significantly larger than that for paternal ($t = -2.03$, $p = .047$). However, no significant differences were found between the relationships for maternal overparenting and paternal overparenting, and between maternal overparenting and parental overparenting. Regarding publication status, no significant moderation effect was found, showing the effect sizes between overparenting and offspring internalizing symptoms may be equal for published and unpublished studies. The moderation effects of the study design and informant of internalizing symptoms measure cannot be tested in the current meta-analysis, because no study used a longitudinal study design, and no study had a parent reporter informant for internalizing symptoms.

Discussion

The results of the meta-analysis showed that although the effect size is relatively small, higher levels of overparenting are

significantly associated with more offspring depression, anxiety, and internalizing symptoms. In particular, for depression and anxiety outcomes, the relations may be moderated by parental gender, race, and informants of overparenting and depression/anxiety measures. For internalizing outcomes, the associations may be moderated by parental gender and race. Although conclusions about causality between overparenting and offspring mental health problems are not possible from the data analyzed, these findings provide convincing evidence that overparenting behaviors may predict offspring psychological challenges, and offspring mental difficulties may also predict overparenting behaviors.

According to the meta-analysis, the relations between overparenting and depression and internalizing symptoms tend to be stronger when overparenting was measured for both parents (or not specific to a certain caregiver) than when overparenting was measured only for fathers. It might be expected that the effects of maternal and paternal overparenting on depression and internalizing symptoms are additive, as parents may have similar parenting behaviors due to assortative mating (Beck & González-Sancho, 2009). It is also possible that as mothers are generally more involved with offspring (Patock-Peckham & Morgan-Lopez, 2009), offspring may recall more maternal parenting behaviors when asked to recall parental overparenting. This possibility also helps explain that the relation between overparenting and anxiety tends to be stronger when overparenting was measured for mothers than when overparenting was measured for fathers, suggesting that maternal overparenting has a greater impact on offspring anxiety than paternal overparenting, which is consistent with previous results showing there were more negative effects of maternal than paternal overparenting (Schiffman et al., 2019a). As fathers are often less involved in their offspring's lives than mothers, paternal overparenting behaviors may be perceived as an expression of commitment and concern for their offspring (Lewis & Lamb, 2003).

Although culture (individualism vs. collectivism) did not significantly moderate the relation between overparenting and offspring depression, anxiety, and internalizing symptoms, race was a significant moderator. This result is in line with a previous meta-analysis showing the associations of parenting styles with internalizing problems may vary between racial groups in Western countries (Pinquart & Kauser, 2018), suggesting that even in the same country, culture may still play a crucial role in shaping parenting strategies (Bornstein & Cheah, 2006). In addition, the racial difference showed that compared to Caucasian offspring, the associations of overparenting and depression, anxiety, and internalizing symptoms were stronger for offspring identified as other races. First, it is important to acknowledge that offspring with internalizing symptoms may provoke more overparenting behaviors. Although overparenting parents may provide more assistance in seeking mental health treatment for their offspring, higher levels of stigma about mental illness among racial and ethnic minority groups may negatively affect mental health utilization (Alvidrez et al., 2008; Turner et al., 2015), leading to stronger relations between overparenting and offspring internalizing problems for racial minorities. Furthermore, research has found that large minority groups such as African and Asian Americans were high in collectivism compared to European Americans (Coon & Kemmelmeier, 2001). Given that a high degree of interdependence is more valued in collectivistic cultures than in individualistic cultures (Slote, 1992), racial minority offspring with a history of mental health issues may elicit more overparenting behaviors in

families with higher levels of collectivism. For example, offspring in racial minority families suffering from emotional problems may be more dependent on parental support, resulting in higher levels of parental involvement that could be considered overparenting. Instead of cultural influences, another possible explanation is that the disadvantaged position of racial minorities may exacerbate the negative effects of overparenting, which is consistent with previous findings that the effects of risk factors on offspring's adjustment may be worsened by ineffective parenting (Ruberry et al., 2018). Indeed, greater exposure to risk factors such as relatively lower SES and experiencing more discrimination has been found among racial minority people (de Vroome & Hooghe, 2015). Therefore, overparenting may be more detrimental for racial minority offspring who have already been disproportionately exposed to stressful life conditions than Caucasian offspring. In order to further explore the underlying mechanisms between overparenting and offspring outcomes, longitudinal designs with racially diverse samples are highly recommended for future studies.

The associations between overparenting and depression and anxiety were found to be moderated by methodological factors. Consistent with prior research (Burke et al., 2018; Segrin et al., 2015), the associations were stronger when overparenting was based on the offspring report compared to the parent report. Moreover, it might seem counterintuitive that higher levels of overparenting might be associated with fewer depression and anxiety symptoms when offspring outcomes were merely based on the parent report. However, there might be discrepancies between the offspring's and parents' perception of offspring depression and anxiety. Another possible explanation is that because overparenting behaviors were driven by parental benevolent intentions (Segrin et al., 2012), parents tend to perceive their overparenting behaviors as beneficial to offspring development. Furthermore, these discrepancies in effect sizes between offspring report and parent report might not be due to potential common method bias, as no moderation effects of informant consistency were found, suggesting that even taking shared method variance into account, offspring report and parent report could have significantly different influences on the association between overparenting and offspring outcome. Collectively, the findings emphasize that measurements taken from offspring as well as parents could provide a multidirectional perspective (Kömürçü-Akik & Alsancak-Akbulut, 2021; Segrin et al., 2012) and suggest a need for more studies including both offspring and parent informants.

SES did not significantly influence the magnitude of the association between overparenting and offspring depression, suggesting that the influence of overparenting might be largely equal across different social strata. Nevertheless, it should be acknowledged that no studies included in the current meta-analysis had a low SES sample. The lack of low SES samples might limit the ability of meta-analysis to detect a significant moderating effect of SES. Additionally, the measure of SES utilized in the current meta-analysis was only based on income or parental educational attainment. Studies may include more factors to assess SES, such as occupational prestige, access to quality childcare, and household chaos (Duncan & Magnuson, 2012; Pan et al., 2018; Shaw & Shelleby, 2014). Collecting more information regarding SES may be necessary for future research. Overall, the direct effects or the moderating role of SES on associations between overparenting and depression, anxiety, and internalizing symptoms are still unclear.

Contrary to the hypothesis, the offspring's age did not moderate the associations between overparenting and depression, anxiety,

and internalizing symptoms. However, it is important to note that significantly more literature exists on emerging adulthood. Furthermore, no study in the current review has explored the relationship between overparenting and internalizing problems in childhood, although overparenting has been shown to be associated with negative outcomes for children. For instance, Schmidinger (2020) found that children with parents engaging in overparenting had significantly more externalizing behaviors. Therefore, one possible explanation for not detecting age differences in associations between overparenting and internalizing problems is the restriction in the range of offspring age groups, given that no study included in the current paper had a sample of children and most study samples were skewed towards emerging adults. More importantly, parental perception of the offspring's need for autonomy has been found to be negatively associated with overparenting behaviors (Jiao, 2018). Accordingly, parents may shift overparenting practices based on their perceptions of their offspring's needs, which could be closely related to the offspring's developmental stage (i.e., childhood, adolescence, and young adulthood). Hence, it remains to be determined whether overparenting may be linked to depression, anxiety, and internalizing symptoms differently in different offspring developmental stages.

Offspring gender was not found to significantly moderate associations between overparenting and offspring depression, anxiety, and internalizing symptoms, which aligns with the previous meta-analysis of Yap et al. (2014). Schiffrin et al. (2019a) also found that male and female emerging adults did not differ in the level of overparenting they experienced. Altogether, the influence of overparenting is likely to be equivalent across offspring gender. Relatedly, offspring gender was not found to interact with parental gender, albeit evidence has suggested that overparenting might relate to better adjustment for young adults in the mother-son dyad than in other parent-offspring dyads (Rousseau & Scharf, 2015). However, it is important to note that the current study explored the role of offspring gender using the proportions of female offspring in the sample, as studies rarely had an offspring sample of the same gender or reported the associations between overparenting and offspring outcomes separately for distinct parent-offspring dyads. Using offspring gender as a categorical variable may bring greater power in meta-analysis to detect the moderating effects of offspring gender and interaction effects between parental and offspring gender.

The study design was expected to be a significant moderator, but the results reveal that the effect sizes are largely equal across cross-sectional and longitudinal designs. Importantly, for longitudinal studies, the current study not only considers the design that overparenting was measured first and offspring outcomes were measured later but also the design that offspring outcomes were measured first with overparenting measured later. The results indicate that overparenting may influence offspring depression and anxiety symptoms. However, it is equally possible that offspring depression and anxiety symptoms may elicit more overparenting behaviors (i.e., excessive assistance), which are consistent with previous results showing that emerging adult offspring's mental distress could predict overparenting (Jiao, 2022). Overall, despite the current study not permitting conclusions about causality that could only be tested in experiments, the findings support that there might be a bidirectional relationship between overparenting and offspring depression and anxiety symptoms. Although based on SDT theory, offspring outcomes mainly result from parental effects (Schiffrin et al., 2014), offspring's psychopathological difficulties could also result

from the dynamic interplay between individual and environmental factors according to the developmental psychopathology framework (Cicchetti, 2016). For instance, anxiety symptoms in childhood may predict higher levels of overparenting in adolescence, which in turn may predict more anxiety in emerging adulthood. Nevertheless, caution should be used when interpreting moderation results for study design as very few studies utilized longitudinal design. More multi-wave longitudinal studies are needed to further support the dynamic interaction between overparenting behaviors and offspring mental health problems.

Limitations

The findings of this study should be interpreted in light of some limitations. First, the studies included in the current meta-analysis only focused on emerging adults and adolescents, and the results may not be generalized to young children. Second, studies rarely reported the associations separately for sons and daughters; therefore, the current meta-analysis could not test offspring gender as a categorical moderator. Third, within the studies included in the current meta-analyses, information regarding the racial composition of the sample was missed for some studies (33% not reported), and when reported, the studies were mostly conducted in North America. Therefore, the moderating effects of race may not be generalized to other countries. Fourth, no studies in the meta-analysis focused on low SES samples, and the conclusions cannot be generalized to low SES families. Additionally, most studies did not report the SES level of the sample, which may result in a less powerful analysis of the SES moderator. Fifth, although a number of moderators have been examined in the current study, the choice of potential moderators was limited. For example, emerging adults living at home with parents and having fewer siblings were found to experience higher levels of overparenting (Bradley-Geist & Olson-Buchanan, 2014). It also would be beneficial to consider whether the effects of such demographic moderators may vary among different age groups of offspring. Last but not least, some biases might affect the interpretation of the meta-analysis results. Although the current study included both published and unpublished articles to reduce publication bias, the funnel plot and significant Egger's test indicate possible biases, suggesting that the estimated effect sizes might be larger than the true effect sizes. Moreover, unpublished studies were found to have a stronger relationship between overparenting and offspring anxiety than published studies, suggesting the quality of studies might potentially bias the findings. Additionally, the current meta-analysis may be susceptible to bias such as confirmation or hindsight bias, as the current study was not pre-registered before commencing the review. More comprehensive quality assessment (i.e., sampling and research procedures) and pre-registration are highly recommended for future meta-analysis to ensure valid estimates of the true effect.

Directions for future research

Even though overparenting has been shown to be associated with offspring depression, anxiety, and internalizing symptoms, there remain numerous opportunities for future research in this relatively nascent area. To begin, the research conducted in non-English-speaking countries mostly used translated versions of existing overparenting tools developed by Western researchers (e.g., Hong, 2021; Lee & Kang, 2018; Wang et al., 2021). These existing measures mainly contingent on individualistic cultures may not detect the cultural differences between East and West.

Such differences in conceptions and measures are important for future cross-cultural research. Using an indigenous measurement tool may be more applicable to the local communities and may enable a more precise estimation of relations between overparenting and offspring outcomes in different cultural backgrounds. Second, it is important to assess and report overparenting across different SES groups. Future studies are also recommended to adopt multiple factors (e.g., income, educational attainment, and self-perceived SES) to help assess SES levels (Tan et al., 2020). Third, the current exploration of interaction effects between parental and offspring gender was limited. In the future, it will be important to measure and report the associations between overparenting and offspring outcomes separately for distinct parent-offspring dyads. Fourth, in the current review, more than ten published questionnaire measures of overparenting have been identified. Howard et al., (2020) also have questioned that the oversupply of overparenting measures in this new field may give rise to the jingle fallacy, an erroneous assumption that two measures tap the same construct because they have the same names. Therefore, a consensus operational definition of overparenting measures and further examinations of measurement validity is needed.

Lastly, the degree of negative effects of overparenting on offspring's well-being may depend on the offspring's traits. For instance, offspring with a high need for autonomy may suffer more from overparenting. Recent research has shown that specific types of parenting likely interact with adolescents' personality traits (Mabbe et al., 2016), indicating that offspring characteristics could be important moderators between overparenting and offspring outcomes. Notably, research has suggested that there might be interactive effects between genes and parenting on depression and anxiety (Chubar et al., 2020; Keijser et al., 2021). Incorporating genetic methods in future studies is necessary to explore whether overparenting may play a more important role among a subgroup of offspring genetically vulnerable to depression, anxiety, and internalizing symptoms.

Clinical implications

Greater awareness of the association between overparenting and depression, anxiety, and internalizing symptoms may inform clinical practices. For instance, a previous meta-analysis found that child and adolescent depression psychotherapy effects were not significant at follow-up periods of one year or longer (Weisz et al., 2006). One possible reason is that overparenting behaviors may not be detected as negative parenting behaviors but are perceived as high levels of parental involvement, thus increasing or maintaining the offspring's depression or anxiety symptoms in the long term. The results may also inform clinicians working with families that the discrepancies between offspring's and parents' perceptions of overparenting and internalizing mental disorders may impact treatment effects. Furthermore, mental health interventions for children, adolescents, or emerging adults may need to take both parent and offspring effects into consideration. Previous research also has found that parents high in overparenting tend to exhibit more accommodation behaviors (a type of overprotecting behavior to alleviate offspring's distress) in offspring with mental health symptoms (Casillas et al., 2021). As a result, there could be a transactional or bidirectional effect between overparenting and offspring depression/anxiety; overparenting may adversely affect the offspring's well-being, but the offspring's depression/anxiety symptoms may elicit more overparenting

behaviors, thereby creating an interactive cycle. Future prevention and treatment of depression or anxiety for children, adolescents, or emerging adults are therefore suggested to include overparenting measures and consider possible maintaining or exacerbating effects of overparenting on offspring depression or anxiety symptoms.

Conclusion

The evidence of the meta-analysis has now provided a preliminary answer to the question, "Is overparenting related to offspring depression, anxiety, and internalizing symptoms?" (the effect sizes are small but significant). Moderation analyses demonstrated that parental gender, race, and report informants might affect the magnitude or even the direction of the associations. However, several limitations of the present study and gaps in the literature should be noted that may affect the findings in which the nonsignificant moderation effects may be partially due to limited data available for some variables. Future research is encouraged to explore more cultural, SES, gender, and individual differences in the associations via longitudinal designs. Overall, this study advances the understanding of overparenting and the role of overparenting in offspring depression, anxiety, and internalizing symptoms, providing important implications for clinical practices that overparenting could be a possible target for future psychological prevention and interventions for mental disorders.

Supplementary material. Supplementary material. The supplementary material for this article can be found at <https://doi.org/10.1017/S095457942300055X>

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