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Intrusive Parenting and Adolescent Internalizing and Externalizing Symptoms: Three-level Meta-analytic Reviews Considering Parenting Concepts and Methodology

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Abstract

Multilevel random effects meta-analyses were performed to produce a summary effect size from 231 studies (2000 to 2025) that contributed 482 effect estimates for intrusive parenting and youth's (age 13–25) internalizing (N=152,280) and 232 effect estimates for intrusive parenting and externalizing symptoms (N=85,711). Intrusive parenting subtype (psychological control, overprotective, helicopter, autonomy support-reversed), youth symptom subtype, parent gender, respondent, child age, and study region were examined as moderators. Intrusive parenting was associated with higher symptoms, with a pooled effect size of r=0.24 for parenting-internalizing and r=0.22 for parenting-externalizing. I^2 values indicated that a large proportion of variation in the effects across studies was not explained by chance (internalizing I^2=89.3%; externalizing I^2=91.8%). Subtypes of intrusive parenting, parent gender, and respondent moderated the parenting-internalizing effect size, accounting for a small portion of this heterogeneity; studies of psychological control produced a stronger effect than studies of helicopter parenting and autonomy support-reverse. Parent gender revealed a smaller effect for fathers than mixed gender (mothers in-between), and there was a larger effect for studies using child report than multiple reporters. For the parenting-externalizing relationship, studies of delinquency and antisocial behavior produced smaller effects than aggression and externalizing, and the parenting-externalizing association was weaker among youth aged 19+and stronger for child report. Region of the world was not a significant moderator. Even after considering all moderators, large proportions of effect size heterogeneity were not accounted for by chance. When working with parents and youth, intrusive parenting should be considered as one partial indicator of elevated symptoms among youth.

Keyword Meta-analysis · Intrusive parenting · Internalizing symptoms · Externalizing symptoms · Adolescents

Parents of adolescents often find themselves uncertain about how to provide guidance that supports their adolescents' development of autonomy and self-reliance while still providing the support young people may need to make good decisions and avoid excessive risks. Thus, some parents provide guidance and instruction that crosses over into intrusiveness, coercion, and control. One area of research into the origins of adolescent mental health has focused on whether such intrusive parenting behaviors interfere in the development of adolescent autonomy and mental health (Van Petegem et al., 2020; Zimmer-Gembeck et al., 2011, 2026). Multiple theories, such as self-determination theory (Deci & Ryan, 1985; van Petegem et al., 2023), social cognitive domain theory (Smetana, 2011), and separation-individuation theory (Hoffman, 1984), as well as a great deal of research on parents' intrusiveness in their interactions with their adolescent or emerging/young adult children (*youth*), have shown that intrusiveness can be related to poorer youth mental health and behavioral functioning health (see Soenens et al., 2019; Yerkes et al., 2021; Zhang & Ji, 2023). Studies of mechanisms accounting for these associations have linked intrusiveness to thwarting youth's needs for agency and volitional functioning (*autonomy*; Deci & Ryan, 2000; Vansteenkiste et al., 2010) and interference with

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youth's developing self-reliance, decision-making skills, expression of personal choice, and self-efficacy (Smetana, 2011; Zimmer-Gembeck et al., 2025, 2026).

In the past couple of decades there have been 100 s of studies on intrusive parenting practices as related to youth's internalizing and externalizing problems, with studies considering internalizing symptoms such as anxiety or depression or externalizing symptoms such as aggression, antisocial behavior or bullying (Pinquart, 2017a, 2017b; Zhang & Ji, 2023). However, there are multiple terms used to refer to intrusive parenting practices that each have their own bodies of research but appear intersecting. It is not known whether each captures unique aspects of intrusive behaviors of adolescents or emerging adults (youth aged 13–25 years) and relates differently to indicators of youth's well-being. The most common terms used include psychological control, overprotective parenting, helicopter parenting, and autonomy restrictive parenting (or its converse—parental autonomy support). The purpose of this meta-analytic review was to quantify the association of each of these intrusive forms of parenting behaviors with a range of forms of youth's internalizing or externalizing symptoms, and to compare associations by types of intrusive parenting. We consolidated all studies to produce a single pooled effect size for intrusive parenting as related to youth's internalizing separate from externalizing symptoms. We also investigated differences in the effect size by testing aspects of study methodology as possible moderators. These moderators included subtype of intrusive parenting, youth's symptom subtype, parent gender, respondent, child age, and region where the study was conducted.

Four Primary Intrusive Parenting Conceptualizations

We defined intrusive parenting as encompassing negative parenting behaviors that reflect behavioral or psychological overcontrol of adolescents and emerging adults. Within this framework, we identified four terms commonly reflective of intrusive parenting of youth: parental psychological control, overprotective (or, less frequently, overinvolved) parenting, helicopter parenting, and autonomy support versus restriction. First, parental psychological control has been the focus of extensive research and has garnered significant attention over the years (Barber, 1996; Becker, 1964; Schaefer, 1965). It is defined as parenting behavior that "constrains, invalidates and manipulates an offspring's psychological and emotional experience and expression" (Barber, 1996; pg. 3296). Both cross sectional and longitudinal studies have revealed positive associations between parental psychological control and internalizing symptoms (Pettit et al., 2001; Xu et al., 2021) and externalizing symptoms among adolescents (Bai et al., 2020).

Second, as is true for psychological control, overprotective (or overinvolved) parenting has also been the subject of numerous studies, with early mentions dating back many decades (Levy, 1931; Parker, 1983; Thomasgard et al., 1995; for a review see Skinner et al., 2005). This form of intrusive parenting is characterized by parental protection that exceeds what is appropriate for the child's development level. Overprotection is often found to overlap with psychological control, as both share the qualities of undermining adolescents' striving for autonomous behavior (Holmbeck et al., 2002). Parental overprotection with youth may manifest as developmentally inappropriate involvement in decision making and solving problems, excessive worry and concern about adolescents' health and safety, and an overbearing approach to managing their social relationships and emotional well-being (Brenning et al., 2017; Mathijs et al., 2024).

Third, helicopter parenting has conceptual overlap with psychological control and overprotective parenting, often being recognized as part of a broader array of intrusive parenting behaviors. However, some researchers have argued that it represents a distinct form of parental control, particularly evident among older adolescents and emerging adults, which has implications for restricting necessary opportunities for developmental growth, reflecting "parents who are highly invested, extremely concerned for the well-being of their children and well intentioned albeit misdirected" (Padilla-Walker & Nelson, 2012; pg. 1178). However, despite these possible distinctions, studies involving adolescents and emerging adults have sometimes equated helicopter parenting with overprotective parenting or overparenting (Fletcher et al., 2020; Perez et al., 2020).

Finally, some studies specifically examine autonomy support, also known as autonomy granting, where low scores indicate intrusive parenting via autonomy restriction. Autonomy support may be the antithesis of overprotective or helicopter parenting, given that it has been defined as the practice of fostering a child's development by shifting the parent–child relationship from a hierarchical structure to a more egalitarian one (Soenens et al., 2017; Zimmer-Gembeck et al., 2011). Being an autonomy-supportive parent involves considering the youth's perspective and demonstrating empathy when outcomes do not align with youth's desires. Additionally, it includes offering choices, supporting initiative, and facilitating and engaging in joint problem solving (Grolnick & Lerner, 2023).

Past Meta-Analyses

We located 11 meta-analyses published in the past 20 years with some analysis of intrusive parenting behaviors as related to internalizing or externalizing symptoms of adolescents and/or emerging adults. These published meta-analyses tend to report small to moderate pooled effect sizes linking intrusive parenting to poorer mental health of offspring. For example, one meta-analysis, which located 52 studies of overparenting and helicopter parenting as related to internalizing symptoms reported a small effect size of $r=0.19$ (Zhang & Ji, 2023). As other examples, two meta-analytic studies reviewed parenting dimensions and styles as related to internalizing problems (Pinquart, 2017b) and, in a separate publication, as related to externalizing symptoms (Pinquart, 2017a). These reviews analyzed studies of children and adolescents only (*Mage* of 11.61 years for studies of internalizing and 10.7 years for studies of externalizing) and categorized studies by parenting practice domain, differentiating parenting behaviors of warmth, behavioral control, autonomy granting, harsh control, psychological control, and authoritative, permissive, neglectful or authoritarian parenting. Overall, the strongest concurrent associations with internalizing symptoms were for psychological control ($r=0.24$) and parental warmth ($r=-0.20$). The strongest concurrent associations with externalizing symptoms were for psychological control ($r=0.22$) and neglectful parenting styles ($r=0.19$).

Other past meta-analyses have focused on areas that were not the aim of this review. For instance, some meta-analytic reviews included a wide age range of children, starting from as young as 2.5 years through to 21 years, with a mean age below 13 years (de Roo et al., 2022; McLeod et al., 2007a, 2007b; Möller et al., 2016; Yan et al., 2020). Given that measures of intrusive parenting are generally designed for specific age groups and psychological control, overprotection, and autonomy support by parents necessarily differ depending on the age of the child, these reviews often confound definitions and measures of intrusive or controlling parenting with child age. Although informative, other reviews have had limitations, also. For example, one past review focused on studies using one specific measure (de Roo et al., 2022) or concentrated on one specific parenting behavior term (van der Bruggen et al., 2008; Yan et al., 2020), which has limited the findings to an age period and has not allowed for comparisons of effect sizes between seemingly similar parenting behaviors or comorbid child symptoms. Still other reviews have focused on other correlates of youth's symptoms, such as a wide range of parenting factors (Yap & Jorm, 2015), parental functioning (Yan et al., 2021), or parenting intervention programs (Mouton et al., 2018).

Approach and Moderators

None of the previous meta-analytic reviews described above has directly compared the pooled effect size for multiple seemingly interrelated conceptualizations of intrusive parenting relevant to adolescents and emerging/young adults—psychological control, overprotective parenting, helicopter parenting, and autonomy supportive/restrictive parenting. This means it is not known whether the associations of intrusive parenting with young people's externalizing and internalizing is moderated by the specific conceptualization of intrusive parenting under examination. There has been some investigation of other moderators of effect sizes in past meta-analyses, including symptom type, parent gender, respondent, and culture. For example, one set of two meta-analyses considered multiple moderators (Pinquart, 2017a, 2017b). Regarding the moderator effects for psychological control and autonomy granting with internalizing symptoms (Pinquart, 2017b), moderators included symptom subtype, respondent, and age of child participants. There were stronger effect sizes for psychological control and autonomy granting with depression compared to anxiety; the effect size was stronger if information on parenting was reported by children compared to parents or teachers or if both variables were assessed by the same informant; and the effect size for psychological control with internalizing symptoms was stronger as the age of child/youth participants increased. Regarding the moderator effects for psychological control with externalizing symptoms (Pinquart, 2017a), studies that collected child reports of psychological control yielded a stronger pooled effect size than studies that collected parent reports of psychological control.

Like Pinquart (2017b), another meta-analysis examined internalizing symptom type as a moderator, comparing effects for anxiety, depression or general internalizing symptoms, finding some evidence of moderation for studies of overparenting (measured as overprotective or helicopter parenting) (Zhang & Ji, 2023). In addition, Zhang and Ji (2023) examined parent gender as a moderator, finding that the pooled effect size for maternal overparenting and anxiety ($r=0.16$) was significantly larger than for paternal overparenting and anxiety ($r=0.10$).

Multiple past meta-analyses have considered the respondent as a moderator of the association of intrusive parenting with youth's symptoms, with the respondent identified as the child, parent or both (e.g., de Roo et al., 2022; McLeod et al., 2007a, 2007b; Yan et al., 2020; Yap & Jorm, 2015). For example, Pinquart (2017a, 2017b) found that effect sizes differed depending on respondent, for psychological control with externalizing problems and psychological control with internalizing problems resulting in a stronger effect size for child reports than for parents, teachers

or researchers in studies of children with a mean age of 10.7 years or 11.61 years. However, Zhang and Li (2023) found no moderator effect of informant for studies of overparenting and internalizing symptoms among youth (mean age = 19.76 years). Overall, such findings also suggest that age might be relevant for pooled effect size estimation.

Cultural or national differences can be central when considering parenting of adolescents, making it possible that effect sizes might differ by country where the study was conducted. Parents in different cultural contexts hold different beliefs about what is acceptable and appropriate for parents to set rules for adolescents, especially as adolescents get older (Lansford, 2022). However, even for cultures that emphasize filial piety and parental authority (collectivistic), control and decision-making are eventually moved from parents to developing adolescents (Smetana & Rote, 2019). Although this makes it unclear whether cultural and regional differences would be found for the relationships of intrusive parenting with youth's symptoms, some previous meta-analyses have considered culture as a moderator. For example, Zhang and Ji (2023) found culture (defining the continuous variable as the level of individualism from Hofstede's score system or the categorical variable as individualism or collectivism) did not moderate the association between overparenting and all internalizing symptoms.

The Current Review and Meta-Analyses

The gaps identified in previous reviews highlight the unique aspects we incorporated into the multilevel random effects meta-analytic reviews in this study. The aim was to produce summary effect sizes based on estimates produced across studies of intrusive parenting as related to internalizing and externalizing symptoms in studies of youth with an average age of 13–25 years. We also examined moderators of the pooled effect sizes by considering different subtypes of intrusive parenting (psychological control, overprotective parenting, helicopter parenting, autonomy support-reversed), subtypes of youth's symptoms (depression, anxiety, internalizing; delinquency, antisocial behavior, aggressive, externalizing), parent gender (reports of or by mothers, fathers, mixed), respondent (parent or youth), youth age group (aged 13–15 years, 16–18 years, 19 + years), and region of the study (North America, Asia, Europe, Other). We selected these as moderators based on the expectation of differences and the availability of sufficient studies for moderator analyses. The review has theoretical relevance for models of the role of parenting in youth's mental health and clinical relevance for those who aim to understand the relationship between different intrusive parenting constructs on adolescent and emerging adult children and their mental health symptoms.

Method

Search Strategy

We followed the Joanna Briggs Institute systematic review guidelines and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (see Fig. 1). The guidelines consist of a 27-item checklist, which is used to ensure transparent reporting of studies included in this review (Moher et al., 2009; Page et al., 2021). The study protocol was registered with Prospero (ID no. 448353). Relevant studies were identified via searches of PsycINFO and PubMed electronic databases in June 2025. The search terms included (overparent* OR overinvolv* OR helicopter OR "autonomy res*" OR "psychological control" OR intrusive OR overprotect*) AND (parent* OR mother OR father OR carer OR caregiver) AND (adolesc* OR teen* OR "emerging adult" OR "young adult" OR youth) AND (internalizing OR internalising OR externalizing OR externalising OR "emotional disorder" OR "emotional problems" OR "emotional symptoms" OR anxiety OR "anxious symptoms" OR depression (emotion) OR "depressive symptoms" OR aggression OR "aggressive behav*" OR bullying OR "conduct problems" OR "conduct disorder" OR delinquent behav*" OR delinquency).

Inclusion and Exclusion Criteria and Screening

Primary peer-reviewed studies of parents and/or their children were included when they met the following inclusion and exclusion criteria. Inclusion criteria were (1) data reported in sufficient detail to determine the concurrent unadjusted association (Pearson's *r* or similar; Note: all effect sizes were expressed in *r*) between intrusive parenting and youth's symptoms; (2) published in a peer-reviewed journal; (3) employed a study design that was retrospective, longitudinal, or cross-sectional and collected data via survey or observation, (4) measured parenting behaviors referred to as overprotective or overinvolvement, helicopter, psychological control, and autonomy support (reversed for analyses) using a reliable and validated measure, (5) measured youth internalizing symptoms (anxiety, depressive, or combined) or externalizing behaviors (any form of aggression/bullying, delinquency, antisocial behavior, or combined) using a reliable and validated measure, and (6) mean age of youth of interest (i.e., child of the parent) 13–25 years (on

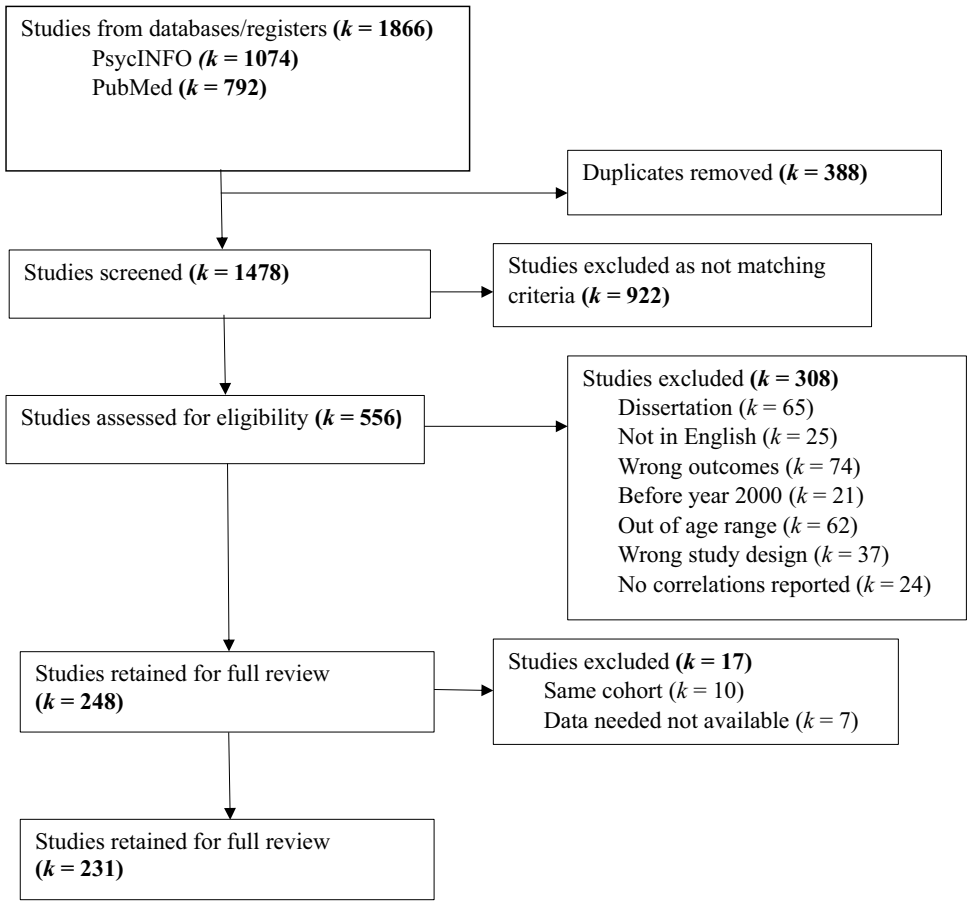

Fig. 1 PRISMA diagram

average, when rounded). Exclusion criteria were (1) youth or parents had been exposed to an intervention prior to reporting parenting and/or youth symptoms (e.g., parenting programs or schema therapy), (2) all participants had psychiatric diagnoses or were drawn only from a mental health clinical setting; (3) externalizing behavior measured as statutory offenses only; (4) less than 100 participants, to warrant a level of robustness of results. Finally, due to problems with translation during pilot testing, only studies published in English were included. Search results were de-duplicated and managed in Covidence (Veritas Health Innovation), a web-based collaboration software platform that streamlines the production of reviews.

Titles and abstracts of all studies were screened by four independent reviewers (KR, TH, TK and NL). Interrater reliability was excellent at 82–83% (McHugh, 2012). After this initial screening, second-stage screening involved reading full texts of methods and results to confirm inclusion and exclusion criteria. When discrepancies occurred, papers were referred to an independent reviewer (MZ), see Fig. 1 for the PRISMA flowchart.

Methodological details and effects, in the form of *r*, from the included papers were extracted by two independent reviewers (KR reviewed all papers and papers were randomly assigned to one of two others for the second review). Any inconsistencies between the two reviewers were resolved by another reader (MZ). Outlier effect sizes during analyses were also verified by returning to the publication (MZ). Extracted data, which were entered into a spreadsheet, included demographic information, study design characteristics, and effect sizes. The effect estimates abstracted from each longitudinal study ($k=25$ studies of externalizing and $k=40$ studies of internalizing) was the earliest concurrent correlation reported. The effect was the association when data were considered across days in the one Experience Sampling Method (ESM) study included (Flamant et al., 2023).

Overview of the Data Analyses

We conducted 3-level random effects meta-analyses using the metafor and dmetar packages developed for the R environment (Assink & Wibbelink, 2016; R Core Team, 2019). The major module in jamovi (the jamovi project, 2022) was used to test for outliers and to produce figures. Three-level models account for dependencies in the data (e.g., multiple effect sizes from the same study/sample) by considering

within-study variance nested within individual studies or subgroups of studies and then pooling the aggregated effects within clusters. These models were then extended to test six categorical moderators of effect size, which included subtypes of intrusive parenting, subtypes of youth's symptoms, parent gender, respondent, youth age group, and region of the study. All effects were expressed as Pearson's *r*, and the Fisher *r*-to-*z* transformation was used. Analyses were conducted separately for child outcomes of internalizing and externalizing symptoms; comparing effects for internalizing and externalizing symptoms was not an aim of this study.

Multilevel meta-analysis for each of internalizing and externalizing symptoms produced an intercept that represented the pooled effect size across studies. We used Cochran's Q test to determine whether effect size heterogeneity across studies was significantly greater than would have been found by sampling error alone. A significant Q statistic indicates heterogeneity (variability) among the effect sizes. I^2 is also reported. I^2 indicates the percentage of variation in the effect estimates across the studies/samples not explained by chance. One caution is that I^2 can be associated with sample size. In the case of many studies with large samples, this can result in an inflated I^2 value, because higher precision of effect size estimates can increase the I^2 substantially (Bornstein, 2020; Rücker, 2008). Given that we located many large studies for this review, we also report τ^2, which provides an estimate of between study variance in the reported effect sizes (i.e., the heterogeneity of true effect sizes); $\tau^2 = 0$ indicates no heterogeneity, whereas a higher τ^2 indicates more heterogeneity (Bornstein et al., 2009). Cook's distance was used to identify outlier effect sizes. Forest plots are presented to detail the effects for each study. Funnel plot visualization was used to examine publication bias.

Following the first summary analyses, we investigated individual moderators by building on the base multilevel models for internalizing and externalizing, before fitting a full meta-regression model with all significant moderators. All moderators were categorical variables, so dummy variables were formed to indicate group membership in those instances where there were more than two categories.

Results

After duplicates were removed, the search yielded 1866 studies for screening. The screening of titles and abstracts of these studies left 556 studies for a more thorough screening of study methods. This more extensive screening was conducted by two reviewers (KR and TH) and resulted in the exclusion of 308 studies. Following these screenings, 248 studies were included. However, a further review resulted in the exclusion of 17 studies that had analyzed the same cohort (and reported the same results) as another study, or results were not published or available (see Fig. 1). Methods and results of the included 231 papers are summarized in Supplemental Table 1 (Table S1). Supplemental Table 2 (Table S2) contains the references for all included studies. Below we sometimes refer to samples rather than studies, given that multiple studies reported on more than one sample.

Intrusive Parenting and Child Internalizing

Studies, Samples, and Participants

In total, 189 studies with 215 samples ($N = 152{,}280$ participants total) contributed at least one effect for the association of intrusive parenting with child internalizing behavior (depression, anxiety, or general internalizing symptoms), with sample sizes that ranged from 74 to 4576; two samples were included that fell below 100 because they were reported within studies that included multiple samples from different regions. Averaging across studies, the mean (of the mean) child age was 16.51 years ($SD = 2.85$), and the proportion of boys (when reported, $k_{samples} = 204$) was 42.5%, with a range from 0 to 75%. Less than half ($k_{samples} = 89$; 40.9%) reported on race/ethnicity (see Table S1).

Intrusive Parenting and Internalizing Behavior: Overall Pooled Effect Size

The 215 samples contributed 482 effect estimates for meta-analyses of intrusive parenting and child internalizing behavior. Analysis of these effect sizes produced a pooled effect of $r = 0.242$ [95% CI 0.226–0.257], $p < 0.001$. As can be seen in forest plot in Fig. 2, the effects ranged from −0.25 to 0.63 and had very high heterogeneity not explained by chance based on the Q and the I^2: $Q(481) = 5560.25$ ($p < 0.001$), $I^2 = 89.3\%$. However, $\tau^2 = 0.01$, with 98% of the effects positive and 58% ranging from 0.14 to 0.34 (±0.10 relative to the pooled effect; see Appendix A). Thus, according to τ^2, there was some true variability among the parenting-internalizing effect sizes. However, according to the I^2, there was substantial effect size heterogeneity not due to chance. Four effect estimates from three samples were outliers based on Cook's distances (Bradford et al., 2004; Persike et al., 2020; Wang et al., 2021). When these estimates were excluded and the analysis repeated, there was no substantial change to the pooled effect size ($r = 0.244$, 95% CI 0.229–0.259). A funnel plot of effect sizes and associated tests can be seen in Supplemental Fig. 1 (Figure S1). This plot does not suggest publication bias.

Table 1 Summary of the results of analyses testing methodological factors as moderators of associations between intrusive parenting and youth's internalizing symptoms

Moderators and categories	k_{ES}	Effect size, *r*	Lower CI, *r*	Upper CI, *r*	Δ*r*	Lower CI, Δ*r*	Upper CI, Δ*r*
Internalizing symptoms, $I^2 = 89.3\%$	482	0.242***	0.226	0.257			
*Type of intrusive parenting***, $I^2 = 88.5\%$*							
Psychological control (reference category)	253	0.262***	0.244	0.280			
Autonomy support—reversed	61	0.214***	0.184	0.243	−00.048**	−0.078	−0.019
Helicopter parenting	67	0.177***	0.142	0.211	−0.085***	−0.120	−0.051
Overprotective parenting	101	0.230***	0.197	0.262	−0.032	−0.065	0.000
Type of youth internalizing, $I^2 = 89.1\%$							
Internalizing (reference category)	106	0.232***	0.203	0.261			
Anxiety	160	0.230***	0.194	0.268	−0.002	−0.038	0.034
Depression	214	0.255***	0.219	0.290	0.023	−0.013	0.058
*Parent gender**, $I^2 = 89,1\%$*							
Mixed gender (reference category)	202	0.262***	0.241	0.283			
Mothers	164	0.229***	0.199	0.260	−0.033*	−0.063	−0.002
Fathers	116	0.210***	0.178	0.242	−0.052**	−0.084	−0.020
*Respondent***, $I^2 = 89.1\%$*							
Child report (reference category)	419	0.253***	0.237	0.269			
Parent–child mixed	46	0.138***	0.100	0.176	−0.115***	−0.153	−0.078
Parent report	17	0.243***	0.189	0.230	−0.010	−0.064	0.044
Age group, $I^2 = 89.1\%$							
Age 13–15	195	0.260***	0.218	0.301	0.029	−0.013	0.070
Age 16–18 (reference category)	88	0.231***	0.195	0.266			
Age 19 +	199	0.223***	0.178	0.267	−0.008	−0.053	0.036
Region, $I^2 = 89.2\%$							
North America (reference category)	194	0.234***	0.208	0.260			
Asia	85	0.265***	0.223	0.307	0.031	−0.011	0.073
Europe	169	0.243***	0.206	0.280	0.009	−0.028	0.046
Other	34	0.212***	0.156	0.268	−0.022	−0.078	0.034

ES, effect size; CI, confidence interval; I^2, the percentage of variation in effects due to studies, rather than to chance

*$p < 0.05$. **$p < 0.01$. ***$p < 0.001$

Tests of Moderators of the Effect Size for Intrusive Parenting and Internalizing Symptoms

Results of analyses of the moderators are shown in Table 1. Three moderators emerged as significant: subtype of parent intrusive behavior ($F(3, 478) = 8.89$, $p < 0.001$), parent gender ($F(2,479) = 5.38$, $p = 0.005$), and respondent ($F(2, 479) = 18.16$, $p < 0.001$). For parent intrusive behavior, the pooled estimate involving psychological control (0.262) was significantly larger when compared to the estimate involving autonomy support (0.214) or helicopter parenting (0.177), but overprotective parenting (0.230) did not differ from psychological control. For parent gender, the pooled estimate involving reports about parents in general (0.262) was significantly larger than for mothers (0.229) and for fathers (0.210). Finally, studies that relied on child reports only returned a significantly larger effect size (0.253) relative to when parents reported one measure and the child reported the other (0.138), but studies where parents reported both measures (0.243) did not differ from child report studies. In addition to the three significant moderators, two of the other three moderators approached significance: child internalizing outcome ($F(2, 479) = 3.04$, $p = 0.050$) and child age ($F(2, 479) = 2.41$, $p = 0.091$). Region was not a significant or marginally significant moderator.

When we tested the five significant or marginally significant moderators in one multilevel model, the results were as described above. Studies of autonomy support and helicopter parenting returned smaller effect sizes, studies that involved reporting of or by fathers returned a smaller effect size, and effect sizes based on a report from a parent and a child returned a smaller effect size. Type of child internalizing outcome and child age were not significant moderators. Despite accounting for these moderators, heterogeneity of the effect sizes remained and a high proportion of this heterogeneity was not due to chance, $Q(470) = 4559.78$ ($p < 0.001$), $I^2 = 88.1\%$, $\tau^2 = 0.01$.

Table 2 Summary of the results of analyses testing methodological factors as moderators of associations between intrusive parenting and youth's externalizing symptoms

Moderators and categories	k_{ES}	Effect size, *r*	Lower CI, *r*	Upper CI, *r*	Δ*r*	Lower CI, Δ*r*	Upper CI, Δ*r*
Externalizing symptoms, I^2 = 91.8%	233	0.217***	0.193	0.241			
Type of intrusive parenting, I^2 = 91.6%							
Psychological control (reference category)	168	0.225***	0.199	0.250			
Autonomy support—reversed	17	0.201***	0.152	0.250	−0.024	−0.073	0.025
Helicopter parenting	8	0.112**	0.022	0.201	−0.113*	−0.203	−0.024
Overprotective parenting	40	0.203***	0.141	0.264	−0.022	−0.084	0.039
Type of youth internalizing, I^2 = 91.2%*							
Externalizing (reference category)	73	0.243***	0.208	0.278			
Delinquency	40	0.178***	0.129	0.228	−0.065*	−0.114	−0.015
Antisocial behavior	49	0.185***	0.132	0.238	−0.058*	−0.111	−0.005
Aggression/bullying	71	0.228***	0.183	0.272	−0.015	−0.060	0.029
Parent gender, I^2 = 91.8%							
Mixed gender (reference category)	71	0.233***	0.196	0.270			
Mothers	94	0.215***	0.165	0.264	−0.018	−0.068	0.031
Fathers	68	0.190***	0.139	0.241	−0.043	−0.094	0.008
*Respondent***, I^2 = 91.3%*							
Child report (reference category)	184	0.231***	0.205	0.258			
Parent–child mixed	34	0.118***	0.078	0.157	−0.113***	−0.153	−0.074
Parent report	15	0.225***	0.166	0.283	−0.006	−0.065	0.052
Age group, I^2 = 91.5%*							
Age 13–15	148	0.255***	0.206	0.305			
Age 16–18 (reference category)	56	0.220***	0.164	0.276	−0.035	−0.091	0.021
Age 19 +	29	0.138***	0.057	0.219	−0.117	−0.198	−0.036
Region, I^2 = 91.7%							
North America (reference category)	78	0.201***	0.161	0.242			
Asia	27	0.239***	0.171	0.307	0.038	−0.030	0.106
Europe	108	0.239***	0.182	0.296	0.038	−0.019	0.095
Other	20	0.157***	0.075	0.239	−0.044	−0.126	0.038

ES, effect size; CI, confidence interval; I^2, the percentage of variation in effects due to studies, rather than to chance

*p < 0.05. **p < 0.01. ***p < 0.001

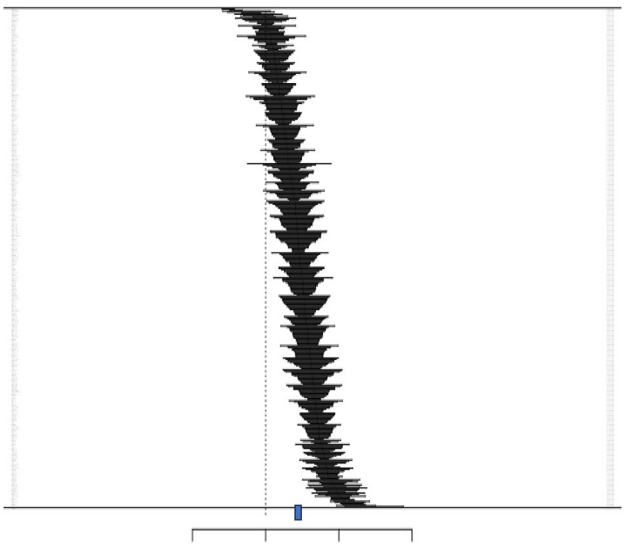

Fig. 2 Forest plot of effect sizes for intrusive parenting as related to youth internalizing symptoms, sorted in year/author order (480 effect sizes). Note See Appendix A for a list of effect sizes in order from smallest (− 0.25) to largest (0.63), with links to the studies

Intrusive Parenting and Child Externalizing Meta-Analyses Results

Studies, Samples, and Participants

In total, 101 studies with 117 samples (N = 85,711 participants total) contributed at least one effect for the association of intrusive parenting with child externalizing behavior (aggression/bullying, antisocial behavior, delinquency, or general externalizing behavior). The sample sizes across the 117 samples ranged from 74 to 4265. One sample size fell below 100 but was included because it was reported within a study reporting on multiple samples from different regions of the world. Averaging across samples, the mean (of the mean) reported child age was 15.62 years (SD = 3.89), and the average proportion of boys (when reported, $k_{samples}$ = 103) was 47%, with a range from 23 to 77%. Less half ($k_{samples}$ = 53, 45%) provided information on race/ethnicity (see Table S1).

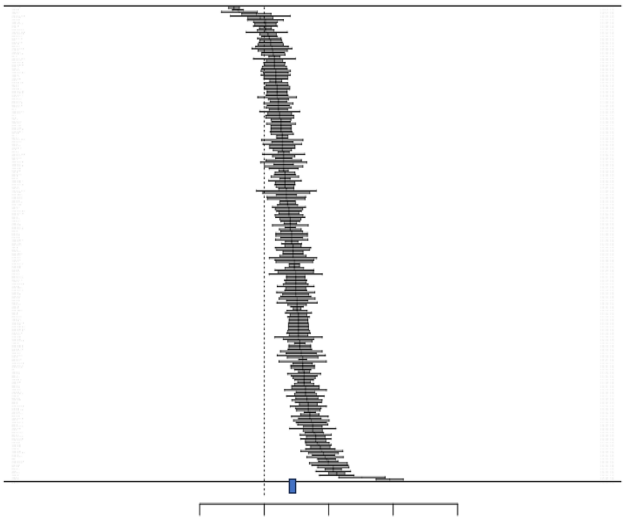

Fig. 3 Effect sizes for intrusive parenting as related to youth externalizing symptoms, sorted in author/year order (233 effect sizes). Note See Appendix B for a list of effect sizes in order from smallest (− 0.23) to largest (0.75), with links to the studies

Intrusive Parenting and Externalizing Behavior: Overall Pooled Effect Size

The 117 samples contributed 232 effect estimates for analyses of intrusive parenting and child externalizing behavior. Analysis of these effect sizes produced a pooled effect of $r=0.217$ [95% CI 0.193–0.241], $p<0.001$. As can be seen in the forest plot in Fig. 3, the effects ranged from −0.23 to 0.75 and had very high heterogeneity based on the Q and the I^2: Q (232)=2874.32 ($p<0.001$), $I^2=91.8\%$. However, $\tau^2=0.02$, with 97% of the effects positive and 61% ranging from 0.12 to 0.32 (±.10 relative to the pooled effect; see Appendix B). Thus, according to τ^2, there was some true variability among the parenting-externalizing effect sizes. However, according to the I^2, there was substantial effect size heterogeneity not due to chance. Seven effect estimates from five samples were outliers based on Cook's distances (Bean et al., 2016; Janssens et al., 2017; Maršanić, 2014; Persike et al., 2020; Safder, 2019). When these estimates were excluded and the meta-analysis repeated, there was no substantial change to the pooled effect size ($r=0.214$, 95% CI 0.194–0.234). A funnel plot of effect sizes and associated tests can be seen in Supplemental Fig. 2 (Figure S2). This plot does not suggest publication bias.

Tests of Moderators of the Effect Size for Intrusive Parenting and Externalizing Symptoms

Results of analyses of the moderators are shown in Table 2. Three moderators emerged as significant: child externalizing outcome ($F(3, 229)=2.86$, $p=0.038$), respondent ($F(2, 230)=17.54$, $p<0.001$), and child age ($F(2,230)=4.08$, $p=0.018$). For child externalizing outcome, the pooled effect sizes involving delinquency (0.178) and antisocial behavior (0.185) were significantly smaller when compared to the estimate involving externalizing in general (0.243), whereas the estimate for aggression (0.228) did not differ from externalizing. For child age, the pooled effect size for youth aged 19+(0.138) was significantly smaller than for youth aged 16–18 (0.255); youth aged 13–15 (0.220) did not differ from youth age 16 to 18. Finally, for respondent, studies that relied on child reports only returned a significantly larger effect size (0.231) relative to when parents reported one measure and the child reported the other (0.118)—the effect size when parents reported both measures (0.225) did not differ from child report. In addition to the three significant moderators, one of the other three moderators approached significance: type of parental intrusive behavior ($F(3, 229)=2.38$, $p=0.070$). Parent gender and region were not significant or marginally significant moderators.

When we tested the four moderators found to be significant or marginally significant in one multilevel model, the results were primarily as described above. Studies of child delinquency and antisocial behavior returned significantly smaller effect sizes, effect sizes based on a report from a parent and a child returned a smaller effect size, and studies of older youth returned a smaller effect size. There was one exception to the findings above, with studies of helicopter parenting returning a significantly smaller effect size in this fuller model. Despite accounting for these moderators, heterogeneity of the effect sizes remained and a high proportion of this heterogeneity was not due to chance, Q(222)=2096.20 ($p<0.001$), $I^2=90.8\%$, $\tau^2=0.02$.

Discussion

The role of parenting in the development of psychopathology in children has a history of comprehensive investigation and analysis. This vast body of research has highlighted a long list of parenting practices, behaviors, and styles that contribute substantially to children's mental health directly and indirectly via numerous psychological mechanisms. The aim of this meta-analytic review was to consolidate the findings from studies of what we referred to generally as intrusive parenting, an aspect of parenting that has been described as particularly problematic for youth's internalizing and externalizing symptoms. We located 231 studies published in a quarter century (2000–2025) and conducted meta-analyses to pool the effect sizes (r) across studies, while also attending to methodological factors that could moderate the effect sizes. Overall, the findings reveal that intrusive parenting has a small to moderate, yet substantial, association with higher levels of internalizing and externalizing

in youth. Pooling all effect sizes reported in these studies revealed intrusive parenting was associated with a higher level of adolescent internalizing symptoms ($r=0.24$) and externalizing symptoms ($r=0.22$). Removing outlier effect sizes resulted in little change to these pooled effect sizes. Notably, also, some study design moderators of the effect sizes were identified, which helped to explain some of the effect size heterogeneity. Nevertheless, even after including moderators, there was a high proportion of effect size heterogeneity remaining that was not due to chance alone, and some heterogeneity in the true effect sizes. The included studies had drawn samples from the general community to reduce self-selection bias, had solid sample sizes (inclusion criterion of>100), did not have exclusion criteria, were cross-sectional in design so had no chance for attrition, and used reliable and valid measures. Thus, the studies were of high quality and funnel plots, together with this quality, suggest low risk of bias.

The overall pooled effect sizes found here are comparable to those reported in past reviews that have focused on subsets of these studies or included studies of younger offspring in their analyses (McLeod et al., 2007a, 2007b; Pinquart, 2017a, 2017b). Yet, the current review extended on past reviews by considering multiple forms of intrusive parenting, finding some differences between them, and focusing on adolescents and emerging adults only—a stage of development when these parenting practices may be most challenging for autonomy development and well-being (Soenens et al., 2017; van Petegem et al., 2023; Zimmer-Gembeck et al., 2011). The review also focused specifically on concepts of intrusive parenting applicable to this age group and all studies implemented measures that were designed with this age group in mind. Analyses were conducted to adjust for multiple effect estimates drawn from within and across studies, and compared effect sizes across intrusive parenting subtypes, different types of youth's symptoms, and multiple methodological features of the studies. This revealed pooled effect sizes that differed depending on methodological characteristics; these ranged from 0.14 to 0.27 for the association of intrusive parenting with internalizing and from 0.11 to 0.26 for the association of intrusive parenting with externalizing.

Study Effect Size Heterogeneity and Moderators of Effect Size

There was high heterogeneity across the effect sizes in all analyses that was not due to chance, which was only partly explained by study design factors. Fortunately, the large number of studies available gave us the statistical power to identify significant moderation effects. These significant moderators included subtype of intrusive parenting, parent gender, and survey respondent in studies of internalizing symptoms and subtype of externalizing, youth's age, and reporter in studies of externalizing symptoms. However, the analysis of moderators still left substantial effect size heterogeneity to explain across studies, which should be investigated in future research. Additionally, despite the numerous studies and effect estimates available, the number of effect sizes was small (<20) for some methodological categories, such as studies involving parent report of child symptoms and studies of helicopter parenting and externalizing behavior.

Subtype of Intrusive Parenting as a Moderator: Internalizing Symptoms

The subtype of intrusive parenting was a significant moderator of the size of the relation between intrusive parenting and youth's internalizing symptoms (but not externalizing behaviors). The strongest associations were for parental psychological controlling behavior and overprotective parenting with youth's internalizing ($r=0.26$ and 0.23, respectively). Effect sizes for helicopter parenting ($r=0.18$) and parental autonomy support (reversed; $r=0.21$) were significantly smaller than for psychological control. Psychological controlling behavior has been described as demanding, manipulative, constraining and possessive (Barber & Harmon, 2002), which makes it the most aligned with parental negativity and hostility of all the intrusive parenting practice conceptualizations. Similarly, overprotective parenting has been described as a level of protection that is excessive to the developmental needs of the child (Thomasgard et al., 1995), suggesting a great deal of alignment with psychological control. Overprotection, like psychological control, also captures elements of parental demandingness, constraining of youth and other forms of negativity or hostility that are similarly associated with youth's symptoms. These similarities in conceptualizations may explain why pooled effect sizes did not significantly differ for psychological control compared to overprotective parenting.

The number of studies of psychological control outweighed the number of studies on other intrusive parenting practices, making us more confident in the pooled effect sizes for psychological control with both internalizing and externalizing symptoms, as compared to the pooled effect sizes for other forms of intrusive parenting. It is also noteworthy that few studies have included multiple measures of intrusive parenting making it difficult to understand their covariation with each other and each of their unique associations with youth's symptoms. Thus, we encourage more research focused on multiple forms of intrusive parenting.

There is a need for better differentiation and consolidation of these multiple measures to produce a comprehensive suite of items and/or subscales that tap all core elements of intrusive parenting. For example, helicopter parenting is a relatively new aspect of intrusive parenting that has had much media attention, but most of the research has focused on university students and educational achievement. Recent research has suggested that some items on at least one helicopter parenting measure may tap responsive parental behaviors to the adolescent's needs when they are in distress, when compared to parenting behaviors tapped by other measures of intrusive parenting (see Ryan et al., 2024).

Subtype of Youth's Symptoms as a Moderator: Externalizing Behaviors

The subtype of symptoms was a significant moderator of the associations of intrusive parenting with youth externalizing behaviors (but not internalizing symptoms). Studies focused specifically on measuring delinquency ($r=0.18$) and studies measuring antisocial behavior ($r=0.19$) produced significantly smaller effects compared to studies of aggression ($r=0.23$) or those that had used measures referred to as externalizing symptoms ($r=0.24$). This suggests that, when focusing on specific externalizing behaviors, intrusive parenting has a stronger concurrent association with measures that include aspects of aggressive behavior than only other aspects of externalizing. Intrusive parenting may be thwarting youth's needs in a way that produces angry outbursts and aggressive behavior, either at home or in other settings. Yet, some also argue that adolescent's externalizing behavior may have more of an effect on parents than the other way around (Keijsers et al., 2010). Thus, these findings could highlight how youth's aggression specifically sparks intrusive parental behaviors. Nevertheless, the findings highlight that the associations of intrusive parenting with different forms of child externalizing behavior in the 13–25 age group do differ depending on the form of externalizing behavior examined. Thus, this topic would benefit from more research to understand whether youth's delinquency, antisocial behavior, and aggression are each an outcome of intrusive parenting or vice versa.

Parent Gender, Survey Respondent, and Child Age as Moderators

Parent gender (i.e., mothers, fathers, or mixed/parents in general) was a significant moderator of the association between intrusive parenting and internalizing symptoms (but not externalizing behaviors). Similar to the direction of associations reported in a previous meta-analysis of studies of overparenting and internalizing symptoms (Zhang & Ji, 2023), studies that reported or focused on fathers' or mothers' intrusive parenting and internalizing symptoms resulted in a significantly smaller pooled effect size (r = 0.23 and 0.21, respectively), relative to studies that asked about parents in general (0.26). Regarding externalizing behavior, the effect sizes for intrusive parenting-externalizing for these three parent gender groups also varied from 0.19 to 0.23, but these effect sizes were not significantly different from each other. This is likely due to the smaller number of available studies. Overall, these findings suggest that focusing on parents in general may reveal more of a pattern of intrusive parenting in the family that has a slightly stronger association with youth's symptoms than focusing on either parent in isolation from the other. In addition, it was surprising how many studies had focused on fathers as well as mothers in this area, suggesting a move toward inclusiveness of fathers in research on parenting.

A substantial proportion of studies included in this review collected all data about parenting and symptoms from the youth themselves, which often raises concerns of researchers and others about common method variance that could inflate or otherwise affect the accuracy of effect sizes (De Los Reyes & Ohannessian, 2016). There was a substantial number of studies that had collected data from parent–child dyads (or triads) and some studies that had only involved data collection from parents, allowing us to compare how using a single respondent may have impacted on the pooled effect sizes. Like past reviews (McLeod et al., 2007a, 2007b; Pinquart, 2017a, 2017b), respondent was a moderator; the pooled effect size for intrusive parenting and symptoms was larger when all data were collected from the child ($r=0.25$ for internalizing and $r=0.23$ for externalizing) relative to when parents reported on one measure and the child reported on the other ($r=0.14$ for internalizing and $r=12$ for externalizing). Also, when all data were collected from parents, the effect sizes did not differ from child report studies. This reveals the impact of collecting all data from a single reporter. However, some of this result could be due to low power from having a smaller number of effect sizes based on parent report for both intrusive parenting and youth's symptoms.

Child age group was a moderator in the analysis of youth's externalizing behavior, but it was not a significant moderator in the analyses of internalizing symptoms. For the analyses of age, we compared three age groups that closely mapped onto the general timing of pre-high school, high school, and university age students for most regions that conducted this research. Comparing age groups, the analyses of the oldest age group returned a weaker effect size ($r=0.14$) relative to the two younger age groups ($r=0.26$ for

age 13–15 and $r = 0.22$ for age 16–18). Externalizing behavior includes aggression, antisocial or delinquent behavior. Such adolescent behaviors may occur in response to parents' intrusiveness, especially in early and middle adolescence–times of life when seeking agency from parents may be at its peak and conflict between parents and children may increase even if temporarily (Collins & Steinberg, 2006; Dishion et al., 2004; Ryan et al., 2016; Soenens et al., 2017). However, it is also possible that parents may be more aware of externalizing behaviors among younger relative to older (19+) adolescents when most live at home and are less able to participate in activities outside of the home without their parents' support. This suggests that parents may be responding to their younger adolescents' externalizing behaviors with increased intrusiveness when these behaviors are possibly easier to witness and modify (Keijsers et al., 2010). It also may be that risk-taking and related externalizing problems are more widespread among younger adolescents than older adolescents who participated in the included study, given that many studies of older adolescents were university students (Bonger et al., 2004).

Region of the World was not a Significant Moderator of Effect Size

Region of the world did not moderate the pooled effect sizes for intrusive parenting and youth's internalizing or intrusive parenting and youth's externalizing symptoms. Thus, studies conducted in North America to Europe, Asia, and "other" countries (mostly Australia, the Middle East, Africa, and the Pacific Islands) did not return significantly different effect sizes. The primary conclusion is that we encourage studies of intrusive parenting in countries outside of North America and Western Europe to increase the available studies to consider in future reviews. To focus on race/ethnicity would have meant focusing on mostly studies from North America, given that most studies from other regions did not report on the racial or ethnic background of the participants. Thus, these findings are not necessarily representative of racial/ethnic differences in the association between intrusive parenting and externalizing symptoms, given that many studies categorized as conducted in Europe and North America (and even Other) were likely to have been multicultural.

Moderators to Examine in Future Research: Youth Gender and Measure

In addition to race/ethnicity, there are two study features that were not examined as moderators in this review. First, we did not examine specific measures (e.g., how intrusive parenting was measured) as a moderator of effect size, given that we found more than 40 measures had been used for intrusive parenting and there was similar variety among the measures of internalizing and externalizing symptoms. However, although the quality of reporting did vary across studies, most studies used widely known measures and presented evidence of good measurement reliability and validity. Notably, Pinquart (2017a, 2017b) did find quality of measures as a moderator, basing quality on reporting of good reliability and validity of a measure. Second, we did not examine child gender as a moderator because so few studies had reported effect sizes separately for young men and young women. We could have examined the proportion of young men/women as a moderator, but these analyses would not have allowed for the precise reporting of effect sizes for each gender.

Limitations

Although this was a comprehensive review of the existing literature on multiple forms of intrusive parenting and a range of youth internalizing and externalizing symptoms, there are several limitations to highlight. In particular, the number of effect sizes available within some topic areas were small despite hundreds of studies in the last quarter century. There were very few studies of the relation of helicopter parenting with externalizing symptoms and a small number of studies that collected data from parents only. However, overall, it was surprising how many studies have been conducted across all areas considered, including the substantial number of studies that have collected quality data from both parents and their children within families. Nevertheless, our pooled effect sizes for some subsets of studies should be considered preliminary until more studies are available for a future review.

In addition, all effect estimates entered in the meta-analyses were derived from concurrent associations, with intrusive parenting and youth's symptoms measured at the same point in time. Thus, we cannot conclude whether intrusive parenting is a precursor of youth's symptom development or the reverse. We would anticipate that temporary associations might be smaller than the concurrent effect sizes reported here and that the associations between intrusive parenting and youth's symptoms would be bidirectional, consistent with what has been reported in longitudinal studies examining these associations (Huey et al., 2020; Laird & Frazer, 2020; Werner et al., 2016).

Clinical Implications

Given the small to moderate effect sizes found in this review, practitioners in the field could keep in mind that intrusive parenting does relate to poorer youth adjustment–especially more depression, anxiety, and aggressive behavior. In addition, intrusive parenting could be a response to having children with more symptoms and, considering the small to moderate effect sizes, that intrusive parenting is likely to be one of many correlates, precursors, or outcomes of youth's adjustment problems. Moreover, third variables may also be important. For example, intrusive parenting is related to other problems that could also be associated with youth adjustment, with evidence showing that parents are more intrusive depending when they have more financial stress, perceive more global unrest, and compare their family circumstances to others on social media use (Mouton et al., 2025; Ryan et al., 2025; Wang et al., 2023; Wuyts et al., 2015). Thus, intrusive parenting could be a cause or a symptom of family or youth problems, but it is relevant when working with parents or youth to improve their relationships. Interestingly, regardless of the measure of intrusive parenting used within the studies reviewed, there were similarities in the results. Although the measures focus on different elements of parenting in their conceptualization, some or all were linked with elevated internalizing and externalizing symptoms among youth. Thus, clinicians may be able to assume that a helicopter parent could likely also be a psychologically controlling parent. However, drawing this conclusion with certainty requires further study of the interrelationships of the multiple measures of intrusive parenting that are available, coupled with an investigation of the unique associations of different conceptualizations with a range of indicators of youth, as well as parent, adjustment (Ryan et al., 2024).

Conclusion

We reported the results of testing multilevel meta-analytic models to estimate pooled effects linking intrusive parenting to youth internalizing and youth externalizing, while also considering multiple possible study design moderators. The analyses revealed small to moderate effect sizes across all conditions. These effect sizes suggest that parents who report or are reported to be higher in intrusive parenting have adolescents or emerging adults who score higher in internalizing and externalizing symptoms. These findings underscore the significant covariation between parenting and youth symptoms. Moreover, although moderators of effect size were identified, this review highlighted more similarity than difference across different study methodological features, including the subtype of intrusive parenting and youth's symptoms, parent gender, the respondent reporting on parenting and symptoms, the age of youth (young adolescent, middle/late adolescent or emerging adult), and the region of the world where the study was conducted. Yet, the impact of these methodological features uncovered gaps that deserve future research. Most notably, only a handful of research studies have used multiple measures to better capture and compare the effects of different conceptualizations of parental intrusive behaviors (e.g., Inguglia et al., 2018; Janssens et al., 2017; Luebbe et al., 2018; Padilla-Walker et al., 2021; Soenens et al., 2012). Our findings suggest this would be a worthwhile approach in the future. Considering their differential relations with youth's symptoms and behaviors is only one part of the puzzle when the aim is to comprehensively understand similarities and differences in their expression, foundations, and broader impacts of parent and youth functioning. This review also revealed a need for better reporting of race/ethnicity and more reporting of findings for different youth genders—this would allow consideration of these demographic factors as moderators in future reviews.

Appendix A

Studies Represented in the Forest Plot of Effect Sizes for Intrusive Parenting as Related to Youth Internalizing Symptoms, sorted in year/author order shown in Fig. 2

References	Effect size, r^a
Persike et al., 2020	−0.25
Persike et al., 2020	−0.20
Basili et al., 2021	−0.13
Basili et al., 2021	−0.10
Geurtzen et al., 2015	−0.10
Basili et al., 2021	−0.05
Cap & Dag, 2019	−0.05
Basili et al., 2021	−0.01
Segrin et al., 2013	−0.01
Alsancak-Akbulut & Komurcu-Akik, 2024	0.00
Brenning et al., 2012	0.00
Hubachek et al., 2023	0.00
Komurcu-Akik & Alsancak-Akbulut, 2021	0.00
Leung & Shek, 2024	0.00
McKinney et al., 2011	0.00
Skinner, et al., 2022	0.00
Li, Shi et al., 2022	0.01
Alsancak-Akbulut & Komurcu-Akik, 2024	0.01
Wenze et al., 2019	0.01
Geurtzen et al., 2015	0.02
Geurtzen et al., 2015	0.02
Hunter et al., 2025	0.02
Komurcu-Akik & Alsancak-Akbulut, 2021	0.02
Alsancak-Akbulut & Komurcu-Akik, 2024	0.03

References	Effect size, r^a
Nelson et al., 2021	0.03
Padilla-Walker et al., 2021	0.03
Basili et al., 2021	0.04
Darlow et al., 2017	0.04
Li, Shi et al., 2022	0.04
Li, Shi et al., 2022	0.04
McKinney et al., 2011	0.04
Reed et al., 2016	0.04
Schiffrin et al., 2014	0.04
Soenens et al., 2007	0.04
Bean et al., 2006	0.05
Leung & Shek, 2024	0.05
Li, Shi et al., 2022	0.05
Padilla-Walker et al., 2021	0.05
Segrin et al., 2013	0.05
Bradford et al., 2004	0.06
Chubar et al., 2020	0.06
Hubachek et al., 2023	0.06
Komurcu-Akik & Alsancak-Akbulut, 2021	0.06
Laird & Frazer, 2020	0.06
Li, Shi et al., 2022	0.06
Nelson et al., 2021	0.06
Reed et al., 2016	0.06
Schiffrin et al., 2014	0.06
Segrin et al., 2013	0.06
Alsancak-Akbulut & Komurcu-Akik, 2024	0.07
Berkien et al., 2012	0.07
Geurtzen et al., 2015	0.07
Li, Shi et al., 2022	0.07
Martín-Piñón et al., 2023	0.07
Reed et al., 2016	0.07
Schiffrin et al., 2014	0.07
Segrin et al., 2013	0.07
Alsancak-Akbulut & Komurcu-Akik, 2024	0.08
Alsancak-Akbulut & Komurcu-Akik, 2024	0.08
Bradford et al., 2004	0.08
Cheung & Pomerantz, 2011	0.08
Cui et al., 2019	0.08
Flamant et al., 2020	0.08
Hong & Cui, 2020	0.08
Komurcu-Akik & Alsancak-Akbulut, 2021	0.08
Li, Shi et al., 2022	0.08
Ryan et al., 2024	0.08
Sutic et al., 2025	0.08
Wenze et al., 2019	0.08
Xiao et al., 2024	0.08
Alsancak-Akbulut & Komurcu-Akik, 2024	0.09
Bradford et al., 2004	0.09
Cheung & Pomerantz, 2011	0.09
Cheung & Pomerantz, 2011	0.09
Cook, 2020	0.09
Cui et al., 2019	0.09
Darlow et al., 2017	0.09
Leung & Shek, 2024	0.09
Leung, 2021	0.09
Li, Shi et al., 2022	0.09
Nelemans et al., 2020	0.09
Segrin et al., 2013	0.09
Basili et al., 2021	0.10
Cheung & Pomerantz, 2011	0.10
Flamant et al., 2020	0.10
Komurcu-Akik & Alsancak-Akbulut, 2021	0.10
Niditch & Varela, 2011	0.10
Salaam & Mounts, 2016	0.10
Berkien et al., 2012	0.11
Bleys et al., 2018	0.11
Flamant et al., 2022	0.11
Hunter et al., 2025	0.11
Hunter et al., 2025	0.11
Komurcu-Akik & Alsancak-Akbulut, 2021	0.11
Rekart et al., 2007	0.11
Renk et al., 2006	0.11
Soenens et al., 2006	0.11
Zyla et al., 2019	0.11
Cap & Dag, 2019	0.12
Cook, 2020	0.12
Cui et al., 2019	0.12
Hong & Cui, 2020	0.12
Rote et al., 2020	0.12
Smith Bynum & Kotchick, 2006	0.12
Sutic et al., 2025	0.12
Van Petegem et al., 2020	0.12
Xu et al., 2017	0.12
Xu et al., 2017	0.12
Zheng & Chen, 2025	0.12
Zhu & Shek, 2021	0.12
Bradford et al., 2004	0.13
Bradford et al., 2004	0.13
Cap & Dag, 2019	0.13
Cook, 2020	0.13
Cui et al., 2019	0.13
Hofer et al., 2010	0.13
Hong & Cui, 2020	0.13
Hunter et al., 2025	0.13
Lansford et al., 2014	0.13
Lansford et al., 2014	0.13
Perez et al., 2020	0.13
Ryan et al., 2024	0.13
Soenens et al., 2006	0.13
Wenze et al., 2019	0.13
Bynion et al., 2017	0.14
Chubar et al., 2020	0.14
Cui et al., 2019	0.14
Farina et al., 2021	0.14
Flamant et al., 2022	0.14
Leung & Shek, 2024	0.14
Moilanen & Lynn Manuel, 2019	0.14
Reed et al., 2016	0.14
Segrin et al., 2013	0.14
Soenens et al., 2010	0.14

References	Effect size, r^a
Bean et al., 2006	0.15
Cui et al., 2019	0.15
Etkin et al., 2022	0.15
Hong & Cui, 2020	0.15
Inguglia et al., 2018	0.15
Komurcu-Akik & Alsancak-Akbulut, 2021	0.15
Komurcu-Akik & Alsancak-Akbulut, 2021	0.15
Kouros et al., 2017	0.15
Liu et al., 2022	0.15
Mabbe et al., 2016	0.15
Schiffrin et al., 2019	0.15
Symeou & Georgiou, 2017	0.15
Zheng & Chen, 2025	0.15
Bradford et al., 2004	0.16
Leung, 2021	0.16
Mandara & Pikes, 2008	0.16
Niditch & Varela, 2011	0.16
Soenens et al., 2012	0.16
Soenens et al., 2012	0.16
Williams, & McKinney, 2023	0.16
Alsancak-Akbulut & Komurcu-Akik, 2024	0.17
Apsley & Padilla-Walker, 2020	0.17
Bradford et al., 2004	0.17
Darlow et al., 2017	0.17
Gugliandolo et al., 2015	0.17
Houtepen et al., 2019	0.17
Lam & Tam, 2011	0.17
Mabbe et al., 2016	0.17
McKinney et al., 2011	0.17
Soenens et al., 2007	0.17
Williams, & McKinney, 2023	0.17
Williams, & McKinney, 2023	0.17
Anhalt & Morris, 2008	0.18
Carollo et al., 2024	0.18
Hale et al., 2006	0.18
Lansford et al., 2014	0.18
Liga et al., 2020	0.18
Rote et al., 2022	0.18
Schiffrin et al., 2019	0.18
Soenens et al., 2012	0.18
Anhalt & Morris, 2008	0.19
Benedetto et al., 2018	0.19
Cohrdes & Gobel, 2022	0.19
Gugliandolo et al., 2015	0.19
Kouros et al., 2017	0.19
Krishnakumar et al., 2003	0.19
Luebbe et al., 2018	0.19
Moilanen & Lynn Manuel, 2019	0.19
Pace et al., 2020	0.19
Qin et al., 2021	0.19
Cui et al., 2019	0.20
Desjardins & Leadbeater, 2017	0.20
Hunter et al., 2025	0.20
Hunter et al., 2025	0.20
Inguglia et al., 2018	0.20
Jorgensen et al., 2017	0.20
Rekart et al., 2007	0.20
Salaam & Mounts, 2016	0.20
Schiffrin et al., 2019	0.20
Schiffrin et al., 2019	0.20
Turner et al., 2020	0.20
Wenze et al., 2019	0.20
Williams, & McKinney, 2023	0.20
Xia & Qian, 2001	0.20
Apsley & Padilla-Walker, 2020	0.21
Bamaca-Colbert et al., 2018	0.21
Bynion et al., 2017	0.21
Cook, 2020	0.21
Darlow et al., 2017	0.21
Etkin et al., 2022	0.21
Garcia-Mendoza et al., 2024	0.21
Komurcu-Akik & Alsancak-Akbulut, 2021	0.21
Kouros et al., 2017	0.21
McKinney et al., 2011	0.21
Nelemans et al., 2020	0.21
Özdemir, 2012	0.21
Soenens et al., 2008	0.21
Spokas & Heimberg, 2008	0.21
Symeou & Georgiou, 2017	0.21
Williams, & McKinney, 2023	0.21
Charoensuk, 2007	0.22
Desjardins & Leadbeater, 2017	0.22
Gallagher & Cartwright-Hatton, 2008	0.22
Houtepen et al., 2019	0.22
McKinney et al., 2011	0.22
Mousavi et al., 2016a	0.22
Muris, 2002	0.22
Muris, 2002	0.22
Oliva et al., 2014	0.22
Rekart et al., 2007	0.22
Rote et al., 2020	0.22
Rote et al., 2020	0.22
Selçuk et al., 2021	0.22
Semkovska et al	0.22
Soenens et al., 2007	0.22
Van Petegem et al., 2022	0.22
Weitkamp & Seiffge-Krenke, 2019	0.22
Williams, & McKinney, 2023	0.22
Williams, & McKinney, 2023	0.22
Wouters et al., 2018	0.22
Xie et al., 2025	0.22
Charoensuk, 2007	0.23
Chubar et al., 2020	0.23
Cui et al., 2019	0.23
Farina et al., 2021	0.23
Fu et al., 2024	0.23
Houtepen et al., 2019	0.23
Huey et al., 2020	0.23
Liga et al., 2020	0.23
Muris, 2002	0.23

References	Effect size, r^a
Reilly & Semkovska, 2018	0.23
Romm & Alvis, 2022	0.23
Soenens et al., 2012	0.23
Tani et al., 2014	0.23
Xie et al., 2025	0.23
Bamaca-Colbert et al., 2018	0.24
Deng et al., 2021	0.24
Gallagher & Cartwright-Hatton, 2008	0.24
Inguglia et al., 2018	0.24
Kline et al., 2016	0.24
Li et al., 2024	0.24
Padilla-Walker et al., 2021	0.24
Reilly & Semkovska, 2018	0.24
Soenens et al., 2007	0.24
Tani et al., 2014	0.24
Benedetto et al., 2018	0.25
Bleys et al., 2018	0.25
El-Khodary & Samara, 2019	0.25
Gao et al., 2023	0.25
Gao et al., 2023	0.25
Inguglia et al., 2018	0.25
Inguglia et al., 2022	0.25
Lansford et al., 2014	0.25
Lee & Kang, 2018	0.25
McEwen & Flouri, 2009	0.25
McEwen & Flouri, 2009	0.25
Rekart et al., 2007	0.25
Rote et al., 2020	0.25
Seiffge-Krenke et al., 2018	0.25
Spokas & Heimberg, 2008	0.25
Stolz et al., 2005	0.25
Stolz et al., 2005	0.25
Bai et al., 2020	0.26
Barber et al., 2012	0.26
Carollo et al., 2024	0.26
El-Khodary & Samara, 2019	0.26
Garcia-Mendoza et al., 2024	0.26
Komurcu-Akik & Alsancak-Akbulut, 2021	0.26
Krishnakumar et al., 2003	0.26
Nishikawa et al., 2010	0.26
Reitman & Asseff, 2010	0.26
Renk et al., 2006	0.26
Romm & Alvis, 2022	0.26
Selçuk et al., 2021	0.26
Soenens et al., 2008	0.26
Soenens et al., 2007	0.26
Weisskirch, 2018	0.26
Williams, & McKinney, 2023	0.26
Wolfradt et al., 2002	0.26
Xie et al., 2025	0.26
Xie et al., 2025	0.26
Zalta & Chambless, 2011	0.26
Chao & Aque, 2009	0.27
Dentale et al., 2015	0.27
Liu et al., 2022	0.27
Luebbe, Tu et al., 2018	0.27
McKinney et al., 2011	0.27
McKinney et al., 2011	0.27
Padilla-Walker et al., 2021	0.27
Schiffrin et al., 2014	0.27
Walton & Flouri, 2010	0.27
Bradford et al., 2004	0.28
Desjardins & Leadbeater, 2017	0.28
Fatemi et al., 2024	0.28
Flamant et al., 2023	0.28
Garcia-Mendoza et al., 2024	0.28
Garcia-Mendoza et al., 2024	0.28
Gardner & Zimmer-Gembeck, 2018	0.28
Gardner & Zimmer-Gembeck, 2018	0.28
Huang et al., 2021	0.28
Hunter et al., 2015	0.28
Kouros et al., 2017	0.28
Liga et al., 2017	0.28
Liu et al., 2022	0.28
Muris et al., 2003	0.28
Romm & Alvis, 2022	0.28
Romm & Alvis, 2022	0.28
Saleem et al., 2021	0.28
Tu et al., 2014	0.28
Tu et al., 2014	0.28
Alsancak-Akbulut & Komurcu-Akik, 2024	0.29
Alsancak-Akbulut & Komurcu-Akik, 2024	0.29
Bullock et al., 2018	0.29
Gargurevich & Soenens, 2016	0.29
Gargurevich & Soenens, 2016	0.29
Hofer et al., 2010	0.29
Jiao & Segrin, 2023	0.29
Li et al., 2020	0.29
Mandara & Pikes, 2008	0.29
McKinney et al., 2011	0.29
Tani et al., 2014	0.29
Taylor et al., 2012	0.29
Hunter et al., 2015	0.30
Luebbe & Bell, 2014	0.30
Muris, 2002	0.30
Plunkett et al., 2007	0.30
Plunkett et al., 2007	0.30
Reitman & Asseff, 2010	0.30
Segrin et al., 2022	0.30
Soenens et al., 2010	0.30
Soenens et al., 2006	0.30
Van Petegem et al., 2020	0.30
Xiao et al., 2024	0.30
Benedetto et al., 2018	0.31
Chubar et al., 2020	0.31
Dentale et al., 2015	0.31
Dentale et al., 2015	0.31
Francis & Manley, 2022	0.31
Gardner & Zimmer-Gembeck, 2018	0.31
Gardner & Zimmer-Gembeck, 2018	0.31

References	Effect size, r^a
Liu et al., 2022	0.31
Luebbe et al., 2018	0.31
Moberg et al., 2011	0.31
Nishikawa et al., 2010	0.31
Reitman & Asseff, 2010	0.31
Rudy et al., 2008	0.31
Soenens et al., 2010	0.31
Xiong et al., 2019	0.31
Alsancak-Akbulut & Komurcu-Akik, 2024	0.32
Barber et al., 2012	0.32
Bradford et al., 2004	0.32
Bynion et al., 2017	0.32
Campione-Barr et al., 2014	0.32
Campione-Barr et al., 2014	0.32
Chao & Aque, 2009	0.32
Deng et al., 2024	0.32
Dentale et al., 2015	0.32
Jiao & Segrin, 2023	0.32
Kakihara et al., 2010	0.32
Liga et al., 2017	0.32
Mabbe et al., 2016	0.32
Pesigan et al., 2014	0.32
Reitman & Asseff, 2010	0.32
Xia & Qian, 2001	0.32
Ahmad & Soenens, 2010	0.33
Bai et al., 2020	0.33
Farina et al., 2021	0.33
Francis & Manley, 2022	0.33
Houtepen et al., 2019	0.33
Jackson, 2007	0.33
Li et al., 2020	0.33
Padilla-Walker et al., 2011	0.33
Padilla-Walker et al., 2011	0.33
Pettit et al., 2001	0.33
Qin et al., 2021	0.33
Zalta & Chambless, 2011	0.33
Alsancak-Akbulut & Komurcu-Akik, 2024	0.34
Apsley & Padilla-Walker, 2020	0.34
Bynion et al., 2017	0.34
Lieb et al., 2000	0.34
Liga et al., 2017	0.34
Muris et al., 2003	0.34
Padilla-Walker et al., 2011	0.34
Tani et al., 2014	0.34
Xie et al., 2025	0.34
Zhang et al., 2023	0.34
Zhang et al., 2023	0.34
Zheng & Chen, 2025	0.34
Albrecht et al., 2007	0.35
Albrecht et al., 2007	0.35
Farina et al., 2021	0.35
Haspolat & Yalcin, 2023	0.35
Liga et al., 2017	0.35
Liga et al., 2020	0.35
Loeb et al., 2021	0.35
Mabbe et al., 2016	0.35
Soenens et al., 2010	0.35
Soenens et al., 2007	0.35
Xie et al., 2025	0.35
Zhongg et al., 2023	0.35
Zhou et al., 2024	0.35
Zhu et al., 2024	0.35
Zhu et al., 2024	0.35
Bradford et al., 2004	0.36
Liss et al., 2005	0.36
Liu, Fu et al., 2025	0.36
Segrin et al., 2022	0.36
Francis & Manley, 2022	0.37
Laird & Frazer, 2020	0.37
Liss et al., 2005	0.37
Liu, Wang et al., 2025	0.37
Liu, Wang et al., 2025	0.37
Padilla-Walker et al., 2011	0.37
Soenens et al., 2008	0.37
Vatanasin et al., 2012	0.37
Chao & Aque, 2009	0.38
Desjardins & Leadbeater, 2017	0.38
Haspolat & Yalcin, 2023	0.38
Marici, 2015	0.38
Seibel & Johnson, 2001	0.38
Wouters et al., 2018	0.38
Zhongg et al., 2023	0.38
Goger et al., 2020	0.39
Haspolat & Yalcin, 2023	0.39
Mousavi et al., 2016b	0.39
Romm & Metzger, 2018	0.39
Seibel & Johnson, 2001	0.39
Selçuk et al., 2021	0.39
Yang & Yang, 2025	0.39
Werner et al., 2016	0.40
Abaied et al., 2018	0.40
Hofer et al., 2010	0.40
Li, Ma et al., 2022	0.40
Luebbe & Bell, 2014	0.40
Nizamettinoglu et al., 2021	0.40
Peng et al., 2021	0.40
Zheng & Chen, 2025	0.40
Zhou et al., 2024	0.40
Apsley & Padilla-Walker, 2020	0.41
Loladze, 2022	0.41
Peng et al., 2021	0.41
Kincaid et al., 2011	0.42
Rudy et al., 2008	0.42
Brenning et al., 2012	0.43
Liga et al., 2020	0.43
Soenens et al., 2006	0.43
Francis & Manley, 2022	0.44
Luebbe & Bell, 2014	0.44
Selçuk et al., 2021	0.44
Benedetto et al., 2018	0.45

References	Effect size, r^a
Chao & Aque, 2009	0.45
Cui et al., 2014	0.45
Haspolat & Yalcin, 2023	0.45
Kline et al., 2016	0.45
Cao et al., 2024	0.46
Fite et al., 2022	0.46
Rote et al., 2022	0.46
Luebbe & Bell, 2014	0.47
Moberg et al., 2011	0.47
Van Assche et al., 2016	0.47
Cook, 2020	0.48
Van Assche et al., 2016	0.49
Cap & Dag, 2019	0.52
Rodriguez-Meirinhos et al., 2020	0.52
Wang et al., 2021	0.53
Bradford et al., 2004	0.54
Rodriguez-Meirinhos et al., 2020	0.55
Xu & Zheng, 2022	0.63

[a]Effect sizes were reversed for autonomy support.

Appendix B

Studies Represented in the Forest Plot of Effect Sizes for Intrusive Parenting as Related to Youth Externalizing Symptoms, sorted in year/author order shown in Fig. 3

References	Effect size, r^a
Persike et al., 2020	−.23
Persike et al., 2020	−.20
Bean et al., 2006	−0.19
Moilanen & Lynn Manuel, 2019	−0.06
Basili et al., 2021	−0.03
Van Petegem et al., 2020	−0.03
Jorgensen et al., 2017	−0.01
Bean et al., 2006	0.01
Keijsers et al., 2010	0.01
Nelson et al., 2021	0.01
Padilla-Walker et al., 2021	0.01
Smith Bynum & Kotchick, 2006	0.01
Soenens et al., 2006	0.01
Basili et al., 2021	0.02
Keijsers et al., 2010	0.03
Bradford et al., 2004	0.04
Zukauskiene, & Malinauskiene, 2008	0.04
Fousiani et al., 2016	0.05
Zukauskiene, & Malinauskiene, 2008	0.05
Laird & Frazer, 2020	0.06
Murray et al., 2014	0.06
Walker-Barnes & Mason, 2001	0.07
Pace et al., 2018	0.07
Zukauskiene, & Malinauskiene, 2008	0.07
Alvarez-Garcia et al., 2016	0.08
Basili et al., 2021	0.08
Bradford et al., 2004	0.08
Nelson et al., 2021	0.08
Soenens et al., 2006	0.08
Torrente & Vazsonyi, 2008	0.08
Hokoda et al., 2006	0.09
Mabbe et al., 2016	0.09
Moilanen & Lynn Manuel, 2019	0.09
Padilla-Walker et al., 2021	0.09
Padilla-Walker et al., 2021	0.09
Zhang et al., 2021	0.09
Zukauskiene, & Malinauskiene, 2008	0.09
Albrecht et al., 2007	0.10
Mukhtar & Mahmood, 2018	0.10
Renk et al., 2006	0.10
Romm & Alvis, 2022	0.10
Torrente & Vazsonyi, 2008	0.10
Torrente & Vazsonyi, 2008	0.10
Van Petegem et al., 2015	0.10
Bradford et al., 2004	0.11
Bradford et al., 2004	0.11
Kocak et al., 2017	0.11
Lansford et al., 2014	0.11
Romm & Alvis, 2022	0.11
Wang et al., 2025	0.11
Lampropoulou et al., 2025	0.12
Lampropoulou et al., 2025	0.12
Murray et al., 2014	0.12
Padilla-Walker et al., 2021	0.12
Berkien et al., 2012	0.13
Bradford et al., 2004	0.13
Stevens & Hardy, 2013	0.13
Torrente & Vazsonyi, 2008	0.13
Torrente & Vazsonyi, 2008	0.13
Torrente & Vazsonyi, 2008	0.13
Van Petegem et al., 2015	0.13
Albrecht et al., 2007	0.14
Alvarez-Garcia et al., 2016	0.14
Alvarez-Garcia et al., 2016	0.14
Basili et al., 2021	0.14
Bradford et al., 2004	0.14
Doyle & Markiewicz, 2005	0.14
Romm & Alvis, 2022	0.14
Romm & Alvis, 2022	0.14
Wang et al., 2025	0.14
Alvarez-Garcia et al., 2016	0.15
Basili et al., 2021	0.15
Bradford et al., 2004	0.15
Bradford et al., 2004	0.15
Ingram et al., 2019	0.15
Rote et al., 2022	0.15
Soenens et al., 2006	0.15
Soenens et al., 2008	0.15
Stevens & Hardy, 2013	0.15
Zhu & Shek, 2021	0.15
Berkien et al., 2012	0.16
Bradford et al., 2004	0.16

References	Effect size, r^a
Costa et al., 2019	0.16
He et al., 2019	0.16
Liang et al., 2024	0.16
Martín-Piñón et al., 2023	0.16
Soenens et al., 2006	0.16
Torrente & Vazsonyi, 2008	0.16
Bai et al., 2020	0.17
Basili et al., 2021	0.17
Chao & Aque, 2009	0.17
Hofer et al., 2010	0.17
Salaam & Mounts, 2016	0.17
Torrente & Vazsonyi, 2008	0.17
Bai et al., 2020	0.18
Bradford et al., 2004	0.18
Torrente & Vazsonyi, 2008	0.18
Baumgardner & Boyatzis, 2018	0.19
Costa et al., 2019	0.19
Mabbe et al., 2016	0.19
Özdemir, 2012	0.19
Torrente & Vazsonyi, 2008	0.19
Chhangur et al., 2015	0.20
Choe et al., 2022	0.20
Muris et al., 2003	0.20
Padilla-Walker et al., 2011	0.20
Walton & Flouri, 2010	0.20
Weitkamp & Seiffge-Krenke, 2019	0.20
Williams & McKinney, 2023	0.20
Fousiani et al., 2016	0.21
Gugliandolo et al., 2015	0.21
Gugliandolo et al., 2015	0.21
Kocak et al., 2017	0.21
Martín-Piñón et al., 2023	0.21
Padilla-Walker et al., 2011	0.21
Torrente & Vazsonyi, 2008	0.21
Bradford et al., 2004	0.22
Ingram et al., 2019	0.22
Laird & Frazer, 2020	0.22
Law & Barber, 2007	0.22
Stolz et al., 2005	0.22
Torrente & Vazsonyi, 2008	0.22
Tu et al., 2014	0.22
Hunter et al., 2015	0.23
Meter et al., 2019	0.23
Nishikawa et al., 2010	0.23
Renk et al., 2006	0.23
Weitkamp & Seiffge-Krenke, 2019	0.23
Weitkamp & Seiffge-Krenke, 2019	0.23
Cui et al., 2014	0.24
Flamant et al., 2020	0.24
Janssens et al., 2017	0.24
Janssens et al., 2017	0.24
Lansford et al., 2014	0.24
Lopez-Romero et al., 2023	0.24
Mabbe et al., 2016	0.24
Nishikawa et al., 2010	0.24
Torrente & Vazsonyi, 2008	0.24
Tu et al., 2014	0.24
Van Petegem et al., 2015	0.24
Wagner & Abaied, 2016	0.24
Zhang et al., 2023	0.24
Campione-Barr et al., 2014	0.25
Choe et al., 2022	0.25
Flamant et al., 2020	0.25
Muris et al., 2003	0.25
Padilla-Walker et al., 2011	0.25
Tian et al., 2019	0.25
Torrente & Vazsonyi, 2008	0.25
Flamant et al., 2022	0.26
Huey et al., 2020	0.26
Hunter et al., 2015	0.26
Krishnakumar et al., 2003	0.26
Law & Barber, 2007	0.26
Muris et al., 2003	0.26
Muris et al., 2003	0.26
Selçuk et al., 2021	0.26
Stolz et al., 2005	0.26
Torrente & Vazsonyi, 2008	0.26
Torrente & Vazsonyi, 2008	0.26
Williams & McKinney, 2023	0.26
Zhang et al., 2023	0.26
Zukauskiene, & Malinauskiene, 2008	0.26
Pettit et al., 2001	0.27
Seiffge-Krenke et al., 2018	0.27
Williams & McKinney, 2023	0.27
Williams & McKinney, 2023	0.27
Zukauskiene, & Malinauskiene, 2008	0.27
Chao & Aque, 2009	0.28
Krishnakumar et al., 2003	0.28
Soenens et al., 2008	0.28
Choe & Read, 2019	0.29
Cohrdes & Gobel, 2022	0.29
Lam & Tam, 2011	0.29
Selçuk et al., 2021	0.29
Symeou & Georgiou, 2017	0.29
Xiao et al., 2024	0.29
Zukauskiene, & Malinauskiene, 2008	0.29
Barber et al., 2012	0.30
Baumgardner & Boyatzis, 2018	0.30
Flamant et al., 2022	0.30
Lansford et al., 2014	0.30
Muris et al., 2003	0.30
Padilla-Walker et al., 2011	0.30
Ryan et al., 2024	0.30
Costa et al., 2019	0.31
Costa et al., 2019	0.31
Hofer et al., 2010	0.31
Leadbeater et al., 2008	0.31
Muris et al., 2003	0.31
Van Petegem et al., 2015	0.31
Lansford et al., 2014	0.32

References	Effect size, r^a
Soenens et al., 2008	0.32
Cap & Dag, 2019	0.33
Geng et al., 2022	0.33
Taylor et al., 2012	0.33
Van Petegem et al., 2020	0.33
Zukauskiene, & Malinauskiene, 2008	0.33
Barber et al., 2012	0.34
Janssens et al., 2017	0.34
Kincaid et al., 2011	0.34
Symeou & Georgiou, 2017	0.34
Cui et al., 2014	0.35
Soenens et al., 2008	0.35
Deng et al., 2021	0.36
Janssens et al., 2017	0.36
Rote et al., 2022	0.36
Ryan et al., 2024	0.36
Janssens et al., 2017	0.37
Arim & Shapka, 2008	0.38
Chao & Aque, 2009	0.38
Janssens et al., 2017	0.38
Kochanova et al., 2021	0.38
Coyne et al., 2020	0.39
Mabbe et al., 2016	0.40
Marici, 2015	0.41
Selçuk et al., 2021	0.41
Leadbeater et al., 2008	0.42
Cao et al., 2024	0.43
Mabbe et al., 2016	0.43
Chao & Aque, 2009	0.44
Kim et al., 2023	0.45
Hofer et al., 2010	0.46
Selçuk et al., 2021	0.46
Flamant et al., 2023	0.47
Arim & Shapka, 2008	0.49
Janssens et al., 2017	0.49
Rodriguez-Meirinhos et al., 2020	0.49
Janssens et al., 2017	0.51
Rodriguez-Meirinhos et al., 2020	0.51
Marsanic et al., 2014	0.64
Safdar & Khan, 2019	0.75

[a]Effect sizes were reversed for autonomy support.

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Data availability Data is available upon request to the authors.

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