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Review

Overinvolved/Protective Parenting Questionnaires for Children: A Systematic Review in the Field of Internalizing Problems

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Abstract: Overinvolved/protective parenting has emerged in child development literature as part of the etiology of internalizing problems (anxiety/depression). This review aimed to explore overinvolved/protective parenting questionnaires that exist in the internalizing literature for different childhood periods and their psychometric properties (reliability, validity, norms). A systematic review was conducted through seven databases and Google Scholar. Extraction and evaluation of psychometric properties were double coded. Four hundred and sixty publications were screened for eligibility, with 20 of these further assessed. Ten overinvolved/protective parenting questionnaires were described in the literature (between 1993 and 2019) six starting as young as preschool age, two at primary school age and two in adolescence. Some questionnaires at each age stood out in terms of psychometric development: at preschool age, the Overinvolved/protective Parenting Scale, and at primary and high school age the Modified My Memories of Upbringing for Children. The Parental Bonding Instrument is also recommended in late adolescence. Clinicians and researchers can select from the questionnaires reviewed, to assist in clinical practice with children and families, along with etiology, treatment and prevention research.

Keywords: Child; overinvolved/protective parenting; internalizing problems; systematic review

1 Introduction

This review focused on questionnaires that measure overinvolved/protective parenting in the context of childhood internalizing problems. Overinvolved/protective parenting and child internalizing problems are defined as follows. Overinvolved/protective parenting can protect a child from natural difficulties that arise in life and reduce opportunities for children to independently navigate through and problem solve these challenges. Overinvolved/protective parenting tends to involve interactions that are intrusive and anxiety provoking, thus demonstrating to a child that challenges are too scary or hard for them to face or overcome [1–7]. Overinvolved/protective parenting can be more likely to be adopted by parents who experience anxiety themselves and as such may serve as a perpetuating factor for their child's inhibition

and anxiety [8]. Helicopter parenting has developed as a lay term for overinvolved/protective parenting [9–12]. Internalizing problems in childhood are defined as symptoms primarily consisting of anxiety and depression (Diagnostic and Statistical Manual of Mental Disorders (DSM-5) [13]).

In conducting this systematic review, overinvolved/protective parenting questionnaires were explored across different childhood periods. As background, the prevalence of child internalizing problems is first outlined. Stability of child internalizing problems over time and potential negative outcomes are then noted to emphasize significance. Then knowledge about the etiology of children's internalizing problems is summarized, highlighting overinvolved/protective parenting as a potential contributor. This systematic review focused on overinvolved/protective parenting questionnaires for children in relation to internalizing problems, highlighting those in the field to date with psychometric support for potential use by clinicians and researchers.

Epidemiological studies show that 10–20% of children are affected by mental health problems [14], illustrated by Polanczyk and colleagues' [15] meta-analysis including publications across 27 countries (North and South America, Europe, Asia, Africa, the Caribbean, Middle East and Oceania). Amongst their 13% of youth (aged 6–18 years) with mental health disorders worldwide, around half had anxiety disorders (7%) and a third depressive disorders (3%). Australia's recent national epidemiological survey of youth mental health showed similar internalizing rates. Lawrence et al. [16] assessed a representative sample of 6,310 youth (aged 4–17 years) and reported the one-year prevalence of mental health disorders by diagnostic interview (DISC-IV [17]) as 14% (one in seven), amongst which 7% had an anxiety disorder and 3% depressive disorder. Australia's prevalence of youth internalizing problems had not changed in over 15 years since its first national youth mental health survey [18]. Children's internalizing problems are a public health concern worldwide.

Early signs of internalizing problems can commence in the preschool years and show stability from this time. To illustrate, Bayer et al. [19] study based on national representative data from the Longitudinal Study of Australian Children (LSAC) found stability of internalizing symptoms over time. The LSAC sample included two panels, one of which were 4,983 preschoolers (aged 4–5 years) followed to 9 years of age, with child internalizing symptoms measured by the Strengths and Difficulties Questionnaire [20]. There were significant positive correlations from age 4–5 years to 6–7 years (r = 0.46), 6–7 years to 8–9 years (r = 0.55) and 4–5 years through to 8–9 years (r = 0.38). Similarly, internationally Hofstra, Van der Ende et al. [21] found stability of internalizing problems in their 14-year follow-up study of 1,615 youth in the Netherlands. Their initial assessments of internalizing problems were with children aged 4–11 years and adolescents aged 12–16 years (Achenbach Child Behavior Checklist). Evidence of stability was found 14 years later at follow up in adulthood (ages 18–30 years) on Achenbach Young Adult surveys. Therefore, children's internalizing difficulties may not be simply transient low mood that resolves naturally over time. Population studies indicate heterogeneity where some children experience high 'pure' internalizing difficulties from preschool to adolescence, some show increasing or decreasing internalizing symptoms over time, and some have co-occurring externalizing behavioral challenges [22,23].

Child internalizing problems that persist over time can have negative life impacts in various domains. Lawrence et al. [16] report that internalizing symptoms involve considerable inner distress for children themselves and can impact family functioning, social/peer functioning, school/academic performance and later occupational functioning. In their Australian survey of youth mental health, 19% with anxiety disorder and 43% with depression had severely impacted life functioning and more had mild or moderate functional impacts. International research has also found that youth internalizing problems predict higher adult mortality rates [24]. Studies indicate that children at the extreme of symptoms show higher stability over time than those with moderate symptoms and earlier onset of problems can be associated with a more protracted longitudinal course [23].

Etiological research has identified variables contributing to children's internalizing problems in order to inform both treatment and early prevention. The etiology of internalizing problems in childhood is known to involve a variety of factors at the child, family and broader contextual levels. Rapee et al.'s [11] review details how genetic and family influences, child temperament (shy/inhibited), parenting and parent-child interactions, negative life events, and child cognitions may each have a role. Recently, Bayer et al.'s [25] population-based longitudinal study followed a sample of 545 shy/inhibited preschoolers over two years with a focus on family etiology. This indicated early home environments with overinvolved/protective parenting, harsh discipline and parental distress predicted children's internalizing problems at school entry. Amongst these early family risks overinvolved/protective parenting was the strongest effect (*OR*'s 2.27 to 3.49, *p*'s <0.05). Previous community studies similarly highlighted overinvolved/protective parenting as a significant predictor of children's internalizing problems over time [1,3–5,11]. To illustrate, Bayer et al. [1] assessed a community sample of toddlers (N = 163) over two years and found direct predictors of early internalizing difficulties were inhibition, as well as overinvolved/protective and less warm engaged parenting. Controlling for stability of early internalizing symptoms over two years, significant prediction remained from family stress at age two years, and lower warm engaged and higher overinvolved/protective parenting at four years. Edwards et al. [3] conducted path analysis with a community sample of preschool children (N = 632, age 3–5) and found prior maternal and paternal overprotection predicted child anxiety symptoms over and above 1-year stability of child anxiety. Hudson et al. [4,5] followed a community sample of inhibited and uninhibited children from age four to six years. They found overinvolved parenting was significantly associated with stable inhibited behavior, increasing risk for inhibited behavior at age six. In review of the extant literature, Hudson et al. [4] noted a) consistent evidence from observational research that parents of anxious children are more overinvolved during interactions with their children than parents of non-anxious children, b) longitudinal research suggesting overinvolvement may play a role in the development of anxiety over time (overinvolved parenting is associated with subsequent anxiety in preschool children) and c) research shows overinvolved parenting is associated with maintenance of behavioral inhibition and social reticence in childhood.

Given that research over the last decade has identified overinvolved/protective parenting as relevant to children's internalizing problems, it would be useful for clinicians and researchers to be aware of questionnaires in the published literature suitable for use in different childhood periods (preschool, primary school, adolescence) along with their level of development (reliability, validity, norms). To date, there has been no review conducted on overinvolved/protective parenting questionnaires for children's internalizing problems and hence this was the aim of the present review.

2 Method

A systematic review of the published literature was conducted to gather information on overinvolved/protective parenting questionnaires for children at preschool, primary school, and adolescent age periods. Psychometric properties of the overinvolved/protective parenting questionnaires identified in the review's publications were then summarized.

2.1 Eligibility Criteria

Publications were selected for inclusion as per the following criteria:

a) Reported a questionnaire that examined overinvolved/protective parenting.
b) The overinvolved/protective parenting questionnaire was relevant to children (preschool age to adolescence).
c) Examined internalizing child outcomes.
d) Peer-reviewed.

e) Published in the English language.

Publications were excluded if they met the following criteria:

a) Did not report a questionnaire that examined overinvolved/protective parenting.
b) The overinvolved/protective parenting questionnaire was retrospective self-report of adults (18+ years).
c) Did not examine child internalizing problem outcomes.
d) Paper was not peer-reviewed, was a conference abstract, was a student thesis or dissertation.
e) Not published in the English language.

2.2 Search Process

The primary researcher (AL) conducted the systematic review while considering the PRISMA (Preferred reporting items for systematic reviews and meta-analyses [26]) and COSMIN (Consensus-based standards for the selection of health measurement instruments [27]) guidelines. The electronic databases of PsycINFO, Mental Measurements Yearbook, MEDLINE, EMBASE, Web of Science, CINAHL and SCOPUS were searched, followed by Google Scholar. The selected search terms were based on an informal detailed review by AL of applicable key terms used in the literature to date on overinvolved/protective parenting in relation to child internalizing problems. Selection of search terms was based on review articles on psychometric properties [28,29] and publications on parenting measures [30–33].[1] Examples of the search terms are: overinvolve*, overprotect*, intrus*, over shield*, overcontrol*, cosset*, helicopter, parent*, child rearing, parental raising, care giving, care taking, upbringing, psychometric*, reliability, internal consistency, test retest stability, validity, norms, normative data, measure*, questionnaire, surveys, assessment, parent report, self-report.

2.3 Study Selection, Data Extraction and Synthesis of Results

The primary researcher (AL) conducted the study selection, data extraction and evaluation in consultation with the second author (JB). The process of data extraction and evaluation of full papers was double coded by the primary researcher (AL) and an independent coder (ZG), simultaneously. Any inconsistencies were considered and discussed through to a consensus.

Retrieved publications through the search process were screened initially by title, followed by abstracts, and then full text. The primary researcher (AL) and independent coder (ZG) extracted data from the studies that met eligibility criteria through the use of a data extraction form (developed based on review articles on psychometric properties and publications on parenting measures). The data extraction form was created before the databases were searched, and before the study selection and data extraction phases commenced.[2] Psychometric properties (reliability, validity, norms) associated with each of the identified overinvolved/protective parenting questionnaires for children were extracted for evaluation using this form. Tab. 1 presents a definition of each psychometric subtype, along with its relevant evaluation criteria. The psychometric criteria were as described and evaluated by Robinson, Shaver et al. [34], Sattler [35], Thorkildsen [36], Brussow [37], and Mislevy et al. [38]. In brief, reliability refers to the consistency of a measure within itself and over time, and included internal consistency and test-retest stability. Validity refers to the accuracy of a measure (i.e., it assesses what it is supposed to), and included construct (convergent, discriminant) and criterion (concurrent, predictive). Construct validity refers to whether the measure assesses the appropriate concept it was designed for (i.e., overinvolved/protective parenting). Criterion validity refers to how adequately the scores on a measure (i.e., overinvolved/protective parenting) relate to scores on an outcome measure (e.g., internalizing problems). Existing normative samples were also noted.

[1] A full list of search terms is available from AL on request.

[2] The data extraction form is available from AL on request.

Table 1: Psychometric properties considered for the overinvolved/protective parenting questionnaires

Psychometric property	Evaluation criteria
Reliability	
Internal consistency: The variance of item scores that an individual obtains from a single administration of the test. For continuous variables, the most common measure of internal consistency is Cronbach's coefficient alpha (α).	$\alpha \geq 0.80$ = exemplary $0.70 < \alpha < 0.79$ = extensive $0.60 < \alpha < 0.69$ = moderate $\alpha < 0.60$ = minimal α not established = no internal consistency
Test re-test stability: The correlation between scores on two administrations of the same measure at different times. Test re-test stability is most commonly reported as correlation coefficients (*r*).	$r > 0.50$ and measurement is across at least 1-year = exemplary $r > 0.40$ and measurement is across at least 3–12 months = extensive $r > 0.30$ and measurement is across at least 1–3 months = moderate $r > 0.20$ and measurement is across < 1-month = minimal *r* not established = no test-retest reliability
Validity	
Construct *Convergent:* The extent to which scores on a measure of one concept relate to scores on a different measure of the same or related concept. Construct convergent validity is most commonly reported as correlation coefficients (*r*).	Highly significant *r* (>0.70) with more than 2 related measures = exemplary Significant *r* ($p < 0.05$) with more than 2 related measures = extensive Significant *r* with 2 related measures = moderate Significant *r* with 1 related measure = minimal No significant *r* = no construct convergent validity
Discriminant: The extent to which scores on a measure of one concept are unrelated to scores on a measure of a different concept. Discriminant validity is most commonly reported as correlation coefficients (*r*).	*r* significantly different from ≥ 4 unrelated measures = exemplary *r* significantly different from 2–3 unrelated measures = extensive *r* significantly different from 1 unrelated measure = moderate *r* different (non-significantly) from 1 related measure = minimal No difference in *r* or *r* not established = no construct discriminant validity
Criterion *Concurrent:* The degree to which scores on a measure of one concept relate to scores on a criterion measure administered simultaneously.	If concurrent validity was established, 'yes' was recorded (statistically significant findings were then detailed and the total number of instances summed). If criterion concurrent validity was absent, 'no' was recorded.
Predictive: The degree to which scores on a measure of one concept predict scores on a criterion measure administered at a future time.	If predictive validity was established, 'yes' was recorded (statistically significant findings were then detailed and the total number of instances summed). If criterion predictive validity was absent, 'no' was recorded.

(Continued)

Table 1 (continued).

Psychometric property	Evaluation criteria
Normative data	
The average score and distribution of scores around this average obtained on a representative sample. Normative data is often represented as a mean (*M*) and standard deviation (*SD*).	*M* and *SD* for several subsamples and total sample (extensive item information) = exemplary *M* and *SD* for total and some groups (some item information) = extensive *M* for some subgroups (information for some items) = moderate *M* for total group only (information for 1–2 items) = minimal *M* and SD not established (no item information) = no normative data

Note. As per psychometric reference texts [34–38].

For each publication, the primary researcher (AL) identified any discrepancies on the psychometrics extraction form between coders (AL, ZG) in relation to the seven specific aspects (internal consistency, test retest stability, convergent and discriminant validity, concurrent and predictive criterion validity, normative data). The inter-rater agreement between data coders calculated prior to consensus discussions was 75%. A percentage agreement between data coders of 70% is considered adequate and low risk of bias [39]. In relation to any initial differences, the two coders closely re-reviewed the publication and studied the relevant psychometric details to agree on the final rating. The second author (JB) was available to provide guidance on any discrepancies if coders needed an additional review to reach consensus.

3 Results

3.1 Search Results

The search process produced 460 publications to be screened for eligibility. In the preliminary screen, 217 papers were excluded based on the title, with a further 161 papers excluded following a review of the abstract. The full texts of 82 publications were then further screened and 62 papers were excluded for the following reasons. Two papers were excluded as they were on a different research topic (i.e., assessment of parental stress and support in the context of child development and adjustment [40]). Seventeen papers were excluded as they did not include the appropriate parenting construct (e.g., parental involvement [41]). Eight papers were excluded as they did not use a questionnaire (i.e., task, observational, or interview assessment [42–44]). Two papers were excluded with adult samples (minimum age 18 years). Twelve papers were excluded as they did not include child internalizing outcomes (i.e., psychosis, eating disorders [45,46]). Fourteen papers were excluded as they were not peer-reviewed. Seven papers were excluded as not published in English language. The remaining 20 papers were included in the review. These papers reported on 10 different overinvolved/protective parenting questionnaires.

3.2 Study Characteristics

The 20 papers (marked in the reference list by asterix) were published between 1993 and 2019. Tab. 2 first outlines the studies reporting on an overinvolved/protective parenting questionnaire that can be used with children as young as preschool age (i.e., infant/toddler to school entry). Six different overinvolved/protective parenting questionnaires were reported across 12 papers. The sample ages for some of these early childhood measures spanned up to mid childhood or adolescence.

Table 2: Overinvolved/protective parenting questionnaires for internalizing problems from preschool age

Measure and related publications	Sample
Overinvolved/protective Parenting Scale	
Bayer et al. (2006, 2009, 2010) [1,2,47]	Community sample, N = 112–163, age 2–7 years
Morgan et al. (2017, 2019) [48,49]	Inhibited population sample, N = 433, age 3–6 years
Bayer et al. (2018, 2019) [25,50]	Inhibited population sample, N = 545, preschool age
Hiscock et al. (2018) [51]	Population sample, N = 1,353, age 1–5 years
New Friends Vignettes	
McShane & Hastings (2009) [52]	Community sample, N = 115, toddler/preschool age
Kiel, Wagers & Luebbe (2017) [53]	Community sample, N = 120, toddler age
Attitudes about Parenting Strategies for Anxiety	
Kiel et al. (2017) [53]	Community sample, N = 594, age infant to adolescence Community sample, N = 120, toddler age
Parental Overprotection Measure	
Edwards et al. (2010) [3]	Community sample, N = 638, age 3–5 years
Child-rearing Practices Report	
Kiel et al. (2017) [53]	Community sample, N = 594, age infant to adolescence
Parent Protection Scale	
Malm-Buatsi et al. (2015) [54]	Spina bifida community sample, N = 84, age 5–17 years

Tab. 3 then outlines studies reporting on an overinvolved/protective parenting questionnaire starting at primary school age (6–11 years). Two further overinvolved/protective parenting questionnaires were reported in five studies. The sample age for one spanned into adolescence.

Tab. 4 then outlines studies reporting on an overinvolved/protective parenting questionnaire starting in adolescence (12–17 years). Two further overinvolved/protective parenting questionnaires were reported in three studies and most samples extended into adulthood.

Table 3: Overinvolved/protective parenting questionnaires for internalizing problems from primary age

Measure and related publications	Sample
Modified My Memories of Upbringing for Children	
Castro et al. (1993) [55]	Spanish community sample, N = 205, age 7–12 years
Gruner et al. (1999) [56]	Community sample, N = 117, age 9–12 years
Muris et al. (2003) [57]	Community sample, N = 1,681, age 9–17 years
Anxiety and Overprotection Scale	
Pereira et al. (2014) [58]	Community sample, N = 80, age 7–12 years
Parental Overprotection Measure	
Clarke et al. (2013) [59]	Community sample, N = 90, age 7–12 years

Table 4: Overinvolved/protective parenting questionnaires for internalizing problems from adolescence

Measure and related publications	Sample
Parental Bonding Instrument	
Parker et al. (1997) [60]	Depressed community sample; $N = 152$; age 17–72 years
Martin et al. (2004) [61]	Community sample, $N = 2,596$; age adolescence
Luebbe et al. (2018) [62]	Community sample, $N = 377$; age 17–25 years
Helicopter parenting items	
Luebbe et al. (2018) [62]	Community sample, $N = 377$; age 17–25 years

3.3 Overinvolved/Protective Parenting Questionnaires for Child Internalizing Problems

The 20 studies included within the systematic review reported 10 different overinvolved/protective questionnaires across three childhood periods (preschool, primary school, adolescence). The psychometric evaluation of each overinvolved/protective parenting questionnaire considered all empirical studies in the systematic review that cited the questionnaire. The quality assessment is outlined below according to childhood period.

Starting as early as preschool age, there were six overinvolved/protective parenting questionnaires: Overinvolved/protective Parenting Scale (parent report: 17 items at child age 2-year, eight items at child age 4-years); New Friends Vignette (parent report: 12 items for overprotection subscale across two vignettes); Attitudes about Parenting Strategies for Anxiety (parent report: 24 items on protectiveness and intrusiveness subscales across three vignettes); Parental Overprotection Measure (parent report: 19 items); Child-rearing Practices Report (parent report: four items on protection subscale); Parent Protection Scale (parent report: 25 items). An overview of their psychometric properties is presented in Tab. 5. Amongst these, two questionnaires appeared well-developed for potential use by clinicians and early childhood researchers. The Overinvolved/protective Parenting Scale [2] has exemplary reliability, comprehensive construct validity, evidence of predictive validity, sensitivity to intervention, and substantial population norms (toddler to school-entry age). The New Friends Vignette [52] had extensive reliability, construct and criterion validity, and norms for mothers/fathers of toddler/preschool children. Currently, the Overinvolved/protective Parenting Scale [2] may be more confidently recommended for early childhood, given its use in four sets of studies.

Table 5: Psychometric properties of overinvolved/protective parenting questionnaires starting at preschool age

Reliability		Validity				Norms[a]
Internal consistency	*Test-retest stability*	*Construct convergent*	*Discriminant*	*Criterion concurrent*	*Predictive*	
Overinvolved/protective Parenting Scale						
'exemplary' $\alpha > 0.80$	'exemplary' $r > 0.50$ across 2-year	'moderate' positively relates to warm-engaged and power-assertive/ punitive parenting	'extensive' concept distinct from autonomy-encouraging, warm-engaged and power-assertive/punitive parenting	'present' significantly relates to child internalizing problems, family stress and parent mental health	'present' over time predicts child internalizing problems	'moderate' population sample of 428 1-year-olds, 364 3-year-olds, 356 4-5 year-olds [51]; 180-218 temperamentally inhibited toddler/ preschool children [48]

Table 5 (continued).

Reliability		Validity				Norms[a]
Internal consistency	*Test-retest stability*	*Construct convergent*	*Discriminant*	*Criterion concurrent*	*Predictive*	
New Friends Vignettes						
'extensive' α > 0.70	'exemplary' *r* >0.50 across 1-year	'extensive' positively relates to observed intrusive, protective and negative-critical parenting behaviors	'exemplary' concept distinct from observed appropriate warmth, intrusive and negative-critical parenting behaviors	'present' significantly relates to preschool internalizing problems (some sex differences)	'present' over time predicts child internalizing problems (some sex differences)	'moderate' community sample of 115 toddler/ preschool children (mothers and fathers, [52])
Attitudes about Parenting Strategies for Anxiety						
'exemplary' α >0.80	'extensive' *r* > 0.40 across 1-year	'extensive' positively relates to distress subscale, to parenting attitudes about child shyness, to overprotection and critical control child-rearing behaviors	'exemplary' concept distinct from parent attitudes about child shyness/ child-rearing and critical control parenting behaviors	'present' significantly relates to child anxiety and parent mental health	not assessed	'moderate' community sample (online) of 594 infants to primary school age children; community sample of 120 toddlers [53]
Parental Overprotection Measure						
'exemplary' α >0.80	'exemplary' *r* >0.50 across 1-year	'minimal' positively relates to observed overprotection in mother-child dyad task	not assessed	'present' significantly relates to child internalizing problems, parent mental health, and impact of negative life events	'present' over time predicts child internalizing problems	'moderate' community sample of 638 3–5 year-olds [3]; 90 7–12 year-olds some with anxiety disorder [59]
Child-Rearing Practices Report						
'minimal' α <0.60	not assessed	'extensive' positively relates to intrusive parenting behavior and attitudes to child shyness	'exemplary' distinct from intrusive parenting behaviors and attitudes to child shyness and encouraging-independence	'present' significantly relates to child anxiety and parent mental health	not assessed	'minimal' community sample (online) of 594 infant to primary school age children [53]
Parent Protection Scale						
'exemplary' α >0.80	'minimal' *r* >0.50 (time not reported)	not assessed	not assessed	'present' relates to parental stress	not assessed	sample M(SD) not reported

[a] Publication sources for normative sample [reference list number].

Starting at primary school age, there were two additional overinvolved/protective parenting questionnaires: Modified My Memories of Upbringing for Children (Egna Minnen Betraffande Uppfostran: EMBU-C) (child report: 10 items on overprotection subscale) and a Spanish version; Anxiety and Overprotection Scale (parent report: seven items on parental overprotection subscale). Their psychometric properties are presented in Tab. 6. In particular, the Modified EMBU-C [56] stood out in terms of its reliability, extensive construct and criterion validity, and norms for mothers and fathers of middle primary-age to late adolescence. Currently, the Modified EMBU-C [56] may be more confidently recommended for middle/late childhood, given its use in three studies.

Table 6: Psychometric properties of overinvolved/protective parenting questionnaires starting at primary school age

Reliability		Validity				Norms[a]
Internal consistency	*Test-retest stability*	*Construct convergent*	*Discriminant*	*Criterion concurrent*	*Predictive*	
Modified My Memories of Upbringing for Children						
'exemplary' α >0.80	'moderate' *r* >0.50 across 2-months	'extensive' positively relates to parent anxious rearing, rejection and control	'extensive' concept distinct from parental rejection and care	'present' significantly relates to child anxiety disorders	not assessed	'moderate' community sample of 1,681 9–17 year olds [57]
Spanish Modified My Memories of Upbringing for Children						
'moderate' α > 0.60	not assessed	'extensive' positively relates to parental rejection and to parental emotional warmth	'exemplary' distinct from parental rejection, emotional warmth, parental care and child favoring	not assessed	not assessed	sample M (SD) not reported
Anxiety and Overprotection Scale						
'exemplary' α >0.80	not assessed	not assessed	'minimal' distinct from emotional support	'present' significantly relates to child anxiety and maternal anxiety	not assessed	'moderate' community sample of 80 7–12 year-olds [58]

[a] Publication sources for normative sample [reference list number].

Starting in adolescence were two further overinvolved/protective parenting questionnaires: Parental Bonding Instrument (child report: 13 items on overprotection subscale); helicopter parenting items (child report: 23 helicopter parenting items comprising four factors). Their psychometric properties are presented in Tab. 7. The Parental Bonding Instrument [60,63] has internal consistency, construct and criterion validity, with norms for mothers and fathers of adolescents (with varying severity of depression). The newer helicopter parenting items [62] have established internal consistency, construct and criterion validity and normative data for adolescence. Currently the Parental Bonding Instrument [60,63] may be more confidently recommended for adolescence, given its use in three studies.

Table 7: Psychometric properties of overinvolved/protective parenting questionnaires starting in adolescence

Reliability		Validity				Norms[a]
Internal consistency	*Test-retest stability*	*Construct convergent*	*Discriminant*	*Criterion concurrent*	*Predictive*	
Parental Bonding Instrument						
'exemplary' α >0.80	not assessed	'exemplary' positively relates to helicopter parenting items, to parental indifference, over-control and abuse	'extensive' concept distinct from parental care, indifference and abuse	'present' relates to adolescent anxiety and depressive problems	not assessed	'exemplary' community sample of 2,596 13-year-olds [61]; 152 depressed 17–72 year-olds [60]
Helicopter parenting items						
'exemplary' α >0.80	not assessed	'exemplary' positively relates to parental psychological control and care	'exemplary' distinct from psychological control and care	'present' significantly relates to adolescent depression and anxiety	not assessed	'exemplary' community sample of 377 17–25 year olds [62]

[a] Publication sources for normative sample [reference list number].

4 Discussion

This systematic review is the first in the field on overinvolved/protective parenting questionnaires in relation to children's internalizing problems. The utility of the review is in synthesizing information on the questionnaires to assist clinicians and researchers to choose suitable measures towards their goals. The review resulted in 20 eligible publications, spanning 1993 to 2019, which reported on 10 different overinvolved/protective parenting questionnaires (by parent and/or child report). The majority of these questionnaires can begin in use in early childhood. Six questionnaires were designed to be used with children as young as preschool age (all parent report) and of these, one extended into primary school and three into adolescence ages. Two additional questionnaires were designed to start at primary school age (one parent report, the other child report) and one of these extended into adolescence. A final two questionnaires were designed to start in adolescence (both self-report) and they extended into adulthood. The review also explored psychometric properties for these questionnaires to inform clinicians and researchers in relation to children's internalizing problems.

Some questionnaires at each age period were highlighted in relation to their level of psychometric development (reliability, validity, norms). In the preschool period, more highly developed questionnaires were Bayer and colleagues' Overinvolved/protective Parenting Scale [2] and McShane and Hastings' New Friends Vignette [52], given their degree of reliability, validity and normative data. The Overinvolved/protective Parenting Scale in particular ranges from toddler through to early primary school ages and includes population sample norms. This may be more confidently recommended currently for early childhood, given its use in four sets of studies.

In middle childhood, the more developed overinvolved/protective parenting questionnaire was Gruner and colleagues' Modified My Memories of Upbringing for Children (EMBU-C: [56]) ranging from age 9–17 years with strong psychometrics across all domains. Currently, the EMBU-C may be most confidently recommended for middle/late childhood, given its use in three studies. Starting in adolescence, Parker and colleagues' Parental Bonding Instrument [60,63] and Luebbe and colleagues' helicopter parenting items

[62] both have sound psychometric status and the former has substantial community norms. The Parental Bonding Instrument may be more confidently recommended for adolescence, given its use in three studies.

As the first systematic review of overinvolved/protective parenting questionnaires for children's internalizing problems, the findings cannot be directly compared and contrasted with similar past work in the field. The concept of overinvolved/protective parenting was initially developed in the 1940's as retrospective report by adults on parental bonding [63,64]. Over the last few decades the existence and nature of child internalizing problems became better recognized in mental health [15,16,21] and research on etiology of children's internalizing problems has then measured and found overinvolved/protective parenting to be important [1,19]. Given the recency of the child internalizing field in comparison to externalizing problems, it is not unexpected that only 10 questionnaires are in the literature. The knowledge about these questionnaires from the review may assist clinicians and researchers to explore mechanisms by which family context can have a role in development or maintenance of child internalizing problems as they grow.

In relation to strengths, this review was conducted by considering the PRISMA [26] and COSMIN [27] guidelines. A comprehensive keyword list was developed based on central articles to date on reviews of psychometric properties and publications on parenting measures. Then in conducting the database searches, there was no date restriction on publications and the major databases were included, allowing for 30 years of literature to be searched. Psychometric properties of the overinvolved/protective questionnaires relevant to child internalizing problems were then extracted and evaluated by two coders for consistency [65]. The findings thereby encompass existing overinvolved/protective parenting questionnaires for child internalizing problems in published literature and their psychometrics. In terms of limitations, while an extensive literature search was conducted it is possible that some articles unintentionally were not gathered (i.e., if a publication's keywords were broader than those of the review). To our knowledge, the review represents the first summary for clinicians and researchers of most (if not all) overinvolved/protective questionnaires for child/adolescent internalizing problems in the field and their psychometric properties.

Practically, the findings of this review could assist in clinical practice and research in the following way. For clinicians working with children and adolescents with internalizing problems or with parents with anxiety or depression, use of psychometric parenting scales in practice can increase accuracy of case formulation on etiology and maintenance factors to facilitate treatment processes. Accurate formulation informs treatment and can help in measuring genuine change over time rather than measurement instability [66]. To illustrate, parental attention could be drawn to scores above the community average on an overprotective parent-child interaction scale. Then exploring which items are elevated, parental feelings and underlying reasoning for engaging in this interaction with their child could be sensitively explored. This insight can help parents to more consciously choose alternative, more helpful ways of interacting with their child to foster bravery rather than anxious distress. When treating adolescents, youth-report scales on parenting may similarly provide insights into family factors through their upbringing to inform therapy. The present review findings may also assist child development researchers seeking psychometric parenting questionnaires to include in etiology, treatment and prevention studies on children's internalizing problems.

This review of overinvolved/protective parenting questionnaires for children's internalizing problems also suggests some directions for further research. Studies could be conducted to refine norms for the more established questionnaires. This can involve recruiting representative population-scale samples at different childhood ages. This may also include recruiting sizable clinical samples of children with diagnosed anxiety and depression disorders across these ages. Studies could then explore potential clinical cut-points for overinvolved/protective parenting to indicate problematic levels. In the field it is

also unclear as to differences between mothers and fathers parenting influence in relation to children's internalizing problems [67] and therefore further research on maternal and paternal overinvolved/protection scale development could be worthwhile.

In conclusion, this systematic review highlighted 10 different overinvolved/protective parenting questionnaires in the field of children's internalizing problems. The utility of the review is a summary of information to assist clinicians and researchers to choose suitable measures towards their goals. Some of the overinvolved/protective parenting questionnaires have already developed a substantial degree of psychometric support, including the Overinvolved/protective Parenting Scale for preschool age children [2], the Modified My Memories of Upbringing for Children for middle/late childhood [56], as well as the Parental Bonding Instrument in adolescence [60,63]. Clinicians may consider questionnaires in this review for their child practice to assist with assessment, case formulation and measuring treatment change. Child development researchers may consider the parenting questionnaires reviewed for future studies on etiology, treatment and prevention of youth internalizing problems. Finally, we point to some areas for future development of overinvolved/protective parenting questionnaires in the field of children's internalizing problems.

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