

Review

Parent–Child Systemic Therapy for Court-Involved Children with Behavioral Disturbances: A Clinician’s Perspective

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Abstract

Concern is expressed in Australia about a group of children called dual-involvement children. Dual-involvement children live in families who have multiple complex needs, where a child is referred first to a child protection court and later to a juvenile justice court as the child has committed offenses. One concern is whether these families and children receive early intervention therapy. *Method:* The paper reviews research relevant to early intervention for children with an increased likelihood of developing a mental disorder and behaving aggressively. *Results:* Fifteen psychological models have generated evidence about risk factors for the healthy development of children. A framework is used to describe risk factors using headings of parental factors, childhood factors, and peer factors. The review summarizes effect sizes associated with each model. *Conclusions:* The review concludes that variables relevant to dual-involvement children can be integrated using the concept of role the of a parent. There is a need for a tiered system of intervention involving universal interventions that are supplemented by targeted interventions for families where children have heightened vulnerability due to a higher number of specific risk factors. Topics for further research are identified, including a need for research into how therapists who use a systemic approach might practice in ways that manage ethical dilemmas that arise when using systemic therapy with two members of a court-involved family.

Keywords: attributions; children’s aggression; co-occurring internalizing and externalizing behaviors; court involved family; dual-involved children; early intervention therapy; ethical dilemma; proactive and reactive children’s aggression; role of parent; systemic therapy; temperament; universal parenting programs

1. Introduction

Research is ongoing about how to identify children who are at risk of developing a mental disorder and about the most efficient methods to provide early intervention therapy for vulnerable children. Research interest has been extended beyond children in mainstream families to include children who are referred to child protection systems and who become involved in legal systems. The review focuses on research that is relevant for clinicians who provide therapy for families where a notification has been made to child protection authorities. The review focuses on interventions that can be provided by a clinician who follows a systemic approach by providing therapy simultaneously to a parent–child combination.

The traditional approach for providing therapy for a child is based on a diagnostic process where one family member is diagnosed as exhibiting a disorder, either a parent or a child, and treatment is provided for this family member. A second approach is emerging



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that focuses on interactions between family members that lead to co-joint therapy being provided to both family members, where these interventions can be delivered in an early intervention program before either family member is diagnosed with a disorder. Carr [1,2] used the term 'systemic therapy' to describe evidence-informed interventions that are provided simultaneously by one therapist to two family members. Systemic therapy is distinguished from traditional therapy as a clinician has two clients whose interests need to be considered. Another characteristic of systemic therapy is that early intervention therapy is provided to address risk factors rather than diagnoses. This definition of systemic therapy includes interventions that are derived from different theories, provided that interventions generate evidence of efficacy in improving collaboration between family members.

Carr [1,2] reviewed evidence-informed systemic therapies and cited data that systemic therapy is as effective as individual therapy in the management of many child issues. However, Riedinger et al. [3] commented that interventions used in systemic therapy are often not well defined, making it difficult to replicate studies.

Arguably, families who present with the most complex issues are those who are referred to family-oriented courts, either a family law court when parents separate and take disputes to court or a child protection court when an allegation is made that a child is at risk of harm due to maltreatment by their parents. Legislation governs practices in family-oriented courts. Legislation in some jurisdictions requires that a family be offered an opportunity to participate in focused therapy to remedy parenting practices that have been criticized before steps are taken to remove children from parental care. Before issuing an order, a court might review the evidence base for a proposed intervention.

The review focuses on risk factors for the mental health of children and parent-child therapies that have been identified in research that are relevant for families where there are risks to the development of a child's mental wellbeing and where therapies are relevant for court-involved families. The review includes research by Baidawi and colleagues [4,5] that is relevant to a cohort of children called crossover children, as the family first presents to a child protection court over allegations a child has been maltreated, and later the child faces a juvenile justice court as the child is alleged to have committed offenses, including violent offenses, while in the care of the state.

1.1. Dual-Involvement Children

In Australia, there is concern about the plight of children who have been termed 'crossover children' or 'dual-involvement children' [4,5]. Dual-involvement children are children who are first removed from the care of their parents and placed in out-of-home care following an order from a child protection court, and the child later commits offenses and faces a juvenile justice court. Government policies encourage the provision of early intervention therapy for children and parents before a child is removed from parental care and placed into out-of-home (OOH) care.

Baidawi and Sheehan [4] reviewed 300 court files of Australian children aged 10–17 years who had been involved in two courts in a four-year period (a child protection court and a juvenile justice court) to understand characteristics of children who were involved with both courts. Their review produced the following findings: children aged 10–14 years who received child protection services were nine times more likely than other children to come under supervision of the child justice system; 43% of children were first notified to child welfare before the age of 2 years as their parent struggled to manage the child's behavior; children had a mean of 7.7 notifications; 62% of children had their first OOH placement after the age of 10 years, although 70% of the children had a notification before the age of 10 years; most OOH placements occurred due to reasons of parental incapacity, ongoing maltreatment and parental relinquishment of a child; 72% of children exhibited

challenging behaviors, 61% of children had a mental disorder, and 70% absconded from care; 60% of children spent time in residential care following breakdowns in foster care; 36% of children had a history of being excluded from school due to behavioral problems; and initial police charges were laid primarily when children were aged 10–12 years and after children had been placed in OOH care.

The Baidawi et al. [4,5] studies found that residential services referred children to police for misbehaving while in residential care, as rostered staff were reluctant to intervene with children who engaged in risk-taking behaviors. The studies found that 20% of crossover children were first charged when they were aged 10–12 years, and children had a median of seven charges against them, with 86% of charges being against a person. Placement in residential care was associated with an escalation rather than a reduction in criminal behavior. The study found that 48% of children were referred for mental health services, primarily for an assessment to be used in evidence, with 25% of children receiving more than one type of service. Parents were reported to find it challenging to engage in therapy services, and 24% of children declined to participate in therapy.

Macvean et al. [6,7] reviewed evidence about parenting programs for vulnerable children and identified 81 published parenting interventions for children aged up to 6 years that appeared relevant for court-involved children who were vulnerable to the risk of being maltreated and developing mental health disorders. They reported that the most effective interventions were delivered partly to the family home. Outcomes that were targeted most frequently involved managing children's behavior, parent-child relationships, and child development. Interventions that were most effective were delivered by professionals who operated independently of the child protection agency that prosecuted families.

The Macvean et al. reviews [6,7] identified the following common components in effective parenting interventions: (a) assess and promote the mental health of children; (b) use structured planning sessions; (c) involve both parents and children; (d) assess interactions between a parent and child; (e) educate parents about usual child development; (f) focus on child safety and what is maltreatment; (g) educate parents about managing risks and resilience in children; (h) teach relevant safety skills; (i) teach negotiation skills to parents; (j) convey information to parents in the form of discussions rather than lectures; (k) focus on positive methods to manage child behaviors rather than on criticisms of current parental practices; (l) regulate both parents' and children's expression of emotions and encourage moderate expression of emotions; (m) promote parental problem solving skills; (n) reduce excessive externalized thinking and blaming by parents, and inappropriate feelings of guilt in children; (o) monitor and promote positive/healthy peer relationships with children outside of the family; and (p) promote family wellbeing. Other models video a parent interacting with their child while they engage in structured tasks, and a therapist provides feedback to the parent.

Wade et al. [8] found that there was low use of evidence-based intervention programs for vulnerable children in Australia. They identified three explanations for the low use of early intervention programs. The first explanation is that many interventions are published in journals that are not easily accessible. A second explanation refers to a shortage of practitioners qualified to provide interventions. A third explanation is that practitioners prefer to provide individualized interventions for vulnerable families, but authors of some parenting programs insist their programs be implemented in a standardized way to meet fidelity requirements that facilitate comparisons in scientific studies.

1.2. Therapy for Court-Involved Families

Greenberg et al. [9] wrote about therapy interventions that are relevant to helping children who live in court-involved families. Their article reviews evidence on the efficacy

of psychological models used by clinicians to analyze children's behavior and to design therapeutic interventions for families where there are risk factors suggesting a child may be on a trajectory that involves ongoing aggressive behavior, and where early intervention therapy is warranted.

The current review is based on the premise that delivery of systemic therapies involving parents of children who are vulnerable will be enhanced if interventions used by systemic therapists are clearly defined, with known inter-rater reliability, validity, and error rates. The article reviews psychological models that have generated evidence about families where children are at an increased risk of developing a mental disorder and engaging in aggressive offending.

Researchers who contribute to systemic therapy use distinctive research designs. Figueiredo et al. [10] noted that it is common practice for researchers to study behaviors of two family members at one point in time, called cross-sectional research, where observations are made of variables without any intervention to change variables. Cross-sectional research allows associations between variables to be identified using correlations, but correlations at one point in time provide no insight into causal mechanisms that link variables. On the other hand, longitudinal research measures the same variables repeatedly over prolonged periods of time and identifies differing pathways of development or trajectories. Longitudinal studies provide greater insight into causal links between variables. The paper reviews studies that have used a longitudinal design to examine patterns that occur in dysfunctional parent-child relationships.

The review aims to clarify evidence about themes that are identified in longitudinal studies of families where children are vulnerable and to build an evidence-informed framework that will help policy-makers and clinicians to provide early intervention and systemic therapy for court-involved families where children are vulnerable.

2. Methodology

Three search strategies were used in preparing this review. First, the reviewer is a clinical psychologist who provided therapy for court-involved families and followed a scientist-practitioner approach, including gathering research articles as a routine practice. Second, a manual search was made of articles that included keywords in titles and were published in the journals *Children & Youth Services Review*, *Child Abuse & Neglect*, *Child Maltreatment*, and *Developmental Psychology*. Third, a Google Scholar search was conducted on studies published between 2000 and 2025.

The following keywords were used in searches: attachment; attribution; children's aggression; children's disturbed behavior; children's emotions; co-occurring behaviors; court involved family; disorganized attachment; early intervention therapy; early onset aggression; empathy; ethical dilemma; externalizing behavior; forms of children's aggression; functions of children's aggression; high risk children; internalizing behavior; late onset aggression; longitudinal study; maltreatment; moral emotions; parenting practices; parental mental health; parental personality; parenting style; physical aggression; proactive aggression; reactive aggression; relational aggression; reflective functioning; systemic therapy; targeted parenting program; temperament; therapy for vulnerable children; trajectory of child development; treatment report; and universal parenting programs.

The following inclusion criteria were used: (a) a study referred to modifiable variables related to a child's disturbed behavior that can be influenced by a clinician; (b) the variable is related to parent-child interactions; and (c) the study reported quantified data. Preference was given to studies that reported longitudinal data and that reported a meta-analysis. Studies that reported only opinions and studies that reported theses were excluded.

Preference was given to studies that reported quantitative data that were summarized using a correlation (r) or a measure of effect size, including Cohen's d or Hedges' g , where effect size is the mean difference between two contrasted populations as a percentage of the common standard deviation d as defined by Liu [11]. An effect size of 0.2 is viewed as small, 0.5 is viewed as moderate, and 0.8 is viewed as large. The three effect sizes correspond to probabilities of difference in means of 0.56, 0.64, and 0.71, respectively. Effect size is influenced by the accuracy of an assessment instrument and by the size of a sample.

Articles were included in the review if they met the following criteria: (a) an article provides information about children's severely disturbed behavior, including aggression; (b) it provides information about modifiable risk factors that can be influenced by a clinician; (c) it provides information that is relevant to a clinician who aims to provide evidence-informed parent-child systemic therapy; and (d) it is relevant to clinicians who provide therapy for court-involved families.

3. Results

The review cites 480 articles that were published in 121 journals, 52 books, and 13 agency reports. Journals that published the highest numbers of cited articles are *Child Development* (7.2%), *Development and Psychopathology* (6.1%), *Developmental Psychology* (4.5%), and *Journal of Child Psychology and Psychiatry* (3.3%).

Results of the review are presented using twelve section headings: (1) prevalence of high-risk children; (2) provision of no therapy for vulnerable children; (3) parenting factors relevant to child vulnerability; (4) childhood factors relevant to vulnerability; (5) children's emotions; (6) children's temperaments; (7) peer influences; (8) disorganized attachment; (9) therapy for vulnerable children; (10) a tiered intervention model; (11) screens to identify high-risk children; and (12) under-researched topics.

3.1. Prevalence of High-Risk Children

Studies have examined the prevalence of children who present severe behavioral disturbance that warrants intervention.

Kokko et al. [12] examined trajectories of 1025 community boys from the ages of 6 to 12 years and identified a cohort of 3.4% of the boys who were assessed as displaying both high aggression and moderate prosocial skills. Silver et al. [13] identified a cohort of 5.8% of children in a community sample as displaying a chronic high level of externalizing behavior throughout elementary school.

Piquero et al. [14] reviewed research about the stability of children's aggression over time. Their review found that the use of aggression by many children declined between the ages of 2 and 8 years, but between 12% and 19% of boys continued to behave aggressively into adolescence.

Shi et al. [15] examined 784 children in a clinical sample who were at risk of maltreatment and followed the sample over a 12-year period, assessed their internalizing and externalizing behaviors, and examined early childhood antecedents that were associated with differing trajectories. They identified four distinct developmental patterns/trajectories: (a) a chronic group who exhibited co-occurring internalizing and externalizing behaviors comprised 30.1% of the cohort; (b) a moderate co-occurring group comprising 28.5% of the cohort; (c) an externalizing-only group comprising 18.6%; and (d) a low-risk group comprising 22.8% of the sample. Children who belonged to the three higher-risk groups had a history of more adverse early childhood experiences compared to the low-risk group. The chronic co-occurring group displayed the most severe profiles of early childhood experiences compared to the moderate co-occurring and the externalizing-only groups. Two common modifiable factors for the three higher-risk groups were a child's less resilient

temperament and more adult–child conflict. Low language ability and peer rejection were identified as unique identifiers for the chronic co-occurring group.

Goulter et al. [16] examined children with co-occurring internalizing and externalizing problems in a community population where children had an initial mean age of 5.3 years. They identified four trajectories: low problems in 61.3% of the sample; externalizing only in 14.0%; internalizing only in 11.3%; and co-occurring externalizing and internalizing in 13.1% of the sample. Membership of the co-occurring group was associated with both high family adversity and a physiological measure of high reactivity to stress.

Prevalence of Problem Behaviors in Fostered Children

A number of studies have examined the prevalence of severe behavioral problems in children who have been removed from parental care and placed in foster care.

Gevers et al. [17] examined externalizing and internalizing problems of adolescents in residential youth care using up to three sources of information (self-reports, carer reports, and parent reports). Most adolescents (50–73%) showed nonsignificant change in either externalizing or internalizing problems during their stay in residential care, according to each source of information. The study found that higher problem severity at the beginning of a placement was a significant predictor of whether improvements would occur in externalizing and internalizing problems during placement.

Dalmaso et al. [18] reviewed 31 studies into the externalizing and internalizing profiles of children in OOH care. They found that, while children in OOH care displayed disproportionate levels of externalizing behavior problems compared to the general population, not all children in OOH care displayed externalizing problems. They examined protective factors for the cohort of children who did not display externalizing problems. The review found that individual protective factors were a better self-concept, an active coping style, and good social skills. The quality of relationships that children had with other people was found to be an important protective factor in reducing externalizing behaviors. More frequent interactions a child had with their biological parents were found to be protective for externalizing behaviors. Engagement with community groups that were meaningful to the child and achievement-oriented, such as engaging in sports and hobbies, and with school were found to be associated with fewer externalizing problems. Residing with fewer children in a home was associated with fewer externalizing problems.

In summary, studies have identified trajectories where some children are at increased risk of acting in antisocial ways throughout their childhood, including children who are referred to child protection services. The constructs of internalizing and externalizing behaviors have been used to identify high-risk cohorts of children.

3.2. Provision of No Therapy for Vulnerable Children

This section summarizes research that investigated outcomes for children who were removed from parental care and placed in OOH care with no specific arrangement made for therapy to be provided.

Since 1991, agencies that provide OOH care for children in England have been required to administer the Strengths and Difficulties Questionnaire (SDQ) to each child in OOH care on an annual basis. SDQ data have been analyzed by Hiller and St Clair [19] and Hiller et al. [20].

Hiller and St Clair [19] analyzed SDQ profiles of children in long-term OOH care over a five-year period in one English district and identified five trajectories. They found that the trajectory with the largest membership involved children who scored as having severe problems (in the abnormal range) from their first year in care and who remained in this range across the five years. Children in this chronic trajectory had significantly more

placement moves than their peers on resilient trajectories. The authors concluded that young people in OOH care had significant mental health problems and that only removing these children from an adverse parental environment was not enough for the child to regain resilient functioning.

Hiller et al. [20] examined a larger sample of English children in OOH care using SDQ data over a three-year period. The most common profiles involved stable functioning over time (either resilient or chronic), while changing trajectories of recovery and delayed resilience were less common. Approximately 50–60% of young people were rated as having elevated difficulties in domains that contribute to externalizing problems (peer problems, conduct, and hyperactivity), and these problems were shown to persist over the three years for approximately 70% of this group of young people. The study found that children with the greatest difficulties were more likely to be living in residential care rather than in a foster home. The study found that being separated from all siblings was associated with higher internalizing and externalizing problems. The authors concluded that only removing a child from parental care and placing them in the care system was not sufficient to produce recovery from their mental health difficulties, as recovery did not occur naturally. The authors expressed concern about the under-identification of common mental health problems in children in OOH care.

The studies by Hiller and colleagues [19,20] illustrate that when children who have been removed from parental care and placed into out-of-home care did not receive adequate therapy, their functioning did not improve. Tustin [21] pointed to a pressing need to develop and deliver therapies that are suited to the needs of court-involved children who are in the direst circumstances.

A meta-analysis of 41 studies of children in OOH care by Dubois-Comtois et al. [22] found an association between placement in foster care and child psychopathology of $d = 0.19$, with children in foster care having higher levels of psychopathology. The study found that the prevalence of psychopathology in children in foster care was similar to the prevalence in a matched sample of children who remained living with their biological parents, indicating that simply removing a vulnerable child from parental care was not a protective factor for the child's mental health.

3.3. Parenting Factors Relevant to Child Vulnerability

Research using psychological models that examine factors that influence risk to children in court-involved families developing a mental disorder is grouped into three categories: parenting factors, childhood factors, and peer factors. Specific models placed in each category are shown in Table 1.

Table 1. Psychological models used to analyze children's disturbed behavior.

Models Describing Parenting Factors	Sub-Models
Attachment bonds	
Parenting styles	
Parental appraisals	Mentalizing, reflective functioning, mindfulness, attributions
Parental mental health	
Parental personality traits	Negative emotionality, agreeableness, conscientiousness, introversion

Table 1. Cont.

Models Describing Parenting Factors	Sub-Models
Childhood factors	
Internalizing & externalizing behaviors	
Over- and under-controlling coping styles	
Extrinsic & intrinsic motivation	
Reactive & proactive aggression	
Relational & physical aggression	
Age of onset of aggression	
Children's emotions	Primary emotions, social emotions, self-evaluative emotions, social evaluative emotions, social-emotional skills
Children's temperaments	Models of temperament, reinforcer sensitivity hypothesis, differential sensitivity model, stress diathesis model
Peer influences	
Disorganized attachment	

3.3.1. Attachment Bonds

Considerable research has examined the influence of parent–child attachment bonds on a child's development, with an emphasis placed on the sensitivity of a parent's response to their child's cues. Mary Ainsworth and colleagues introduced a procedure to assess the quality of an attachment bond formed by infants with their parents, called the Strange Situation Procedure [23]. The Strange Situation procedure was described by Main et al. [24]. An infant is videotaped in a playroom during a series of eight structured 3-min episodes involving the infant, the mother, and a friendly stranger, giving a total of 24 min of observation. The mother leaves the room twice and re-joins the infant, first leaving the infant with a friendly stranger for 3 min, then later leaving the infant alone for 3 min. An observer records how the infant behaves when the mother leaves and re-enters the room, and the mother's responses. The procedure is designed to be mildly stressful for an infant to activate the infant's attachment behaviors toward the mother.

Ainsworth et al. [23] identified three types/patterns of attachment bond: a secure bond and two types of insecure bonds called insecure–avoidant and insecure–ambivalent/resistant. Each pattern is defined by a set of an infant's behaviors. Ainsworth et al. [23] proposed that infants with an avoidant bond minimize their attachment behaviors while keeping close to their parents. Children with an ambivalent bond accentuate their attachment behaviors to maintain proximity to their parents. Main et al. [24] added a fourth pattern called a disorganized pattern, where an infant alternates between behaviors associated with the avoidant and ambivalent patterns.

A 2016 review into types of attachment bonds by Madigan et al. [25] found that 51.6% of bonds were secure, 14.7% were avoidant, 10.2% were resistant, and 23.5% were disorganized. A later review by van IJzendoorn et al. was reported in 2020 [26].

Ainsworth et al. [23] hypothesized that there are consistent relationships between children's attachment bonds and a parent's sensitivity and responsivity to their child's communication cues. Bosmans et al. [27] noted that the use of different terminology between attachment theory and therapists who followed other approaches has led to confusion. Bosmans et al. [27] recognized that therapies based on learning theory enhance

attachment approaches by specifying mechanisms through which the child's attachment develops and changes and by providing new learning experiences for children.

Studies have examined relations between parenting practices and attachment bonds. A meta-analysis by van IJzendoorn and Bakermans-Kranenburg [28] identified the following associations: (a) parenting practices that are sensitive and responsive are associated with a child having a secure attachment; (b) parenting practices that are dismissive/rejecting/preoccupied are associated with avoidant-insecure attachments; (c) parenting practices that are inconsistent are associated with ambivalent/resistant attachments; and (d) parenting practices that are frightening for children are associated with disorganized attachments.

van IJzendoorn [29] conducted a meta-analysis that found only 23% of the variation in infants' attachment bonds/strategies was explained by parental sensitivity, indicating that there is a transmission gap and that other mechanisms are also involved in the development of attachment bonds. A meta-analysis of 66 studies of attachment bonds by de Wolff and van IJzendoorn [30] also found only low correlations between measures of maternal sensitivity/responsiveness and types of attachment, with a combined effect size of $r = 0.24$.

Verhage et al. [31] reviewed 95 studies into the transmission gap. They found there were associations between caregiver sensitivity and attachment bonds, with larger effect sizes for secure-autonomous transmissions ($r = 0.31$) than for unresolved/insecure transmissions ($r = 0.21$). The authors concluded that transmission of attachment was explained only partially by caregiver sensitivity.

Madigan et al. [32,33] summarized findings from meta-analyses about the association between parental sensitive caregiving and attachment bonds, reporting an overall association between caregiver sensitivity and parent-child attachment of $r = 0.25$. They found that maternal sensitivity was inversely associated with all three classifications of insecure attachment (avoidant $r = -0.24$, resistant $r = -0.12$, and disorganized $r = -0.19$). They found the level of association varied with the assessment instrument used.

Other hypotheses have been advanced to explain the transmission gap. Brumariu and Kerns [34] hypothesized that distressed children who do not receive comfort from their mothers suppress their emotions and are likely to develop internalizing disorders. A second hypothesis offered by Guttman-Steinmetz et al. [35] and Madigan et al. [25] is that mothers whose children have insecure attachments are reluctant to accept influence from their child, and their child is likely to act out and display externalizing behavior disorders. Observations of parent-child interactions are used to assess these hypotheses.

A hypothesis that attachment bonds might be associated with children's temperament was assessed by Groh et al. [36], who found an overall association between insecure attachments and temperament of $d = 0.14$ and an association between resistant attachment and temperament of $d = 0.30$. Obeldobel et al. [37] examined 15 studies to assess whether attachment is associated with two dynamic emotion indicators of emotion reactivity and emotion recovery and concluded that avoidant attachment was related to low emotion reactivity and recovery, ambivalent attachment was associated with greater emotion reactivity, and disorganized attachment was related to high reactivity and recovery difficulties.

In summary, considerable research has been conducted into associations between parental sensitivity and attachment bonds, with effect sizes found in the range of 0.14 to 0.31.

Stability of attachment bonds

Studies have examined the stability of parent-child attachment bonds over time. Van IJzendoorn et al. [38] conducted a meta-analysis of studies of the stability of attachment types as children grew older. They dichotomized measures into organized/disorganized and found a moderate effect size of $d = 0.34$ in a sample of 840 children. Fraley [39] dichotomized measures of attachment into secure-insecure and found a moderate effect

size of $d = 0.37$ in a sample of children aged 12–72 months. The moderate effect sizes indicate that classifications of children's attachment styles change over time.

Opie et al. [40] reported a meta-analysis of 63 studies about the stability of attachment bonds across early childhood, where attachment was assessed twice using the Strange Situation procedure between the ages of 12 and 75 months. Their review found that measures of stability of attachment type reached statistical significance for each of the four attachment patterns. The effect size for a child being assessed as maintaining a secure attachment over time was $k = 0.23$. The study found that secure attachments were significantly more stable than both disorganized attachments and resistant attachments, with resistant attachments being the most variable. The study found that avoidant attachments and disorganized attachments were least likely to transition to secure attachments without intervention.

In summary, studies find that the effect sizes for stability of attachment bonds are in the range of 0.23 to 0.37.

Attachment types and maltreatment

Several studies have examined the associations between maltreatment of a child and the attachment bonds they form. A meta-analysis of 55 studies by Cyr et al. [41] found that children who had been maltreated or who lived in high-risk situations showed more disorganized attachments ($d = 0.77$) and fewer secure attachments ($d = 0.67$) than children who lived in low-risk families. The analysis also found that children who were exposed to five or more socioeconomic risks were as likely as children who had been maltreated to show disorganized attachments.

Associations between maltreatment as a child and attachment bonds formed with offspring as an adult were studied by Buisman et al. [42–44]. Buisman et al. [42] studied associations between parents' experiences of having been maltreated and their perceptual, behavioral, and autonomic responses to hearing their infant cry. The study found associations between a parent's experience of neglect as a child and their increased heart rate on hearing their infant vocalize either joyfully or by crying. The authors interpreted this result as indicating that a history of childhood neglect negatively influences a parent's capacity to regulate their emotions and behavior when hearing their infant vocalize, and this becomes problematic when the new parent reacts to their child's expressions of emotion.

Buisman et al. [43] examined whether childhood maltreatment experiences were associated with parents' behavioral and autonomic responses while they participated in a videotaped parent–offspring discussion about a conflict when their offspring was an adult with a mean age of 24 years. The study found that experiences of abuse and neglect were associated with behavioral and physiological responses when discussing disputes with their adult offspring.

In summary, research into the effect sizes of the association between attachment bonds and maltreatment is in the range of 0.67 to 0.77.

How is attachment assessed?

As noted above, Ainsworth et al. [23] recommended that attachment bonds between an infant and parent be assessed using the Strange Situation Procedure (SSP). However, the SSP procedure has been validated only for infants. Various alternative procedures to assess attachment in older children have been introduced.

Lotzin et al. [45] reviewed the psychometric properties of 24 instruments that had been used in publications. They found that, while most instruments demonstrated a valid rating procedure, the instruments lacked factorial analyses, predictive validity, and standardized norms.

Gridley et al. [46] analyzed the psychometric properties of 14 observational instruments used to assess parent–child interactions in parenting research. They assessed the reliability of measurement in four domains (internal consistency, test–re-test, inter-rater,

and intra-rater reliability), and they assessed validity using four domains (content, structural, convergent/divergent, and discriminant). They found that most instruments used to assess parent–child interactions for children aged up to 3 years had established psychometric properties regarding internal consistency, inter-rater reliability, and structural validity, although evidence was often weak. Their findings suggest a need for further validation of instruments to establish acceptability for the whole target age group.

Canas et al. [47] analyzed psychometric properties of nine observational instruments used to assess parent–child interactions in families with children aged 0–12 years who were involved with the child protection system. They identified the Keys to Interactive Parenting Scale for infants aged 2–71 months as obtaining the highest rating.

Stuart et al. [48] reported a study where parents involved with child protection services were asked to engage in a set of structured tasks with their children that was videoed and analyzed. The study distinguished two sets of interactions: 25% of parents displayed high-quality interactions involving positive parenting behavior, and 75% of parents displayed lower-quality interactions involving more negative parenting behavior.

Wittkowski et al. [49] reviewed instruments used to assess self-reported parent–infant relationship factors. They found that while most instruments had good clinical utility, the psychometric properties of instruments were largely poor.

Zumbach et al. [50] reviewed observational coding systems of parent–child interactions that are applicable for psychological evaluations of the risk of child maltreatment. Their review identified 11 unique observational coding systems. The review found 13 studies that identified behavioral differences between parents who had and had not engaged in child maltreatment. Several studies supported the hypothesis that parents who displayed a significantly low level of parental sensitivity/responsiveness distinguished parents who had engaged in child maltreatment, as the parents showed lower levels of sensitivity to their child’s signals, lower levels of understanding children’s cues, less empathy, and less comforting when the child displayed emotional distress. Four studies found that maltreating parents engaged in significantly higher levels of “strict/hostile control” or “critical and controlling behavior” with harsh commands. Three studies found significantly lower levels of supportive and developmentally appropriate behavior from maltreating parents. Two studies found that maltreating parents engaged in significantly higher levels of emotional control with parental anger and significantly lower levels of positive affect with their child. The reviewers noted that no instrument had gained widespread acceptance in risk assessment practice, and they did not recommend any instrument for use with families where children are vulnerable to maltreatment. The authors expressed concern that many instruments appear to have high false positive rates.

In summary, a range of instruments have been used by researchers to assess relationships between parents and children, including with families who have been referred to child protection services. Researchers have not identified any instrument as having sufficiently high psychometric properties to be used to assess parent–child relationships in court-involved families.

Court standards of evidence

Commentators have noted that instruments designed to assess types of attachment bonds that are used by some researchers do not display the level of reliability required to meet the legal standard of being admissible evidence for use in court [51–55].

Granqvist et al. [51] wrote a paper to inform courts about the risks of using concepts from attachment theory to assess individual families where children are vulnerable. The authors note that attachment theory was developed to guide research and clinical interventions and that the assessment instruments were not designed to be used for legal purposes. The theme that instruments designed to assess the parent–child attachment relationship

should not be used in courts has been emphasized by van IJzendoorn et al. [52,53], by Forslund et al. [54], and by Hammarlund et al. [55].

In summary, research indicates that assessment instruments designed to study parent–child attachments have been viewed as adequate for research and for some therapeutic purposes, but not adequate to be used in courts where decisions are made about an individual child’s living arrangements.

Therapy based on attachment theory

Attachment theory has generated therapies. Van IJzendoorn et al. [56] noted that, while it is accepted that attachment patterns are transmitted across generations within families, the method of transmission had not been firmly established. While the role of sensitive parenting has been established, low effect sizes show that there is a large explanatory gap, and other mechanisms need to be added to the theory to explain the transmission of parenting practices between generations. Van IJzendoorn et al. [56] reviewed 12 intervention studies in a meta-analysis and found that, while attachment interventions changed parental sensitivity ($d = 0.58$), there was less change in infants’ attachment insecurity ($d = 0.17$). A review of 20 intervention studies that aimed to reduce maltreatment by Euser et al. [57] found a low effect size of $d = 0.13$.

van IJzendoorn et al. [26] reviewed interventions based on attachment concepts aiming to prevent or reduce child maltreatment and found an effect size of $d = 0.23$.

Velderman et al. [58] observed interactions between mothers and infants aged 7–12 months and provided two sets of interventions. They found that therapeutic interventions were most effective with infants who were very emotionally reactive, supporting a hypothesis of differential susceptibility to child-rearing influences. The concept of differential susceptibility was supported by van IJzendoorn et al. [26] in a review that also placed an emphasis on parenting practices of autonomy support for a child, limit-setting, protectiveness, parental warmth, and repair of mismatched interactions.

Van IJzendoorn et al. [59] provided a meta-analysis of 25 intervention studies where mothers observed video recordings of their interactions with their child who displayed externalizing behaviors, with feedback being provided by a therapist. The study found significant effect sizes for parenting behaviors ($r = 0.18$), parental attitudes ($r = 0.16$), and child attachment security ($r = 0.23$), but not for children’s externalizing behaviors ($r = 0.07$).

Summary

In summary, attachment theory has been very influential among researchers who examine the relationship between parents and children. Effect sizes of associations between variables nominated in attachment theory as being important have been found to be in the range of d of 0.19 to 0.77. However, reviews find that instruments designed to assess parent–child attachment relations do not have high psychometric properties. Therapies based solely on attachment principles have effect sizes in the range of 0.13 to 0.58.

3.3.2. Parenting Styles

Diana Baumrind [60–63] introduced the construct of parenting styles to analyze parenting practices. Baumrind [60–63] identified two parenting dimensions of warmth and directiveness as being most important in parenting. The dimension of warmth assesses the level of affection a parent shows for their child. The dimension of directiveness assesses the level of expectation a parent sets for their child. Baumrind [60–63] identified four parenting styles by combining high and low scores on the two parenting dimensions. The four parenting styles are called authoritative (high on warmth and directiveness), authoritarian (low on warmth and high on directiveness), permissive (high on warmth and low on directiveness), and disengaged/uninvolved (low on warmth and directiveness).

Baumrind [60–63] proposed that there are systematic links between parenting styles and children's behaviors and mental disorders. Baumrind [60–63] recommended the use of the authoritative parenting style and discouraged the use of the authoritarian style, as it is associated with the use of harsh parenting practices.

Rajan et al. [64] reviewed 10 instruments used to measure parenting styles and concluded that most instruments had adequate psychometric properties but found that samples used in factor analyses have often been too small. Their review identified the Parental Authority Questionnaire (PAQ) and Parent Behavior Importance Questionnaire (PBIQ) as suitable instruments to assess parenting styles.

Bahrami et al. [65] and Sanvictores and Mendez [66] reviewed research about the social–emotional functioning of children raised using an authoritarian parenting style. Their reviews concluded that children raised using an authoritarian style displayed lower decision-making skills, lower social skills and academic competence, and lower creativity; experienced more depression and behavioral issues involving emotional suppression; had difficulty in handling negative emotions; and showed a fear of failure. A systematic review of literature by Masud et al. [67] found that the authoritarian parenting style was associated with higher levels of aggression by adolescents. A meta-study of 51 studies from eight countries by Sunita and Sihag [68] found that children raised using authoritarian methods were verbally and physically more aggressive than children of parents who used an authoritative style, and they displayed higher levels of anxiety and depression. A systematic review of studies by Ruiz-Hernandez et al. [69] found that the parenting style most associated with externalizing problems in adolescents was the authoritarian style.

The literature review by Bahrami et al. [65] found that permissive parenting was associated with children having low self-control and more egocentric behavior. Miller et al. [70] reported a study involving children aged 11–14 years that examined relations between parenting styles and children's responses and found that children who experienced a more permissive parenting style expressed more intense negative emotional reactions in situations that can provoke conflict.

Sanvictores and Mendez [66] reported that parents who use a disengaged/uninvolved style grant their children a high degree of freedom. While the parents provide for their child's physical needs, parents who are emotionally detached do not provide high levels of emotional support for their child. Uninvolved parents engage in limited communication with their child, provide minimal nurturing, and express few expectations of their child.

Further research into parenting styles has identified several dimensions of parenting that are important for children's wellbeing, in addition to the two dimensions identified by Baumrind [60–63]. An example of a study that examined a parenting dimension that was not included in the Baumrind model was provided by Aunola and Nurmi [71]. Aunola and Nurmi followed up with children six times, monitored their problem behaviors, and asked parents annually to complete a questionnaire provided by Barber [72] that assesses parenting practices based on psychological control. The study found that a high level of psychological control exercised by mothers, even when combined with high affection, was associated with increased levels of both internalizing and externalizing behaviors in children.

A study by Gugliandolo et al. [73] examined the perception by adolescents that their parents had used methods of psychological control to raise them. The study found a correlation of $r = 0.45$ between maternal and paternal use of psychological control, indicating that often both parents used the approach of psychological control. The correlation between mothers' use of psychological control and adolescents' externalizing problems was $r = 0.21$, and with internalizing problems was $r = 0.19$. The correlation between fathers' use of psychological control and adolescents' externalizing problems was $r = 0.21$, and with internalizing problems was $r = 0.17$.

Goagoses et al. [74] conducted a meta-analysis of studies about parenting styles and identified additional parenting dimensions that had not been included in the original Baumrind model of parenting and that have been shown in later research to be associated with children's emotional regulation. The six additional dimensions of parenting identified by Goagoses et al. [74] are: (a) structure and routines; (b) parental protectiveness and overprotection; (c) parental acceptance/rejection of a child; (d) parental use of power assertion by delivering arbitrary consequences; (e) psychological control using methods of guilt induction and shame; and (f) parental over-involvement.

Goagoses et al. [74] noted that effective parenting practices need to change as children grow older and their skills improve, so parents need to be flexible and to adjust their parenting practices to suit their child's developmental level. For example, while providing high levels of structure is appropriate for young children, as children grow older and seek more autonomy, it is important for parents to adjust and to provide less structure while still maintaining supervision. One implication of the analysis by Goagoses et al. [74] is that clinicians and parents might focus on specific parenting practices rather than on broad parenting styles.

Benoit [75] discussed different types of parenting behavior that are required to raise a child. Benoit [75] distinguished parenting practices that build attachment from other important parenting practices. Benoit distinguished between: (a) attachment-building practices that develop an emotional bond between a child and parent that is demonstrated when a child seeks comfort and safety from their parent; (b) caregiving when a parent meets a child's physical needs; (c) entertainment when a parent plays with a child; and (d) discipline when a parent sets limits on their child's behavior.

Further sets of parenting practices have been discussed by researchers. Bendel-Stenzel and Kochanska [76] addressed the issue of power assertion by parents. The construct of parental emotional over-reactiveness was raised by van den Akker et al. [77]. Koerner et al. [78] addressed a topic where parents over-involved their child in adult topics and reported a study that examined how much separated mothers disclosed their personal concerns to their adolescent daughters following a divorce by talking about adult topics of financial concerns, negative feelings toward their ex-husband, employment tensions, and other personal concerns. The study found that disclosures by mothers were associated with increased distress in their daughters, but not with greater feelings of mother-daughter closeness.

The topics of family cohesion and family enmeshment were discussed by Barber and Buehler [79]. Coe et al. [80] reported a study examining relations between two levels of family closeness (cohesive and enmeshed), maternal relationship instability, and externalizing problems of children aged 4.6 years. Their study found that higher levels of enmeshment were associated with increased children's externalizing problems when mothers were more unstable.

The topic of parental over-involvement was discussed by McCoy et al. [81], who analyzed 53 studies of helicopter parenting and found that helicopter parenting was associated with increased internalizing behaviors in offspring ($r = 0.18$), together with reduced academic adjustment ($r = -0.13$), lower self-efficacy ($r = -0.21$), and low regulatory skills ($r = -0.18$).

Parent and Forehand [82] provided a Multidimensional Assessment of Parenting Scale (MAPS) that identifies seven sets of parenting practices, of which four are positive parenting practices (proactive parenting, positive reinforcement, warmth, and supportiveness) and three are negative parenting practices (hostility, physical control, and lax control). The MAPS instrument addresses a wider range of parenting practices than the Baumrind model but does not include all the sets of parenting practices cited above.

In summary, considerable research has been conducted using the construct of parenting styles, with research providing information that there are links between sets of parenting

practices described in parenting styles and children's social-emotional development. Effect sizes between parenting styles and children's adjustment are found to be in the range of 0.14 to 0.45. Researchers have added several parenting dimensions to the two dimensions emphasized by Baumrind [60], and more types of inadequate parenting practices have been identified. There has been a move away from using the broad constructs of parenting style towards greater emphasis on specific sets of parenting practices.

3.3.3. Parental Appraisals of Their Child

van IJzendoorn et al. [26] reported that simply changing parents' behavior so that parents are more sensitive to their child's cues had not proven to be sufficient to prevent a child's maladjustment, and they proposed that some parents also need to change the way they perceive and appraise their child's behavior. Similar comments have been made by Frijda [83] and Bogels and Brechman-Toussaint [84].

The review identified five models that have analyzed the way parents appraise their child's behavior: an Adult Attachment Interview, mentalizing, reflective functioning, mindfulness, and attributions. Research into the five constructs is summarized.

Adult attachment interview

Main and Solomon [85] introduced an Adult Attachment Interview (AAI), which is a semi-structured clinical interview used to assess a parent's attachment state of mind and how parents view and appraise their children, which has been widely used in research. AAI assigns parents to four attachment styles: secure, dismissing, preoccupied, and unresolved. AAI was held out by van IJzendoorn et al. [29] as having predictive value.

Bakermans-Kranenburg et al. [86] reviewed research that used the AAI and found the following frequencies of parents in each category: 53% of parents were classified as secure, 22% were classified as dismissing, 17% were classified as unresolved, and 8% were classified as preoccupied. An earlier review of AAI by Bakermans-Kranenburg et al. [87] found associations between AAI categories and the four types of children's attachment bonds and found that adults with clinical diagnoses had higher frequencies of dismissive, preoccupied, and unresolved attachment classifications than non-clinical adults.

Bakkum et al. [88] discussed the assessment procedure used to identify unresolved loss and trauma. Katz et al. [89] noted that AAI has been used to predict subsequent psychopathology more than to generate treatment interventions. Three treatment programs that focus on people with unresolved attachment have been reported by Boelen et al. [90], Komischke-Konnerup et al. [91] and Shear and Gribbin Bloom [92].

Mentalizing

Zeegers et al. [93] noted that the construct of parental mentalization was introduced to assess the degree to which a parent shows frequent, coherent, and appropriate appreciation of their infant's internal states. Attachment theory proposes a triangular relationship between parental mentalization, parental sensitivity, and attachment security. A meta-analysis of studies by Zeegers et al. [93] found an overall correlation between parental mentalization and infant attachment security of $r = 0.30$, an overall correlation between parental sensitivity and attachment security of $r = 0.25$, an overall correlation between parental mentalization and sensitivity of $r = 0.25$, and a correlation between parental mentalization and attachment of $r = 0.24$. The review concluded that mentalization exerts both direct and indirect influences on attachment security and recommended that parental mentalization be included in parent educational programs that promote infant-parent attachment.

Madigan et al. [94] conducted a meta-analysis of 281 studies that examined relations between measures of parents' mentalizing about their child's feelings and thinking for children aged 3–18 years and externalizing behaviors. They found an effect size between children's externalizing behaviors and their parents' mentalization of $d = 0.49$. They also

found a large effect between measures of mentalizing and children's internalizing behaviors of $d = 0.67$, with different assessment instruments producing similar results.

Forbes et al. [95] found that a wide range of instruments were used in studies of children's mentalization and found considerable variation in therapeutic approaches used to promote mentalization, with no tightly controlled manualized treatments being available.

Trepiak et al. [96] reviewed 36 studies about constructs used to guide research into parenting practices and concluded that mentalization is an umbrella construct that has been assessed using many instruments.

Reflective functioning

The construct of reflective functioning was used by Fonagy and colleagues [97,98]. Reflective functioning refers to a parent's capacity to understand and describe their own behavior and the behavior of their child in terms of underlying internal mental states that are unobservable.

Camoirano [99] reviewed 47 studies of reflective functioning and mentalization and found evidence that children of mothers who scored low on instruments that assessed reflective functioning experienced anxiety disorders, impairments in their emotion regulation, and externalizing behaviors. The review discussed studies that had evaluated the efficacy of mentalization-based interventions in high-risk samples of mothers and found that studies raised questions about the suitability of using verbal measures to assess mentalizing processes.

Barlow et al. [100] reviewed parent-child dyadic interventions that had been developed to improve parental reflective functioning with infants and toddlers reported in 6 studies. Their meta-analysis found a non-significant moderate improvement in parental reflective functioning in intervention groups. They found no evidence for the benefits of intervention for attachment security, parent-infant interaction, parental depression, or parental global distress.

Stuhrmann et al. [101] provided a systematic review of 16 studies about associations between parental reflective functioning and parenting practices. They found that most studies had examined positive parenting behaviors rather than negative parenting practices. Assessment instruments included rating scales and observational instruments of parenting behaviors. Most studies found a small positive association between parental reflective functioning and positive parenting practices.

In summary, several studies have examined the contribution of the construct of parental reflectiveness without finding substantial benefits.

Mindfulness

Huynh et al. [102] reviewed 301 articles about mindfulness and concluded that parental reflective functioning and mindful parenting have overlapping characteristics, and that the two constructs of mindful parenting and parental reflective functioning have usually been examined separately by researchers. Their review found a significant association between mindful parenting and child wellbeing, and associations between mindful parenting and other elements of positive parenting, including parental warmth and responsiveness, less parenting stress, and fewer child externalizing and internalizing problems. Many studies included a mindfulness-based intervention that aimed to increase the level of mindfulness in parenting, using a Mindfulness-Based Stress Reduction or a Mindfulness-Based Cognitive Therapy model that aimed to improve a parent's ability to cope with and reduce psychological reactivity to stressful parenting situations by paying attention to moment-by-moment parent-child interactions while remaining nonjudgmental of self and the child.

Huynh et al.'s [102] review found that mindfulness therapies were effective with parental mental health risk factors of anxiety, depression, stress, mood, and substance use disorder.

A meta-analysis of studies about parenting programs by Featherston et al. [103] compared programs that included mindfulness-enhanced components in a parent training program with parenting programs without a mindfulness component and found immediate post-intervention improvement in child emotional and behavioral adjustment ($d = 0.46$) and a smaller improvement in parenting skills ($d = 0.22$) in favor of programs that include mindfulness, but the improvement did not extend to the variables of child emotional and behavioral adjustment ($d = -0.09$).

In summary, studies about parental mindfulness report effect sizes in the range of up to 0.46.

Attributions

Dadds and Hawes [104] used the construct of attributions to analyze ways parents respond when their child continues to misbehave after the parent has asked the child to stop the misbehavior. Some parents express a presumption about their child's intention, saying that their child must be misbehaving to annoy them if the child continues to misbehave after being asked to stop. Parents who express this presumption about the child's intention are described as showing a hostile attribution bias by indicating their child's misbehavior has a negative intention. Dadds and Hawes [104] drew on attribution theory to analyze how these parents explained their child's behavior and noted that if a parent explains their child's misbehavior in certain ways, then the parent will feel powerless to change their child's behavior.

Johnston et al. [105] studied attributions/explanations made by mothers of children with and without ADHD, using the attribution dimensions of internal, stable, and global causes of oppositional behavior. The study found that mothers' negative attributions of their child's oppositional behavior to causes that were internal, stable, and global were associated with their child's continuing oppositional behavior, suggesting that an explanatory style that attributes misbehavior to a child's internal character contributes to the maintenance of child problems over time. A parent's explanatory style can be targeted in therapy.

Kaiser [106] pointed out that one dimension in attribution theory refers to a locus of control, which describes how much control a person believes they have over life events, varying from externalizing explanations to internalizing explanations. An externalizing explanation attributes outcomes to factors that are beyond an individual's control, such as luck or powerful forces, while explanations with an internalizing focus attribute outcomes to an individual's personal actions. Harris et al. [107] noted that children begin by being powerless and emphasized the importance of understanding the developmental process of children's developing internalizing explanations by developing a belief about their own ability to control events, suggesting this is an important part of a child's developing a sense of self-control. One set of hypotheses that is worth investigating is that children who display internalizing behavior problems engage more in internalized thinking; that children who engage in externalizing behavior problems engage more in externalized thinking; and that children who display co-occurring internalizing and externalizing behaviors display disorganized internalized and externalized thinking as proposed by Marsiglia et al. [108] and Georgiou and Symeou [109].

Sawrikar et al. [110] suggested that the way a parent appraises their child's behavior influences the child's beliefs about self-control, indicating it is important to include an analysis of how parents describe their children's behavior in parent education programs. They noted that while evaluations find that traditional Behavioral Parent Training (BPT) programs are effective in helping many parents to manage their children's conduct problems, Hood and

Eyberg found that BPT programs are less effective with 30% of families [111]. Sawrikar et al. [110] proposed that one explanation of the low efficacy of BPT with some families is that traditional BPT programs do not address parents' explanations/attributions of why their child misbehaves, so this motivational aspect of the child's behavior is overlooked.

Sawrikar et al. [112] proposed a model of how attributions by parents about their child's conduct behaviors can be addressed in therapy. A re-attribution model for parenting involves three steps: (i) identify how a parent expresses explanations about the cause of the child's behavior and whether blame is attributed excessively to a child's internal character; (ii) does a parent's explanation increase their experience of and expression of negative emotions towards their child; and (iii) does the explanation lead to a parent adopting a hostile attribution bias towards their child and favoring the use of harsh discipline. They hypothesized that a parent's explanation of a child's behavior that places strong pressure on a young child to adopt an entirely internalizing explanation of their misbehavior leads to a deterioration in the parent-child relationship and potentially to mutual rejection between a parent and child. The parent adopts a belief that their child's misbehavior will be ongoing regardless of any intervention used by the parent.

Sawrikar et al. [112] recommended that parenting interventions be adjusted to incorporate steps that address parental internalizing attributions that place excessive blame for a child's misbehavior on the child's disposition/character. They sought interventions that would reduce the tendency for parents to make a hostile attribution about their child's motivations when a child misbehaves.

Sawrikar et al. [112] developed a 16-item Parental Attribution Measure (PAM) to assess explanations used by parents to understand their children's misbehaviors that can be used by clinicians for children aged 3–16 years. A factor analysis of PAM items identified three attributional factors called Intentionality, Permanence, and Disposition. PAM items are provided in the publication. Items with the highest loadings for each factor are Intentionality, which is assessed by 'My child deliberately does awful things'; Permanence is assessed by 'My child's problems are likely to continue throughout their life'; and Disposition is assessed by 'It is difficult to like my child.'

Some researchers have applied principles from attribution theory in their analyses of parents' explanations of their children's behaviors. Bailes and Leerkes [113] reported a study where mothers were video recorded while they engaged in tasks that distressed their infants. The study found that mothers explained their infant's distress in various ways, as some mothers gave externalizing explanations by referring to situational circumstances that upset the infant, while other mothers gave internalizing explanations by referring to their infant's temperament to explain the infant's distress. The study found that explanations given by mothers were associated with the mother's own personality traits, as mothers who gave externalizing explanations were more likely to score highly on the agreeableness trait, while mothers who gave internalizing explanations were more likely to score highly on the neuroticism trait.

Fleming et al. [114] found a pattern where mothers who participated in parent education programs and who expressed doubts about the chances of their child changing were associated with significantly less improvement in their child's conduct problems and internalizing problems, in ongoing parenting stress, and in limited change in parenting behaviors.

Tustin [115] reported that some parents who are asked to reflect on their parenting practices become defensive and outlined therapy principles based on attribution theory that can be used to address a range of attribution biases that occur in families where children are vulnerable.

One hypothesis that is worth investigating is that court-involved parents who are questioned about their parenting practices become defensive, and this contributes to their adopting

a hostile attribution bias where they deny responsibility for their shortcomings. If this hypothesis is substantiated, then a new form of therapy could be introduced for court-involved families that uses a bibliotherapy approach where a parent reads and discusses a short story/vignette that describes both inappropriate and more appropriate parenting practices engaged in by other parents whose circumstances are like the client's circumstances.

In summary, the topic of how parents describe and appraise their child's behavior has been identified as having an important influence on how children manage their own behavior. Five psychological models of parental appraisals have been developed to address the issue of parental attributions. Insufficient research has been conducted to determine the efficacy of alternative models of intervention for analyzing the influence of parental appraisals on children's behavior.

3.3.4. Parental Mental Health Issues

Research has focused on the influence of parental mental health factors on children's disturbed behaviors. While initial research focused on links between parental diagnoses and children's adjustment, more recent research focused on sets of parenting practices that impact children's emotions and behavior. An overview of research linking parental diagnoses of mental disorders that impact children and mechanisms of transmitting maladjustment was provided by Tustin [116]. This section reviews further research that focuses on interactions that occur between parents and children in distressed families.

Ballash et al. [117] noted that anxiety disorders are among the most prevalent disorders and that anxiety is transmitted in families. They reviewed literature about a hypothesis that anxiety could be promoted by a practice of over-control or intrusiveness by parents. They reported that anxious parents were likely to become more controlling when their child expresses negative affect, as over-control may be the parent's strategy to alleviate their child's anxiety. They noted that parental over-control had not been well defined, with different researchers interpreting it to mean overprotection, discouraging independence, or taking over tasks performed by children. Their review found that literature has consistently demonstrated that high levels of parental overcontrol, especially in the absence of warmth, lead to anxiety and negative outcomes for children and adolescents, as it contributes to a child perceiving that they are not trusted to manage events in their lives. Ballash et al. [117] emphasized the need for developmental information about appropriate levels of parental control to be studied further and to be included in intervention programs. One approach that warrants research is to identify safety skills that can be taught to children at each developmental stage to assist children in learning to protect themselves from hazards in their environment.

Gross et al. [118,119] conducted a longitudinal study of associations between early childhood disruptive behaviors and maternal depressive symptoms from toddlerhood to adolescence. The study found that early childhood noncompliance was the most robust predictor of chronically elevated trajectories of maternal depression and that early childhood noncompliance was associated with teacher reports of adolescent antisocial behavior. The authors noted that their findings are consistent with perspectives from developmental psychopathology that emphasize the dynamic interplay that occurs between child and parent characteristics. Gross et al. [119] reported that boys' disruptive behavior when aged 5 to 10 years was associated with their mother experiencing more depressive symptoms, and the association between boys' disruptive behavior and maternal depression remained evident until boys were aged 11–12 years. Gross et al. [119] identified the combination of maternal depression and childhood noncompliance as an indicator for the provision of targeted early intervention therapy.

Trentacosta and Shaw [120] conducted a longitudinal study of relationships between mothers and their sons between the ages of 18 months and 12 years, with an aim of identifying maternal characteristics that are associated with sons rejecting their mother's parenting practices. The study found that a boy rejecting parenting practices in early childhood predicted sons' antisocial behavior in early adolescence. Maternal characteristics that were associated with having their parenting practices rejected by their sons were identified as a mother's young age at the first birth, a maternal aggressive personality, and low maternal empathy.

Shaw and colleagues [121,122] examined predictors of early-onset and late-onset trajectories of children's antisocial behaviors. The study identified four trajectory groups. Membership of two trajectory groups was associated with maternal depression and parenting practices, including an early-starting group whose members had 60–79% involvement in a juvenile court and elevated rates of clinical depression during adolescence.

The topic of how to support families who are recovering from an episode of parental mental illness is discussed by Price-Robertson et al. [123].

Canfield et al. [124] examined relations between maternal depression and children's internalizing and externalizing behaviors. They found that maternal depression was significantly associated with children's co-occurring internalizing and externalizing behaviors. They provided a tiered intervention program and found that the program reduced the association between maternal depression and children's early childhood internalizing and externalizing behaviors.

Dittman et al. [125] reported a survey in Australia of 3483 mothers and 1019 fathers of children aged 4 and 7 years, investigating normative parenting practices for managing children's distress. The study found the most common parental responses to a child's anxious or distressed behaviors were to use gentle physical contact to soothe the child, talk in a soothing voice, and encourage their child to be brave, with fewer than 10% of parents ignoring their child's distress. Fewer than 8% of parents reported ignoring their child's distress by not showing them any attention or affection. The study found that a proportion of parents used smacking and threatened to do something their child would not like, but they did not necessarily follow through if their child remained distressed. The study found that a mother's emotional state was a unique predictor of elevated emotional symptoms in their children. The authors concluded that a double-pronged approach is required that combines mood management training for parents and emotion skill development for children to maximize the effectiveness of early intervention efforts. There is scope to review whether early recommendations from a behavior modification approach for parents to view all of children's misbehavior as reflecting attention seeking, with a recommendation to ignore attention-seeking behavior, are appropriate when children have a temperament including negative emotionality.

The lesson to draw from the Dittman [125] survey is that firm parents distinguish the type of attention they provide to their distressed child, and they soothe their child without ceding to their child's emotional demands.

Lavi et al. [126,127] conducted two meta-analyses. The first meta-analysis of 9 studies found that parents who were emotionally maltreating their children reported higher levels of negative affect, depression, verbal aggression, and anger; and the parents were found, compared to non-maltreating parents, to report lower levels of emotional self-control, emotion regulation, and coping strategies. The second meta-analysis of 46 studies assessed the magnitude of the association and found an effect size of $r = 0.44$, with maltreating parents showing significantly more serious problems with emotional reactivity and regulation than non-maltreating parents. The review identifies topics that can be addressed in targeted therapies for parents whose emotionality is influencing the attributions they make.

Kiser et al. [128] reported that the Parent/Caregiver Trauma and Healing Coordinating Group (PCTHCG) of the National Child Traumatic Stress Network examined existing literature about involving a parent in evidence-based child trauma treatment when the parent has themselves experienced trauma. The PCTHCG identified core topics to consider when providing joint parent–child therapy if a parent has experienced trauma: engagement by parent/caregiver, parenting practices used, co-regulation of emotions, attachment, relationship repair, support by parent/caregiver, emotional coaching, addressing parent/caregiver’s own trauma history and current symptoms, and parent/caregiver appraisals and meaning attributed to their child’s behaviors.

In summary, research finds that parental mental health can have an important influence on children’s mental health adjustment and needs to be assessed and covered in comprehensive parent education programs. Addressing parental mental health issues is a topic for targeted therapy.

3.3.5. Parental Personality Traits

Prinzle has reported research into associations between parental personality traits and children’s problem behaviors [129,130]. Adult personality is usually assessed by psychologists using the NEO-PIR or NEO-FFI instruments that identify five factors or trait dimensions: openness, conscientiousness, agreeableness, extraversion, and negative emotionality/neuroticism [131]. Each of the five higher-order factors is defined by six lower-order factors or dimensions.

Prinzle et al. [130] reported meta-analyses of studies conducted at a population level that examined relations between parents’ personality traits measured using the five-factor model and their parenting practices. The analyses found low correlations between traits and parenting practices. The highest correlations between parenting practices and two personality traits are cited: (a) the correlation between parental warmth and the trait of agreeableness was $r = 0.19$, and neuroticism was $r = -0.17$; (b) between parental control over their child’s behavior and neuroticism was $r = -0.14$, and conscientiousness was $r = 0.11$; and (c) between autonomy support and neuroticism was $r = -0.15$, and openness was $r = 0.14$. While all correlations are low, it is plausible that parents who score at end points of trait dimensions use distinctive parenting practices that contribute to the correlations. If a parent struggles to acknowledge that their parenting practices have an adverse impact on their child, then a clinician might administer a personality test to the parent to help highlight whether there is an association between a personality trait and parenting practices used.

Sahithya and Raman [132] reviewed 20 studies into whether children’s anxiety is associated with parental personality traits and parenting styles. The review found positive associations between authoritative parenting and parental personality traits of higher extraversion, openness, and agreeableness, and moderate conscientiousness. Authoritarian and permissive parenting styles were associated with higher neuroticism, lower extraversion, openness, and agreeableness, and very high conscientiousness.

Tehrani et al. [133] provided a meta-analysis of results from 28 studies that examined associations between parenting styles and five-factor personality traits. The analyses found that parental traits of openness to experience, conscientiousness, extraversion, and agreeableness were positively associated with the use of an authoritative parenting style, and low parental neuroticism was associated with an authoritative style. The authoritarian parenting style was associated with high scores on parental neuroticism. The detached/indifferent parenting style was associated with low parental conscientiousness and low agreeableness and with high parental neuroticism.

In summary, the studies cited show there are small associations between some parental personality traits and parenting practices they use, with effect sizes in the range of 0.11 to 0.19.

Research about specific parental personality traits that have been identified as being associated with distinctive parenting practices is reviewed.

Adult Negative Emotionality

Several studies have examined relations between parental negative emotionality and parenting practices. Lipscomb et al. [134] reported a longitudinal study involving 382 families that examined relations between toddlers with negative emotionality and over-reactive parenting by their caregivers. The study found that increases in children's negative emotionality were associated with increases in caregivers' emotional over-reactivity.

Kochanska et al. [135] examined links between parental personality and parenting practices and found that mothers high in neuroticism reported more use of power assertion as occurs in the authoritarian parenting style.

Bahrami et al. [65] reported that parenting practices of parents who scored highly on neuroticism were more intrusive, involved more power-assertive discipline, showed less sensitivity and warmth and responsiveness, and were like parenting practices reported from parents who use an authoritarian and a permissive parenting style.

Sahithya and Raman [132] reported that parents who scored highly on neuroticism tended to use more emotion-focused coping skills for themselves and fewer positive parenting practices with their child, regardless of their child's temperament. The review found that certain personality traits were differentially associated with parenting styles, as parents high on neuroticism were more likely to use authoritarian and permissive parenting styles. The review concluded that the parental trait of neuroticism was associated with parenting practices that increased anxiety in children.

Roskam et al. [136] examined a different aspect of parental personality by examining parental burnout. They reported that parents who displayed a trait profile that included a high score on neuroticism were at higher risk of burnout. Le Vigouroux et al. [137] reported a risk profile for inadequate parenting that involved a combination of three traits: high neuroticism, low conscientiousness, and low agreeableness. The authors proposed that high neuroticism makes it harder for parents to maintain a positive relationship with their child, a parent with low agreeableness is slower to recognize their child's cues, and a parent with low conscientiousness finds it harder to maintain the structured routines that children require.

Schlatter et al. [138] examined relations between five-factor scores and anticipatory stress. They found that high parental neuroticism was associated with higher levels of anticipatory stress vulnerability, whereas lower conscientiousness was associated with lower anticipated stress vulnerability.

Adult Agreeableness

Kochanska et al. [139] examined personality traits of 103 mothers and found that mothers who scored low on agreeableness and high on negative emotionality displayed more negative emotions towards their children, and their children were angrier and more defiant. The mothers provided less nurturing parenting and used more power assertion, and their children exhibited more behavioral problems with less internalization of rules.

Kochanska et al. [140] examined the personalities of parents in a longitudinal study and observed parent-child interactions in naturalistic contexts when children were aged from 9 to 45 months. The study found that a mother's low score on the agreeableness trait was positively correlated with the use of power assertion and with emotional detachment and was negatively correlated with sensitivity and warmth.

Coplan et al. [141] found that maternal agreeableness was negatively associated with the use of a harsh and coercive parenting style. Coplan et al. [141] assessed relations between two of mothers' personality traits (neuroticism and agreeableness), their parenting styles, and two characteristics of children's temperament (shyness and emotional dysregulation). They found that a tendency for mothers to use an overprotective parenting style

increased with both the mother's neuroticism and a child's shyness. They also found that mothers with a low agreeableness score were more likely to use a harsh/coercive parenting style with children who were more emotionally dysregulated.

De Haan et al. [142] reported that a higher level of parental agreeableness was related to lower levels of over-reactivity and to higher levels of warmth. A two-year longitudinal study by De Haan et al. [143] found that agreeable parents were nurturing, responsive, and autonomy-granting, whereas their disagreeable counterparts tended to overreact and to engage in harsh discipline.

A study by Bagherian and Mojamari [144] examined relations between the five-factor traits and parental assertiveness and found a negative relationship between assertiveness and neuroticism ($d = -0.31$) and a positive relationship between assertiveness and both extraversion ($d = 0.28$) and conscientiousness ($d = 0.23$).

A meta-analysis conducted by Prinzie et al. [130] found that many parents who scored low on the agreeableness dimension were supportive of their child's autonomy, as these parents viewed their child's striving for autonomy positively rather than viewing their child as challenging their authority.

A review of 20 studies by Sahithya and Raman [132] identified low scores on the agreeableness trait (individualism) with both authoritarian parenting and permissive parenting. The review noted increased concern if a parent also shows a profile of higher neuroticism, lower extraversion, lower openness, and very high conscientiousness.

Adult Conscientiousness

A longitudinal study by Oliver et al. [145] found that parents who rated themselves as more conscientious found it easier to set limits for their adolescent offspring.

Kochanska et al. [135] found that higher parental conscientiousness was associated with less power assertion, and this finding was corroborated by Hong et al. [146].

The meta-analysis provided by Prinzie et al. [130] found a low correlation between parental warmth and conscientiousness.

Bahrami et al. [65] reported that authoritarian mothers scored highly on conscientiousness, indicating that very high scores on conscientiousness can be associated with parents placing several strict demands and rules on their young children and may be linked with intrusive and over-controlling parenting practices.

Sahithya and Raman [132] reported that both the permissive and authoritarian parenting styles were associated with very high scores on conscientiousness and with lower scores on extraversion, openness, and agreeableness.

The studies cited indicate that combinations of traits in a parent's profile are more relevant for parenting than scores on one trait.

Adult Introversion

An early review of studies by Metsapelto and Pulkkinen [147] reported that parental nurturance was associated with high scores on parental extraversion and questioned whether more introverted parents provided adequate nurturance. However, the meta-analysis by Prinzie et al. [130] found that the correlation between parental extraversion and parental warmth was low ($r = 0.14$), and the authors concluded that while extraverted parents enjoy socializing and sharing positive emotions of warmth, including with their child, the low correlation does not indicate that introverted parents provide low warmth.

Summary

In summary, the studies cited indicate that a parent's overall trait profile, which is the combination of their personality traits, appears more relevant when analyzing parenting practices than individual traits. If concern is expressed about parenting provided to a child, there is scope for clinicians to assess a parent's profile of normal personality traits before seeking explanations in terms of a personality disorder.

4. Childhood Factors Relevant to Vulnerability

The review identified nine psychological models that have been used to assess childhood factors in children who are vulnerable to developing a mental disorder. The nine models are internalizing and externalizing behaviors, over- and under-controlling coping strategies, extrinsic and intrinsic motivation, reactive and proactive aggression, relational and physical aggression, early and late onset aggression, children's emotions, children's temperaments, and disorganized attachment. Research generated by each model is summarized.

4.1. Internalizing and Externalizing Behaviors

Achenbach and colleagues [148,149] categorized children's disturbed behaviors as externalizing and internalizing. A child's externalizing behaviors are acting out behaviors that are directed outwardly towards the environment and include actions of non-compliance, defiance, aggression, impulsiveness, and rule-breaking. In contrast, a child's internalizing behaviors are focused inwards and reflect internal distress, and are displayed by signs of social withdrawal, anxiety, depression, and negative self-talk.

The two types of behavior are assessed using questionnaires that include the Children's Behavior Checklist (CBCL) [148,149], BASC3 [150], and Strengths and Difficulties Questionnaire (SDQ) [151]. Each instrument identifies behaviors that contribute to higher-order factors of internalizing and externalizing behaviors and identifies clusters of behaviors or lower-order traits that contribute to the higher-order factors. Clinicians who use these instruments can adopt a trait-oriented approach to therapy where they address sets of behaviors that cluster together rather than problem behaviors in isolation [152].

A meta-analysis of 1435 studies about children's externalizing behaviors by Pinquart [153] associated *externalizing* behaviors with parenting dimensions and found that harsh control, psychological control, and authoritarian, permissive, and neglectful parenting styles were associated with higher levels of externalizing problems. Parental warmth, behavioral control, granting autonomy, and an authoritative parenting style showed small positive and negative concurrent and longitudinal associations with externalizing problems, with effect sizes ranging from $d = 0.14$ to 0.20 , and were associated with reduced externalizing problems over time. A second meta-analysis of studies about children's *internalizing* behaviors by Pinquart [154] associated *internalizing* behaviors with parenting dimensions and found that harsh control, psychological control, and authoritarian and neglectful parenting styles were associated with higher levels of internalizing symptoms in children with effect sizes in the range $d = 0.20$ to 0.24 . The analysis found that parenting methods of both harsh discipline and psychological control are associated with higher levels of both externalizing and internalizing behaviors in children.

It is conventional to provide different individual therapies and parenting approaches for internalizing and externalizing behaviors. Moller et al. [155] provided a meta-analysis of 28 studies of parenting practices where children were anxious. They found distinctive but small associations involving parental practices of overcontrol, overprotection, and overinvolvement, with associations between parenting practices and child anxiety symptoms being higher for fathers than for mothers.

4.1.1. Co-Occurring Problems

Using the categories of internalizing and externalizing behaviors can give the impression that the behaviors occur at opposite ends of a continuum and are mutually exclusive. However, research shows that internalizing and externalizing behaviors can co-occur in children. Children who display co-occurring internalizing and externalizing behaviors provide special challenges for parents, carers, and therapists, and they require very careful therapy and parenting.

Bornstein et al. [156] followed community children in three waves at ages 4, 10, and 14 years and measured their social competence, internalizing, and externalizing behaviors. They found that children with lower social competence when aged 4 years exhibited more co-occurring externalizing and internalizing behaviors at age 10 years and more externalizing behaviors at age 14 years. They described the development of problems as cascading, as low social competence in early childhood forecasts behavioral problems in adolescence.

Kunimatsu and Marsee [157] noted that the co-occurrence of internalizing and externalizing problems produces unique, complex behavioral profiles that require distinctive parenting approaches. They offered a model to explain how the co-occurrence of internalizing and externalizing behaviors is based on a child's strong stress response and on a tendency for the child's fight response to predominate over their flight-and-avoidance tendencies. The authors drew attention to the importance of treatment programs for children with co-occurring problems using coordinated interventions based on emotion management, cognitive strategies, and behavior management strategies to teach emotionally reactive children to manage their aggressive tendencies.

Fanti and Henrich [158] studied the trajectories of 1232 community children from ages 2 to 12 years who were assessed as displaying internalizing problems, externalizing problems, and co-occurring internalizing and externalizing problems. They found that a small proportion of 5–7% of young children did not outgrow their temper tantrums and the defiant and irritable behaviors that characterize toddlers, and if untreated, these children were at increased risk of following a life-long course of persistent externalizing problems. The study provided evidence supporting a hypothesis that children who display co-occurring internalizing and externalizing problems have poorly differentiated responses to stress, where their fight tendency predominates over their avoidance/flight tendency when they become stressed. The study found that co-occurring disorders are more likely to occur when, as well as a child having a *sensitive temperament*, there is an additive effect from exposure to early childhood risk factors. Membership of the co-occurring group was associated both with high family adversity and with a child receiving a high score on their physiological reaction to stress. The authors hypothesized that a child's increasing cognitive abilities during the mid-childhood years enable children to reflect and to anticipate events that are negative and distressing for themselves and for other people and to learn to self-manage their behavior if they are raised using suitable supportive parenting practices.

Schermerhorn et al. [159] followed a group of community families when their children were aged between 5 and 13 years and examined children's traits that were associated with externalizing behaviors. Their study found that children's traits of resisting control (unmanageability) and low adaptability to novelty were associated with externalizing behaviors. Children who scored highly on traits of resisting control and low adaptivity to change were found to display more externalizing behaviors when they became stressed.

Zarling et al. [160] assessed the internalizing and externalizing behaviors of children aged 6–8 years whose mothers were exposed to domestic violence. The study found that children who were exposed to high levels of domestic violence displayed higher levels of co-occurring externalizing and internalizing behaviors. The study found that harsh discipline increased the likelihood of a child developing externalizing behaviors but not internalizing behaviors.

Wiggins [161] examined the co-occurrence of internalizing and externalizing behaviors in children between the ages of 3 and 9 years and associated parenting practices. They identified three developmental trajectories: low/normal levels of behaviors, severe behaviors that decreased over time, and severe ongoing behaviors. They found that parental use of harsh parenting increased after the toddler years, and use of harsh parenting increased

more steeply with children who displayed severe behaviors, and it became a stable parenting practice in some families. They found that harsh parenting was uniquely associated with ongoing externalizing symptoms. The authors interpreted their results as showing the importance of addressing both internalizing and externalizing behaviors from an early age to understand and reduce risk for developing psychopathology and of recognizing the role that harsh parenting plays in influencing the trajectory of co-occurring behaviors.

Goulter et al. [16] examined children with co-occurring internalizing and externalizing problems in a community population of children with a mean age of 5.3 years. They found that co-occurring problems occurred in 13.1% of the sample. Membership in the co-occurring group was associated both with high family adversity and with a child receiving a high score on their physiological reaction to stress.

Studies have found that co-occurring behavior problems occur more commonly in families who have been reported to child protection authorities as parents struggle to manage their child's disturbed behaviors [15,16]. Mental health clinicians interpret the finding that children reported to child protection authorities have high levels of co-occurring problems to mean that it is especially important to provide carefully targeted therapies for these children.

In summary, studies draw attention to the co-occurrence of internalizing and externalizing problems both in children in the mainstream population and in children in OOH care. Having co-occurring problems complicates child-rearing, as parents need to manage both stress reactions and conduct behavior that occur simultaneously in their child. Studies indicate that internalizing behaviors reflect a physiological disposition to react strongly to stress. Research has identified protective factors that reduce the chances of a child developing externalizing problems and has identified issues that can be addressed in targeted therapy interventions.

4.1.2. Attachment and Internalizing/Externalizing Behaviors

A number of studies have examined associations between parent-child attachments and children's externalizing and internalizing behaviors, and meta-analyses have been conducted.

Fearon et al. [162] reviewed 69 studies that examined the relationship between types of attachment and children's externalizing behaviors. They found the effect size between externalizing behavior and disorganized attachment was higher ($d = 0.34$) than effect sizes found with avoidant attachment ($d = 0.12$) and ambivalent/resistant attachment ($d = 0.11$). While low correlations are sufficient to guide therapy, low correlations do not provide adequate evidence that an insecure attachment per se is a reliable indicator that a child is likely to develop externalizing behaviors and needs to be removed from parental care.

As discussed above, Madigan et al. [32] reviewed 60 studies that examined associations between attachment types and internalizing behaviors. They found that effect sizes were larger between avoidant attachment and internalizing behaviors ($d = 0.29$) than between disorganized attachment and internalizing disorders ($d = 0.20$). They found no association between ambivalent attachment and internalizing behaviors. The low correlations between insecure attachments and children's internalizing behavior are sufficient to guide therapy, but the correlations are too low to support a prediction that an individual child with an insecure attachment will develop an internalizing behavior disorder.

A meta-analysis by Groh et al. [163] found the following associations between avoidant attachment and children's functioning: child's lower social competence ($d = 0.17$), child's higher level of internalizing problems ($d = 0.17$), and child's higher levels of externalizing problems ($d = 0.12$). The meta-analysis also found associations between resistant attachment and lower social competence ($d = 0.29$).

Dagan et al. [164] reviewed studies about the joint effects of both a mother's and a father's attachment practices on children's internalizing and externalizing behavior

problems. They conducted a meta-analysis of 9 studies involving children with a mean age of 29 months. They found that children who had an insecure attachment with one or both parents had a higher risk of elevated internalizing problems than children who were securely attached to both parents. Children whose attachment bonds with both parents were disorganized displayed more externalizing behavior problems than children who had a disorganized relationship with only one or neither parent.

In summary, considerable research has been conducted into associations between attachment styles and the constructs of internalizing and externalizing behaviors, with effect sizes found to be in the range of 0.12 to 0.77.

4.2. *Over- and Under-Controlling Coping Styles*

Another approach that is relevant to the construct of self-discipline involves a dimension of children under-controlling their impulses, over-controlling impulses, and being resilient, as used by Asendorpf [165,166]. Asendorpf linked under-controlled children to externalizing behaviors and over-controlled children to internalizing behaviors.

Bohane et al. [167] reviewed 43 studies about over- and under-controlled children. Children who are 'over-controlled' were hypothesized as being constricted and inhibited, organized, avoidant, and conforming, showing minimal emotional expression and being willing to delay gratification. Children at the 'under-controlled' end of the continuum were hypothesized to be overly emotionally expressive, spontaneous, seeking immediate gratification of their desires, distractible, less conforming, and comfortable with ambiguity and uncertainty. Bohane et al. [167] concluded that research supports the distinctions between three coping styles of over-controlled/constricted children, resilient children, and under-controlled/dysregulated children.

The review by Bohane et al. [167] included research about associations between children's over- and under-controlled types and adult personality disorders. The review found that the overcontrolled coping style was associated with Cluster C personality disorders (anxious and fearful disorders), whereas the under-controlled coping style was associated with Cluster B personality disorders (dramatic, emotional, or erratic disorders; borderline personality disorder; and antisocial personality disorder). Bohane et al. [167] noted agreement that personality prototypes have fuzzy rather than discrete borders and that results vary when researchers use factor analyses or cluster analyses. Bohane et al. [167] introduced a hypothesis that too much self-control can be as maladaptive as too little self-control.

In summary, the constructs of children using under-controlled and over-controlled coping styles appear to be a framework that is easily understood by all stakeholders and can be used by researchers and clinicians.

4.3. *Extrinsic and Intrinsic Motivation*

Ryan and Deci have drawn attention to whether children's motivation is driven by internal or external factors and whether a child is internally or externally motivated [168–170].

Kochanska and Aksan [171] differentiated between children's compliance that is internally motivated and shows an internalized and committed compliance, and compliance that is externally motivated. They considered that only internalized compliance is relevant to a child's sense of responsibility and morality. They report that internalization of parental rules is observed in children between the ages of 24 and 53 months.

Hoffman [172,173] distinguished types of discipline and proposed that internal motivation and moral development are best developed by parental use of inductive discipline as compared to power-assertive discipline. A parent who uses inductive discipline expresses expectations about their child's behavior, praises their child for compliance, expresses disappointment if their child does not behave as expected, and accepts a child's expression

of remorse and offers of reparation. A parent who uses power-assertive discipline demonstrates their power over their child by delivering consequences for their child's actions, which might include withdrawing affection if they are disappointed by their child.

Krevans and Gibbs [174] found that children aged 11.5 to 14 years who were raised using inductive discipline demonstrated more empathy and empathy-based guilt, and they displayed more prosocial behavior than children who were raised primarily using a power-assertive approach. Krevans and Gibbs [174] reported that children learn empathy when their parents use inductive discipline, as compared to using power-assertive discipline when their child acts in unsociable ways.

Patrick and Gibbs [175] described a study where parents used inductive discipline rather than asserting power over their child. They identified three components of inductive discipline: building empathy by asking their child how another child who is treated badly might feel; reminding a child of an expectation/rule; and expressing disappointment in their child's inappropriate actions. Inductive discipline was presented as an alternative to methods where a parent asserts power over their child by arranging artificial consequences for the child's misbehavior. Proponents of inductive discipline cite studies that dynamic cycles can develop when a parent uses strong power assertion when a child misbehaves, a parent exerts punishment, and their child then responds by resenting the discipline and blaming their parent for treating them unfairly, especially if a child has an insecure attachment bond with their parent that is insecure as noted by Bendel-Stenzel et al. [76].

Di Domenico and Ryan [176] described intrinsic motivation as being driven by natural consequences of an action. When a person is intrinsically motivated, they practice skills freely and independently of whether any external reward is provided for the action, as they enjoy the natural consequences of their responding. Motivation is described as extrinsic if a person engages in an action primarily to obtain an arranged consequence.

A parent who uses inductive discipline explains the reason for a rule or restriction without using arbitrary punishment. Choe et al. [177] followed children whose parents used inductive discipline in a longitudinal study from ages 3.5 to 10 years. The study found that mothers who endorsed the use of inductive discipline, where they explained reasons for rules when their child was aged 3.5 years, reported less use of physical discipline, and their children displayed fewer externalizing problems when aged 5.5 years.

In summary, the constructs of intrinsic and extrinsic motivation appear relevant to children who both experience strong emotions and can resist authority. There is a need for further research about how to integrate constructs about intrinsic motivation into child-rearing programs.

4.4. Reactive and Proactive Functions of Aggression

A further framework for analyzing children's aggression focuses on the functions of aggression, as outlined by Dodge and colleagues [178–187]. Dodge and Coie [178] distinguished two functions of aggressive behavior by children and two subtypes of aggression called reactive aggression and proactive aggression. They proposed that the motivations driving the two subtypes of aggression differ, and different intervention strategies are required as the subtypes serve different functions. These distinctions generated considerable research and meta-analyses.

Dodge and Coie [178] hypothesized that children who engage in reactive aggression are triggered by antecedents that produce strong feelings, resulting in perceptions that they are being rejected and provoked, leading to misperceptions of their perceived opponent's intentions and to the child forming hostile attributions about the intentions of their opponent in situations they find challenging. Crick and Dodge [186,187] hypothesized that children who engage in reactive aggression have limited skills both in managing their own strong emotions

and in processing social information about the intentions of other people. Dodge et al. [181] provided evidence in support of a hypothesis that children who have been maltreated are more likely to express reactive aggression rather than proactive aggression and that children with the two subtypes of aggression require different therapy approaches.

Crick and Dodge [186] hypothesized that children who engage in proactive aggression are motivated by the outcomes/consequences they anticipate from their aggressive actions, indicating that consequence-oriented interventions are more appropriate to manage the aggression of children who engage in proactive aggression.

Fite et al. [188] assessed the psychometric properties of an instrument developed by Dodge and Coie [178] to assess the two subtypes of aggression. They identified two factors corresponding to the constructs and found that reactive aggression was more strongly associated with effortful control and symptoms of depression than proactive aggression.

Vitaro et al. [189] conducted a longitudinal study where they assessed a community sample of children annually for three years from age 10 years and measured several dimensions of children's personal functioning. They found that children who engaged in reactive and proactive aggression had distinct profiles on their personal functioning, but also overlaps occurred between the subtypes, so the subtypes could not be clearly differentiated in terms of the children's personal functioning.

Little et al. [190] conducted a study involving 2723 aggressive youth to assess whether subtypes of aggression could be identified based on self-reports by children about why they behaved aggressively. The study identified five subtypes of aggression: (a) an 'instrumental' group comprising 21.3% of the sample who scored highly on only instrumental reasons for aggression; (b) a 'reactive' group comprising 21.3% who scored highly on reactive reasons only; (c) a 'both' group comprising 12.6% who scored highly on both instrumental and reactive reasons for aggression; (d) a 'typical' group comprising 32.0% whose scores on both dimensions were moderate; and (e) a 'neither' group comprising 12.7% who scored lowly on both dimensions. The 'reactive' and 'both' groups showed consistent maladaptive patterns across measures of adjustment. The 'instrumental' and 'typical' groups showed generally adaptive and well-adjusted patterns. Little et al. concluded that the typological approach that identified functions of aggression was promising for assessment and intervention purposes.

Arsenio et al. [191] assessed associations between adolescents' reactive and proactive aggressive tendencies and their social information processing skills, moral reasoning, and emotion attributions. They found that reactive aggression was uniquely related to lower verbal abilities and to a hostile attributional bias, and these associations were mediated by adolescents' attention problems. In contrast, proactive aggression was uniquely associated with adolescents' higher verbal abilities and expectations of more positive emotional and material outcomes resulting from their aggression.

Babcock et al. [192] reviewed research and found there was more correspondence between reactive and impulsive aggression than between proactive and premeditated aggression.

Several meta-analyses of research about subtypes of children's aggression have addressed hypotheses proposed by Dodge and Coie [178].

de Castro et al. [193] reported a meta-analysis of 41 studies examining the relationship between children's aggressive behavior and their hostile attributions in children aged 8–12 years. Studies presented hypothetical stories to children and assessed their responses. The meta-analysis found the hostile attribution bias was linked to aggression across different ages and found a positive association between hostile attribution bias and aggression with an overall weighted mean effect size of $d = 0.33$. However, effect sizes relating hostile attributions to sub-types of aggression varied widely between studies and were found to depend on the level of children's emotional engagement. Different assessment instruments influenced effect sizes.

de Castro et al. [194] conducted a second meta-analysis of studies about relations between children's aggressive behavior and their forming hostile attributions about the intentions of peers. They found positive effect sizes in both community children and very aggressive children, with larger effects associated with more severely aggressive behavior, rejection by peers, and the age of 8–12 years.

de Castro et al. [195] reported that the aim of children who display reactive aggression appears to be to vent their anger and spite. The study asked both highly aggressive boys and community boys to explain their responses to hypothetical provocations by peers. They found that both groups of boys primarily explained their aggressive responses to provocative situations by a feeling of being impelled to act by their strong emotions, without reference to outcome goals. Reactive aggression was specifically related to emotional explanations for aggression. Also, highly aggressive boys more frequently advocate aggression by referring both to their emotions and to a perceived moral rule that taking revenge is imperative, regardless of its consequences for oneself.

Card and Little [195] reported a meta-analysis of studies into whether the two functional subtypes of aggression could be distinguished. They found that the two subtypes of aggression were highly correlated on six measures that were: internalizing problems, emotional dysregulation, delinquent behaviors, low prosocial behavior, sociometric status, and peer victimization. They found a small tendency for reactive aggression to be more strongly related to most indices of poor adjustment than proactive aggression.

Polman et al. [196] conducted a meta-analysis of 51 studies about the relation between reactive and proactive aggression in children and adolescents. They found that studies found an overall significant correlation between reactive and proactive aggression when assessed using both behavioral observations and questionnaires, with the strength of association between subtypes of aggression varying between studies from -0.10 to 0.89 . They concluded that the subtypes of aggression are best measured by behavioral observations and by questionnaires that provide information about both the forms and functions of aggression.

Fontaine [197] provided a review of social-processing cognitions used by children who participate in instrumental/proactive aggression. Fontaine et al. [198] proposed that the key elements in decision-making by children who engage in aggressive behaviors involve their evaluations of behavioral alternatives and their decisions about how to select a response to manage a challenging social situation. One study found that children developed a consistent decision-making style by the age of about 8 years, when the decision-making styles of aggressive and nonaggressive children could be distinguished. A second study found that once a child has developed a decision style, their style tends to persevere until about 16 years of age.

Hubbard et al. [199] provided a review of research about the steps used by children who act aggressively when they process social information. They found strong evidence that reactive aggression, but not proactive aggression, is associated with children using a hostile attribution bias, where the child views an opponent's intent as being provocative and antagonistic in situations that are ambiguous. Research showed that children who had been subjected to maltreatment were more likely to engage in the use of hostile attribution bias. Hubbard et al. [199] concluded that children who engage in reactive aggression recalled fewer details during interactions, and they could be inattentive to benign social cues. Children who engaged in reactive aggression responded quickly and did not take the time to consider alternative explanations of events that occurred.

Hubbard et al. [199] reported that children who used proactive aggression followed distinctive patterns. When these children were more confident about their ability to act aggressively, they were more likely to become aggressive to achieve a goal. Several studies have found that children who use aggression proactively expect to achieve positive

outcomes from their aggression, including receiving respect from their peers. Hubbard et al. [199] concluded that there is sufficient evidence to distinguish between the two subtypes of children's aggression in terms of different family precursors, children's differing processing of social information, different motivations of children, association with different emotions, and different outcomes. Hubbard et al. [199] drew attention to alternative instruments to assess subtypes of children's aggression, including making observations in structured situations.

Fite et al. [200] studied associations between negative life events and peer relationships in children aged 8 years who were assessed as displaying either proactive or reactive aggression. They found that some negative life events were uniquely associated with reactive aggression, whereas having a best friend who was delinquent was uniquely associated with proactive aggression. The authors concluded that the subtypes of childhood aggression can be distinguished in terms of associated social circumstances.

A hypothesis that children aged 9–12 years who display reactive aggression are sensitive to rejection was tested by Jacobs and Harper [201]. They found that sensitivity to rejection was associated more with reactive aggression than with proactive aggression.

Paciello et al. [202] reported a longitudinal study of aggression in youth aged 14–20 years. They found that adolescents who maintain higher levels of moral disengagement were more likely to show frequent aggressive and violent acts in late adolescence. A longitudinal study by Cen et al. [203] found that both emotional self-control and engagement with moral principles were associated with lower reactive aggression over time.

McClain et al. [204] examined associations between proactive and reactive aggression and peer likability in elementary school children. The study found that there is a negative relation between reactive aggression and reciprocated liking. The authors noted that a child's desire to be liked by peers can be used to motivate them to avoid reactive aggression.

Martinelli et al. [205] reviewed 27 studies about the relation between hostile attribution bias and aggression in children. They found that hostile attribution biases were more consistently related to reactive aggression than to proactive aggression, there is evidence for separate pathways of development between relational and physical aggression and their respective attribution biases, and hostile attributions are associated with aggression in both genders.

Verhoeff et al. [206] conducted a meta-analysis on 111 studies into the relation between children's hostile intent attribution and their aggressive behavior. The review found a positive association between hostile attributions and aggression, but effect sizes varied widely between studies. They proposed a dual model of social-information-processing that distinguishes between an automatic and a reflective processing mode. They hypothesized that whether a child uses an automatic or reflective mode depends on factors including their level of emotional arousal, temperament, and sensitivity to rewards and punishment. Research shows that children who display high (hyper) emotional reactivity and children who display low (hypo) emotional reactivity are more prone to aggressive behavior [207–210].

Evans et al. [211] examined 1420 children aged 5–12 years annually to assess trajectories of proactive and reactive aggression in middle childhood and their outcomes in early adolescence. Their study identified four trajectories: low aggression comprising 76.7% of the sample; predominantly reactive aggression comprising 13.7%; declining aggression comprising 4.9%; and co-occurring high proactive and reactive aggression comprising 4.7% of the sample. Children in all elevated-aggression clusters had higher levels of peer problems, depressive symptoms, were subject to more disciplinary action, and obtained lower grades at the end of 5th grade. The reactive cohort had the most consistently unfavorable pattern of outcomes. The authors recommended that clinicians adopt an

individualized person-centered approach when designing interventions for aggressive children, rather than using a universal approach.

Van Dijk et al. [212] conducted a study including a community sample of 228 children aged 10–13 years who displayed some aggression and a sample of 238 children aged 8–13 years with more aggressive behaviors. They confirmed that two subgroups of children who display reactive and proactive aggression could be distinguished in both samples. Across samples, 55–62% of children were classified as displaying reactive aggression, 10–24% were classified as displaying proactive aggression, and 18–33% were classified as displaying both types of aggression. The authors noted there were overlaps between the subtypes in terms of their social–emotional characteristics.

Vaughan et al. [213] studied a sample of 1211 justice-involved males aged 15–22 years and found that reactive aggression was associated with impulsivity, and this continued over time. The authors concluded that proactive and reactive aggression are unique constructs with separate developmental trajectories and distinct covariates.

McRae et al. [214] described a pathway from child maltreatment to reactive and proactive aggression after a child developed post-traumatic stress symptoms (PTSS). The study involved children who were enrolled in a residential treatment program due to being maltreated and followed children between the ages of 6 and 14 years. The children completed self-report instruments. The study found significant effects of PTSS in the cohort who displayed reactive aggression.

Romero-Martinez et al. [215] conducted a systematic review of 157 studies that assessed underlying biological markers of reactive and proactive aggression. The reviewers concluded that heritability accounted for approximately 45% of the explained variance in both subtypes of aggression, with 60% of variance shared by both subtypes and with 10% of variance being specific to each subtype of children’s aggression. Brain analyses revealed an overlap between the two subtypes of aggression. High activation of the medial prefrontal cortex facilitated proneness to both types of aggression equally. Psychophysiological correlates did not clearly differentiate between the two subtypes of aggression. The review supported a model that recognizes co-occurrence of both reactive and proactive subtypes of aggression, rather than a dichotomous model that does not recognize any overlap between the subtypes of aggression.

Luijkx et al. [216] examined the influence of Adverse Childhood Events (ACEs) on both reactive and proactive aggression and the possible moderating role of mentalization (operationalized as reflective functioning) in 65 adult inpatients. The study found a positive relationship between the total number of ACEs experienced (including childhood maltreatment and current adverse household factors) and both reactive and proactive aggression.

Perry and Ostrov [217] analyzed relationships between internalizing and externalizing behaviors in community children with a mean age of 47 months and the two subtypes of aggression. They hypothesized that a child who displays reactive aggression responds to a strong emotion triggered by an antecedent, whereas a child who displays proactive aggression uses aggression that is planned to achieve certain outcomes from their aggression. They also distinguished between the two forms of aggression (physical aggression and relational aggression). They factor analyzed items in an assessment instrument and identified four clusters that combine the forms and functions of aggression: (a) reactive relational aggression; (b) reactive physical aggression; (c) proactive relational aggression; and (d) proactive physical aggression. The authors reported that their results support a two-factor model of externalizing aggression, as both reactive and proactive relational aggression and deception load on one externalizing factor, while reactive and proactive physical aggression and hyperactivity load on a second externalizing factor. The authors

noted that different interventions are required to manage the differing profiles and that interventions need to be planned by a skilled clinician.

Verhoef et al. [218] expanded on the dual model of processing social information. They hypothesized that children use their attention skills to alternate between the two modes, and that children with limited attention skills struggle with the task of switching their attention between modes of processing. They hypothesized that children initially use the automatic mode, as the reflective mode requires cognitive resources. When a child is stressed and is struggling to manage their own body arousal, they find it difficult to use the reflective mode to analyze social information, so they continue to use the automatic mode. The implication for therapists and parents is that it is wise to conduct a debrief following a stressful incident when a child acted aggressively to encourage reflective processing when the child is calm. Giving a child practice at improving their attention skills can assist, including: (a) practice switching attention between tasks when they are calm; (b) attending to informative cues, including others' body language; and (c) practice noticing their own body cues of stress. In a debrief, a child can be encouraged to reflect on alternative response strategies to manage a challenging situation, including self-protection, reconciliation, and retaliation. Verhoef et al. [218] also recommended helping children to classify challenging social situations into categories to help a child identify situations they find more difficult, proposing categories of being threatened, provoked, disadvantaged, coping with competition, and dealing with an authority figure. Specific skills can be taught to manage each challenging situation as required.

Obradović [219] highlighted advances in the ability to measure physiological reactivity (that can be measured readily) and executive functioning (that is difficult for clinicians to measure) and recommended greater use of coordinated measures in understanding individual differences in how children cope with stressful circumstances.

In summary, researchers have shown that two functions of children's aggression (reactive and proactive) can be distinguished. A complication for therapists and parents is that the two types of aggression can overlap, as some children simultaneously display both subtypes of aggression. Co-occurring reactive and proactive aggression complicates parenting and complicates the task of designing an intervention plan. The age when co-occurring reactive and proactive aggression can be targeted appears to be around 6–8 years.

Research shows that reactive aggression occurs more commonly in children who have been abused and in children who have been exposed to a high number of adverse childhood events. Both sub-types of aggression are associated with negative reactions from peers and with social disadvantages. Interventions based on a model of social information processing are emerging. It is timely to introduce targeted interventions for children who display co-occurring reactive and proactive aggression and to assess the efficacy of these interventions.

4.5. Relational and Physical Forms of Aggression

One set of research examines the type of aggression and whether aggression is physical or relational. Physical aggression involves body contact, while relational aggression involves actions such as bullying, denigration, and gossip.

Vaillancourt et al. [220] examined childhood aggression in three waves with 3089 children at ages 4–7 years, 6–9 years, and 8–11 years. Their analysis distinguished two types of aggression that were stable across both time and gender, which have been labeled physical aggression and relational aggression (also called social aggression).

Underwood et al. [221] followed a sample of children aged 9–13 years and assessed their developmental trajectories for social and physical aggression. Their analysis identified subgroups of children, with one cohort following a trajectory that combined high social and physical aggression. Membership of the high-use trajectory of combined aggression was

associated with both maternal authoritarian parenting and maternal permissive parenting. Permissive parenting was also associated with membership of a trajectory where the use of aggression increased over time.

Lansford et al. [222] examined relations between relational aggression and physical aggression in nine countries for children aged 7–10 years. They found that use of physical and relational aggression was significantly correlated in all nine countries (mean $r = 0.49$). Boys were reported as being more physically aggressive than girls across all nine countries, but no consistent gender differences were found regarding relational aggression.

Harachi et al. [223] observed children from mid-childhood and identified four trajectories of aggression. They identified four predictors of membership in two high-aggression trajectories for both boys and girls: the child's attention problems, family conflict, low school commitment, and attachment difficulties. Members of the high aggression cohort were more likely to engage in violent behavior, to engage in covert delinquency, and to use substances in ninth grade. Low involvement in their family was a predictor of the high-aggression cohort for boys. Depression and having a single parent were predictors of membership in the high-aggression cohort for girls.

In summary, researchers who distinguish between relational and physical forms of aggression have found relationships between types of aggression used by children and parenting used to raise children. Research is required on whether different interventions are required to manage the two types of aggression.

4.6. Age of Onset of Aggression

One set of research has examined children who display continuing aggression and the child's age when continuous aggression commences, called the age of onset of aggression. Tremblay [224] reflected on how research can change perceptions about the development of aggression in children and how early research moved perspectives away from the idea that aggression is primarily instinctual towards recognizing that children learn how to display anger and aggression from influences in their family. Parents' interpretation of anger influences whether a parent views anger as bad and teaches their child to suppress all urges to be angry, or parents teach their child how to express their anger in a socially acceptable way.

Research about the age of onset of ongoing anger may have similar potential to influence perceptions about anger and aggression.

The distinction about the age of onset of continuing aggression arises from longitudinal studies that analyze children's aggression over long periods of time and make repeated measures of the same variables in waves of research. Longitudinal research permits more insight into the causal direction when variables are correlated. Longitudinal research permits a focus on patterns of children's use of aggression over time as they grow older.

Loeber and Hay [225] reviewed research about trajectories of aggression from childhood to adulthood using the concept of 'onset of aggression' to examine differing patterns of children's aggression over time. They identified patterns that are linked to a child's stage of development, giving time-based patterns of aggression. In one pattern, the onset of aggression commences in the preschool period and is ongoing and is called early-onset aggression. In a second pattern, the onset of ongoing aggression occurs in mid-childhood or adolescence and is more related to conflict with authority figures.

4.6.1. Early Onset Aggression

Kunimatsu and Marsee [157] associated early-onset aggression with co-occurring externalizing and internalizing behavioral problems, where children experience a strong reaction to stress and express their frustrations by acting out. In this interpretation, early-

onset aggression that continues is viewed as reflecting the temperament of a child who was described by Chess and Thomas [226] as having a 'difficult temperament.'

The two trajectories of early- and late-onset aggression were discussed by Shaw and Gross [227]. They reported that a high proportion of boys who showed aggression at school age had been showing a broad range of externalizing behaviors, including aggression, since the age of 2 years. They noted that parents appeared more willing to adjust their parenting practices to manage their child's externalizing behaviors during the child's early years compared to in later childhood, and they recommended that targeted parent-education programs be made available during early childhood, from about 3 years of age, to prevent continuation of childhood aggression.

Shaw and Gross [227] identified a number of modifiable risk factors that were associated with an elevated likelihood that early-onset aggression could become ongoing, including: (a) prenatal heavy alcohol use by the mother; (b) prenatal cigarette smoking; (c) continuous children's disruptive behaviors involving impulsivity and low inhibition and under-controlled behaviors; (d) a child's fearlessness; (e) insecure attachments by children; (f) a child's limited language skills; (g) parental mental health issues of depression and antisocial behavior; (h) parental substance misuse; and (i) severe marital conflict. These modifiable risk factors can be used to formulate a screening instrument of indicators to assess the likelihood that a child's early aggression will be ongoing.

Brennan and Shaw [228] reviewed studies about whether girls follow similar trajectories as boys regarding conduct problems. Their findings indicate that one subgroup of females exhibited an early-starting and an ongoing persistence of conduct problems, while a second subgroup of females demonstrated an onset of conduct problems in adolescence.

Parenting interventions have been found to be effective in reducing early-onset child conduct problems. Shelleby and Shaw [229] conducted a review to assess differential effectiveness according to the severity of initial childhood problems and concluded that greater initial problematic child behavior may be associated with greater benefit from parenting interventions.

A meta-analysis of the efficacy of 13 trials involving parenting intervention for early-onset aggression in children aged 3–12 years was provided by Furlong et al. [230]. The analysis found that parent training produced significant reductions in child conduct problems ($d = -0.53$), improvements in parental mental health ($d = 0.36$), more positive parenting skills ($d = 0.53$), and reductions in negative or harsh parenting practices ($d = -0.77$). Further, the review found evidence of cost-efficacy, as the cost of delivering interventions was approximately \$2500 (GBP 1712; EUR 2217) per family to bring the average child with clinical levels of conduct problems into the non-clinical range.

Armstrong-Carter et al. [231] noted that additional factors arise if a child has been raised by parents who were abusive, as these children often displayed heightened physiological reactivity to acute stressors, indicating that their early experiences of fear might sensitize the child's nervous system to react more to future threatening situations by heightening their stress response. Researchers have developed a cumulative index of allostatic load, which is a way of measuring multiple types of heightened physiological stress response and inflammation, including heart rate, blood pressure, cortisol levels, and immune and metabolic markers that are linked to poor health outcomes in adulthood. Children who experience more adversity in their early life consistently show greater allostatic load, which is linked to a broad range of negative outcomes later in life. These physiological markers can be used by clinicians both to indicate the need for treatment and as a measure of treatment effectiveness. The physiological markers can also be used to identify children who have a sensitive temperament that leaves a child prone to physiological over-reactivity, where over-reactivity is not adaptive if a child lives in an environment with high adversity.

The concept of age of onset of aggression is important as it implies there is a need for early intervention programs to manage children's aggression that are adjusted to suit very young children.

4.6.2. Onset in Mid-Childhood

Girard et al. [232] examined whether clusters of children can be identified who have distinct profiles in the development of forms and functions of their aggression and whether risk factors can be identified that are associated with children in clusters. They examined 787 children from birth to adolescence and assessed subtypes of aggression between the ages of 6 and 13 years. They identified five trajectory clusters: non-aggressors, low-stable, moderate engagers, high desisters, and high chronic aggressors. They found that coercive parenting increased the risk of membership in moderate engagers and high chronic cohorts. Maternal depression increased the risk only for the high-desisting cluster. Lower maternal IQ increased the risk for both high desisting and high chronic clusters. Never being breastfed increased the risk for the moderate engagers cluster. Boys were at greater risk of belonging to clusters displaying elevated aggression. Individuals with chronic aggression used differing forms of aggression.

Girard et al. [232] concluded there is a need for strategies to deal with maternal depression to replace coercive parenting practices with positive parenting practices. The authors recommend that prevention programs for risk factors should target mothers with depression and those with lower IQ.

4.6.3. Summary

In summary, research has distinguished two trajectories where the onset of children's aggression occurs either during very early childhood and continues or commences in the mid-childhood years. While the distinction between early-onset and late-onset aggression has been established, therapy interventions for the two trajectories of aggression have not yet been well developed and publicized.

5. Children's Emotions

One body of research focuses on children's emotions and proposes that parents and parenting programs should place a strong emphasis on teaching children to manage their emotions and to demonstrate emotional self-regulation. To foreshadow findings, this section describes more research about hypotheses and less research about clinical interventions.

Bowlby [233] proposed a number of hypotheses about the emotions of children who are separated from their parents, but many hypotheses have not been confirmed or followed by child welfare authorities. Bowlby [233] extended the emotion regulation proposal to children who have been separated from their parents. He noted that when children are separated from their parents, they are likely to experience a complex set of emotions, including fear, apprehension, anger, despair, grief, and guilt (p. 145). Young children are unsure how to show their feelings, and they might either try to hide their feelings or display their emotions strongly. Bowlby [233] emphasized that children who are removed from parental care are likely to experience strong emotions of hostility, and grief, and to regress into babylike behavior [233] (p. 170). Many children who have been removed from parental care test their new carer by misbehaving, by showing distrust in the new carer, and by rejecting their new carer. This is challenging for a new carer who tries to win over a child by showing unconditional love and affection; if the carer does not receive the appreciation from the child they seek and deserve. If a child is placed in foster care for an indeterminate time, a foster carer might refrain from trying to form a bond with the child.

Robertson and Robertson [234] observed young children who were separated from their attachment figure for a prolonged period while either a parent or child was in the hospital, and they described how children display their emotions as time progresses. Robertson and Robertson [234] reported that young children who experience prolonged separations from their attachment figure commonly express their emotions in three phases that are: (a) protest at separation; (b) then despair at missing their parent, marked by weaker crying and rejecting overtures by nurses, with signs of anger and ambivalence; and (c) followed by detachment, where a child appears blank and unresponsive to their original attachment figure, while the child might comply with requests from their new carer. A child in the detached phase has given up all hope of reunification and regaining their previous attachment. On reunion, the child might avoid the parent they previously favored, and the child might readily greet other people and ignore their previously favored parent, showing indiscriminate attachment behaviors.

Bowlby [233] proposed that it is essential for a child's mental health that they experience a warm, intimate, and continuous relationship with their mother or a permanent mother-substitute. A child who does not experience this relationship is described as experiencing maternal deprivation if they are removed from their mother's care for a prolonged period for any reason. Deprivation is mild if a child is cared for by someone they know and trust, producing partial deprivation, but maternal deprivation is considerable if a child is cared for by a stranger, producing complete deprivation [233] (p. 14). Partial deprivation was hypothesized to produce anxiety, powerful feelings of revenge, guilt, and depression. Complete deprivation might produce a long-term effect of crippling a child's capacity to form relationships with other people, producing an emotionless character.

Bowlby [233] noted that children who are emotionally disturbed often test carers to see if carers are trustworthy, and the child becomes slow to award their trust. Bowlby [233] recommended that all disturbed children receive therapy to help them address issues, including identifying and expressing their feelings and recognizing that they deserve affection. Bowlby [233] recommended that it is important for a therapist to steer older children away from engaging in emotional thinking, where they associate a favored parent with all their positive emotions and they associate another person with all of their negative emotions. Children tend to want to see their parents in a positive light and to be loyal to their parents, so they defend their favored parent against criticisms, and they make excuses for any inadequate parenting they receive from their favored parent. Children might idealize one parent and not acknowledge any shortcomings in that parent. Idealization is more likely to occur if a child does not spend time with their parent, as the child cannot perform a reality check. A child who spends time with two parent figures can discuss in therapy whether each parent figure is the ideal parent they would like to have, and discuss experiences they have with each parent figure. Bowlby [233] noted that a child who spends time with two parent figures and is exposed to differing parenting styles can discuss parenting standards that are important to them and meet their needs.

Bowlby [233] discouraged a strategy of trying to over-protect a child from experiencing any negative emotions by ensuring the child does not encounter any adverse experiences, as a child who is over-protected learns to suppress their feelings about events that happened rather than to process their feelings. Bowlby [233] emphasized the need for children's therapists who spend time in two households to understand the dynamics that occur in separated families (p. 184).

Cooke et al. [235] provided a meta-analysis of 72 studies of associations between parent-child attachment styles and children's experience and regulation of emotions. They found associations with each attachment style as follows. More securely attached children experienced more global positive affect and less global negative affect, expressed less elicited

negative affect, were better able to regulate their emotions, and made more use of cognitive and social support coping strategies. Avoidantly attached children experienced less global positive affect, were less able to regulate emotions, and were less likely to use cognitive or social support coping strategies. Ambivalently attached children experienced more global and more elicited negative affect and were less able to regulate emotions. Disorganized children experienced less global positive affect and more global negative affect.

Ellsworth and Scherer [236] proposed that the way a person cognitively appraises a situation influences the emotion the person experiences in the situation. Ellsworth and Scherer proposed that people intuitively appraise situations, and their intuitive appraisal produces an immediate emotional response. People can learn to reflect on their immediate appraisal, and their reflection might result in a person re-interpreting a situation and producing a change in the emotion they experience. A therapeutic intervention that encourages a person to reflect on a situation is described as reframing or cognitive reappraisal if a reflection results in a reconceptualization of a situation after viewing it from a different perspective.

Parents and therapists usually focus on teaching their child to regulate how they express their emotions. Lin [237] reviewed 49 studies that found that family factors impact a child's ability to regulate their emotions and that a child having a limited ability to regulate their emotions increases the risk that the child will develop an internalizing disorder. Morris et al. [238] proposed that parents influence their child's ability to regulate emotions through four mechanisms: as a role model, as children observe how their parent regulates their own emotions; by helping their child to name and differentiate their emotions; by encouraging a child to express emotions in ways that are acceptable in the family; and from the overall emotional climate in a family.

A range of approaches has emerged to help children manage their emotions, based on differing principles. Theories that link the expression of emotions to physiological arousal emphasize the importance of teaching children to relax their bodies, while other theories emphasize the role of cognitions in managing emotions.

Schweizer et al. [239] proposed using a cognitive model to help all children and adolescents to regulate their emotions from an early age and hypothesized that children with co-occurring internalizing and externalizing disorders do not adequately use their cognitive skills to control and express their emotions. The emotion regulation skills proposed by Schweizer and colleagues [239] involve the identification of specific emotions, using attentional skills to inhibit some emotions, and shifting one's attention to adjust to changing environmental demands. These core emotion management skills are hypothesized to be relevant to a range of children's mental disorders, including anxiety, depression, and conduct disorders, so the model proposes that cognitive skills for managing emotions are linked to several disorders, and therapists need to use a transdiagnostic approach in therapy.

5.1. Categorizing Emotions

Researchers who examine emotions conclude that emotions are complex. Ben-Ze'ev [240] recommended that researchers view emotions as having four components: internal body sensations, an evaluation of sensations as producing either a positive or negative feeling, a cognitive component, and a motivational component with an action tendency.

One approach to analyzing the development of children's emotions is based on a categorization of emotions that children experience as they grow older. Riddell et al. [241] conducted a meta-analysis of 129 studies on how well children recognized various emotions between the ages of 2 and 12 years, with a focus on primary emotions. They found that children begin to distinguish negative emotions at about age 2 years, when they also begin to use words to describe each negative emotion. They found that happiness was the most easily recognized emotion category, followed by anger, surprise, sadness, disgust, and fear.

The current review distinguishes four categories of emotions that are relevant in family life and that develop as a child grows older: primary emotions, social emotions, self-evaluative emotions, and social evaluative emotions. Specific emotions hypothesized to belong in each category are as follows: primary emotions include happiness, sadness, fear, surprise, and anger; social emotions include empathy and compassion; self-evaluative emotions include pride, confusion, helplessness, loneliness, disappointment, envy, jealousy, regret, remorse, and resentment; and social evaluative emotions include embarrassment, disappointing others, guilt, and shame. While research is limited, it is proposed that each category of emotions develops during the following ages. Primary emotions are present soon after birth. Social emotions develop from the ages of 3–7 years when children recognize that the emotions experienced by other people can differ from their own emotions. Self-evaluative emotions develop from the age of about 5 years, when children recognize their actions' impact on other people. Social evaluative emotions develop from the age of about 6 years. The mid-childhood years are hypothesized to see the development of three categories of emotions.

A developmental framework for categorizing a child's emerging emotions allows a parent to adjust how they help a child to regulate their emotions as the child grows older and has new experiences. Managing primary emotions is important during the toddler years. Managing the other three categories of emotions is important during the mid-childhood years when children meet more peers, are exposed to more authority figures, and their cognitive skills improve.

5.2. Primary Emotions

Primary emotions that concern clinicians are fear, sadness, anger, and happiness.

Infants use emotions to communicate their needs. Theorists propose that if a child does not learn to express and process their primary emotions and instead suppresses their primary emotions, then a child will feel misunderstood, and their strong emotions are likely to be displaced and to emerge as another feeling or to linger as a residual emotion of resentment [242–244]. For example, a feeling of sadness might be converted into a feeling of anger, or an emotion might turn into a psychosomatic symptom.

Research shows that children who have difficulty regulating the expression of their primary emotions are more likely to develop behavioral disorders. Lin et al. [237] conducted a meta-analysis of 49 studies into factors that influence the ability of children to regulate their emotions. Their analysis identified seven family factors associated with children having more difficulty in regulating their internalizing symptoms: unsupportive socialization by parents, use of psychological control, insecure attachments, parental use of harsh discipline, exposure to high family conflict, poor parental emotion regulation, and parental psychopathology.

5.2.1. Processing Primary Emotions

It is common for theorists to promote the concept of helping children to process their emotions. However, researchers, including Pollock et al. [245], Silk [246] and Aghaziarati and Nejatifar [247] comment that research about the efficacy of interventions to help children process and regulate their emotions is limited.

Some researchers including Eisenberg [248], have associated children's difficulties in processing emotions with certain temperaments, including shyness.

Caiozzo et al. [249] identified parental behaviors that promote a child's processing of emotions, such as sensitivity to children's emotions during play, listening effectively to children's expression of sadness, and being capable of emotion regulation themselves. Cicchetti [250] reported that parents who maltreat their child often fail to provide many

of the experiences that are required for normal emotional development. One implication for therapists is that they need to be able to pass on to parents a high level of skill in helping parents to encourage appropriate expression of emotions in themselves and their children. Therapists look for research that provides evidence confirming hypotheses about key parental behaviors and quantifying parenting practices that are adequate for meeting a child's needs.

Chervonsky and Hunt [251] discussed dilemmas over balancing the expression and suppression of emotions by adults in a meta-analysis of 43 research papers. They found that high levels of suppression of emotion were significantly associated with poorer social wellbeing, including more negative first impressions by other people, lower social support, lower social satisfaction and quality, and poorer romantic relationship quality. Inappropriate expression of anger was associated with poorer social wellbeing. Expression of positive and general/nonspecific emotion was related to better social outcomes.

Weir [252], in a publication by the American Psychological Association, reported that a child's ability to regulate their emotions is influenced by their temperament as well as by the parenting they receive. Parenting practices that were encouraged are: begin to name emotions from toddler age; emphasize naming emotions for children who are hard to sooth; describe feelings experienced by characters in stories; be a good model of expressing emotions; for parents to remain calm when teaching their child about emotions; role play and practice acceptable expression of each primary emotion; talk about different ways to manage a challenging situation when the child is calm; identify ways for expressing each emotion that are accepted in the household; praise and minimize punishment; seek consistency between parents; not set perfectionistic expectations for children or parents; and arrange repairs and apologies after things go wrong.

One approach used by clinicians to help parents teach their child to regulate emotions is called sequential thinking. A parent who encourages their child to think sequentially about emotional situations asks their child to describe an emotional situation using seven steps/components: a trigger, a thought, a feeling, a goal, an action, consequences of action, and evaluations of consequences. Sequential thinking is associated with several hypotheses. Young children and impulsive children often refer to three components of a trigger: their feelings and their actions, implying they have little control over their actions, as their actions are controlled by an external trigger. Impulsive children emphasize their feelings over their thoughts. A child demonstrates more control over their emotions if their description of an emotional situation includes reference to inner processes the child can control (thoughts, actions, and goals). Sequential thinking helps a child to anticipate likely consequences of their actions and to select actions that are more likely to produce outcomes desired by the child when they make a choice between alternative actions. However, many children have trouble identifying a goal for an emotional situation before the age of 7 years.

Another model to help older children to process their feelings was proposed by Draycott and Dabbs [253] and Cancino-Monecinos et al. [254] and involves helping a child to integrate their thoughts, feelings, and actions about a topic to reduce cognitive dissonance.

Schafer et al. [255] distinguished between constructive and maladaptive emotion regulation strategies for youth. Constructive strategies for youth were identified as cognitive reappraisal, problem solving, and acceptance of emotions. Maladaptive emotion regulation strategies were identified as avoidance, suppression, and rumination. They conducted a meta-analysis of 35 studies of coping strategies used by youth with depressive and anxiety symptoms and found that youths who habitually used constructive emotion regulation strategies had significantly fewer symptoms of depression and anxiety, whereas youths who habitually used maladaptive emotion regulation strategies experienced more symptoms of anxiety and depression.

Foroughe et al. [256] reported the use of a brief Emotional Focused Family Therapy (EFFT) intervention for new parents with the aim of preparing the parents to take a primary role when their child recovers from an adverse experience. They found the EFFT intervention significantly improved parents' willingness to intervene with their child, improved parental self-efficacy regarding their child's recovery, and produced significant improvement in children's symptoms.

5.2.2. Maltreatment and Emotions

Buisman et al. [257] examined a hypothesis that a child being maltreated can result in the child having difficulty recognizing even basic emotions, and misinterpreting emotions. They asked parents in three-generation families to compete in emotion recognition tasks. They found that parents with a history of having been abused as children needed a shorter reaction time to identify fear and anger. Parents who had experienced high levels of neglect made more errors in identifying fear, whereas parents who showed high levels of abusive behavior made more errors in identifying anger. The authors interpreted the results as indicating that a parent's own childhood history can influence how they perceive emotions in other people. The authors recommended that interventions be developed to break the intergenerational transmission of abuse and neglect by helping parents to address specific issues associated with the processing of emotions experienced by parents who were abused or neglected.

5.3. Social Emotions

Social emotions are emotions that are experienced towards other people and include empathy and compassion.

Davidov et al. [258] reviewed research into the development of empathy in children aged up to 3 years, with findings cited below. Research has identified an emotional contagion effect where infants automatically match their facial expression to another person's expression and share the other's emotional state for both positive and negative emotions, leading to an other-oriented empathic response. Researchers have also identified reactions that are self-oriented rather than other-oriented and that are associated with less empathy. Researchers distinguish three components of empathy: cognitive empathy, where another's feelings are identified accurately as reflected in perspective taking; distinguishing one's own emotions from the emotions of others; and an ability to regulate one's own emotional arousal. A child's reflective ability develops during the second and third years of life. Children aged 18–25 months can show concern for a person who has been harmed, even if the person is not displaying distress. Children's spontaneous helping and comforting behaviors increase markedly during the second year of life.

Moderately consistent differences between children in their empathic behaviors are evident from age 14 months. One longitudinal study cited by Davidov et al. [258] observed infants from 3 to 36 months and found that 46% of infants increased in their empathic behavior over time, while 37% of children consistently showed low empathy over time.

Studies find that a child's temperament influences the level of empathy they experience, where infants who experience strong negative emotions show less empathy. Further, maternal reactions to an infant's distress influence empathy, as a mother's sensitive responsiveness to a child's cues of distress is associated with the child's observed concern for distress in others.

Frick and Kemp [259] reviewed research about older children who engage in externalizing behaviors and concluded that sub-types of externalizing behaviors can be distinguished based on children's empathy, and that the sub-types of externalizing behaviors require different therapy interventions. One sub-type of externalizing behavior involves children

who have trouble processing the emotion of fear. A meta-analysis of 20 studies by Marsh and Blair [260] about children who displayed externalizing behaviors found that these children had impairments in processing fear. The studies found the children were able to distinguish and to process anger and happiness shown in photos of faces, but they were impaired in their ability to distinguish facial signals in other people of fear, sadness, and surprise. These children had limited ability both to recognize some emotions in other people and to understand the perspectives of other people. These children might also display blunted emotions themselves and be emotionally unresponsive to other people. Children in this sub-type showed less physiological reactivity to signs of fear in others, and they scored lower on measures of affective empathy. The children in this sub-group have been described as insensitive and unfeeling.

Sub-types of children with externalizing behaviors have also been differentiated according to whether children scored highly or lowly on anxiety. A meta-analysis of 59 studies by Waller et al. [261] found correlations between externalizing behaviors and guilt of $r = -0.40$ and between externalizing behavior and prosocial behavior of $r = -0.66$. One group of children who scored highly on anxiety had a history of higher exposure to trauma, had a bias to perceive highly emotional situations as posing a threat to themselves, and over-interpreted strong emotions in others as being a threat.

When tested, these children avoid paying attention to visual cues that reflect pain and fear in other people, perhaps avoiding being influenced by emotional contagion involving negative emotions.

A second group of children in the Waller et al. review [261] who displayed externalizing behaviors scored lowly on measures of anxiety, and they appeared to be fearless from a young age. They did not display distress on seeing the negative impacts of their behavior on others, and they appeared indifferent and insensitive to the negative emotions displayed by others. These children did not display empathy, remorse, or guilt, and they displayed limited prosocial emotions. The children justified their own actions that produced negative consequences for others. If these children were punished for their actions, they tended to view the punishment as reflecting hostility towards them. These children were slow to internalize social standards of conduct. They displayed limited ability to understand the perspectives of other people, and this was attributed to the children not experiencing the same level of emotional arousal as their affected peers. The low level of empathy in these children was viewed as possibly reflecting an inherited influence.

Frick and colleagues [262–265] describe some children who display proactive aggression as having callous-unemotional traits, as the children lack empathy for peers they victimize. Frick and Kemp [259] reported that the early onset trajectory for these children involves children showing disturbed behavior from an early stage, and their disruptive behaviors continue to be problematic over several developmental stages. Children in the early-onset trajectory begin by showing mild conduct problems, such as oppositional behavior and prolonged temper tantrums as toddlers, and their behavioral problems increase in rate and severity throughout childhood and into adolescence. One group in the early-onset cohort shows high levels of emotional reactivity, poor impulse control, lower verbal intelligence, a hostile attribution bias, and high levels of impulsive anger and aggression in response to perceived provocations from others. These children are dysregulated, and they often show high distress about the impacts of their behavior on other people.

A second group of early-onset children identified by Frick and Kemp [259] were children who displayed conduct problems and who lacked empathy and did not show concern for other people. Indicators of the second group include a lack of guilt, absence of effort to do well on important activities, and constricted or superficial displays of emotion. Frick and Kemp [259] proposed that children in the second group benefit from a focus on

developing their expressions of emotions in socially acceptable ways and the promotion of the cognitive components of conscience, where a child engages in cooperation and rule-compatible conduct.

Frick and Kemp [259] reviewed literature about the efficacy of therapies for the subtypes of externalizing behaviors. A meta-analysis of therapies by Piquero et al. [266] found that while Behavioral Parenting Therapies (BPT) were effective in reducing behavior problems in many children, these therapies were less effective with children who were emotionally insensitive and who displayed low empathy.

Frick and Kemp [259] recommended adding components to parenting training programs for children who show low empathy. They recommended both a Tuning in to Kids intervention by Havighurst et al. [267] that is delivered in six sessions for parents of children aged 4–5 years and an intervention by Kimonis et al. [268] that emphasizes coaching on parental warmth and emotional responsiveness, use of correction and reinforcement, building empathy, teaching children to attend to details of facial expressions of emotions, identifying triggers for distress, role plays, and story-telling.

Perlstein et al. [269] conducted a meta-analysis of 60 studies of children with subtypes of externalizing behaviors, where the mean age of children was 10 years. They compared outcomes of programs when children had only disruptive behaviors (DB) and when children had both disruptive behaviors and unemotional traits (DB + ET). The reviewers drew two main conclusions. First, treatment was associated with similar reductions in disruptive symptoms in both the DB and DB + ET groups. However, the DB + ET group started and ended treatment with more DB symptoms. Second, although there was no overall direct effect of treatment on unemotional traits, there were moderating factors, as treatment-related reductions in unemotional traits were found when studies included a parenting-focused component and used parent-reported measures.

In summary, research has made progress in identifying the development of empathy and in identifying children who follow trajectories involving low empathy. While therapy programs have been identified that appear promising, there is little research about whether these programs are widely disseminated.

5.4. Self-Evaluative Emotions

Dijkstra and Buunk [270] and Helm [271] note that children evaluate their own activities, and they experience personal evaluative emotions, which are feelings children experience when they evaluate their own behavior. Many self-evaluative emotions have been proposed and recognized by theorists and researchers, including pride, hubris, empathy, helplessness, confusion, loneliness, envy, jealousy, trust, forgiveness, regret, remorse, and resentment. It appears that the development of self-evaluative emotions occurs primarily during the mid-childhood years.

Many studies have been conducted into self-evaluative emotions, and this topic is beyond the scope of the current review.

5.5. Social-Evaluative Emotions

Haidt [272] and Lewis [273] distinguish between primary emotions that are triggered by external events and self-conscious emotions that originate from self-evaluative processes that occur when a person realizes they are being evaluated and judged by other people. Social evaluative emotions are defined here as feelings a child experiences when they consider their actions are being evaluated by others. These emotions have also been called moral emotions. Social evaluative emotions include embarrassment, disappointing others, guilt, and shame.

Eisenberg [274] and Kochanska et al. [275] drew attention to an association between the social evaluative emotions of embarrassment, shame, and guilt and children's traits of effortful control and conscientiousness. Both guilt and shame occur when a child experiences a feeling that a social standard has been violated and they are perceived as being responsible for the violation. Kochanska et al. [275] reported that indicators of shame and guilt can appear by the age of about 3 years, as research indicates that between the ages of 21–46 months, some children show remorse for their own actions by indicating discomfort about their wrongdoing, by apologizing, by complying with standards of conduct, and by expressing concern when others engage in wrongdoing.

Eisenberg et al. [276] distinguished between effortful self-control and compliance. They reported that toddlers aged 2–3 years can comply with parental demands on topics such as stopping playing and tidying up toys, with toddlers usually complying with instructions from the age of 12–18 months. The ages of 2–4 years were identified as the developmental period when compliance skills usually develop, with most children being able to manage their attention and to inhibit behaviors by the age of 5 years.

Eisenberg et al. [277] proposed that children move from complying with externally imposed controls to internalizing rules they follow and that children who internalize rules gradually become more self-regulated and follow rules even when they are not monitored by a parent. Eisenberg et al. [277] distinguished between 'committed compliance' that reflects an internalization of a standard and value and 'situational/externally motivated compliance.' A child exhibits situational compliance when they lack interest in a task, and they need frequent prompting to comply. Some parents aim to motivate their child to internalize rules by encouraging the child to feel guilty and ashamed when the child is non-compliant. There appears to be limited research into the efficacy of this guilt inducing parenting approach.

Eisenberg et al. [277] pointed out that one method used by emotionally well-regulated children to exercise restraint over their actions is to think about the likely consequences of their actions that will impact themselves and other people. Committed compliance is assessed by asking a child to refrain from touching an attractive object and giving them a reason to refrain. Committed compliance is observed in preschool children.

Singh and Bhushan [278] reviewed studies and distinguished the negatively valued socially evaluated (moral) emotions of embarrassment, guilt, and shame. Singh and Bhushan [278] note that moral emotions are often studied by focusing on non-verbal cues. Embarrassment occurs when a person is observed to breach a minor social convention of a group, and people who have increased social sensitivity report higher levels of embarrassment. Guilt is associated with a specific action that breaches an ethical or moral standard the person has adopted and might evoke repentance and reparation. Shame is a self-conscious feeling that is experienced when a person breaches a social convention that is important to a group, and they become concerned that they will be publicly judged and possibly rejected, so shame involves their whole self and is associated with a desire to hide or withdraw. A person feels shame when their wrongdoing is disclosed, whereas a person can experience guilt, although their wrongdoing has not been detected or disclosed.

Dos Santos et al. [279] examined the roles of parenting and child temperament when children aged 8–10 years explained guilt and shame. They found that children whose parents use inductive discipline practices that are victim-oriented are more prone to feel constructive guilt, meaning they were more prone to offer reparation in sociomoral situations. In contrast, children whose parents used a discipline method of withdrawing love were more likely to display a negative form of guilt-proneness, where they did not offer reparation to their victim. The study found that a child scoring highly on conscientious effortful control was associated with constructive guilt-proneness.

Van Eickels et al. [280] reported a meta-analysis of 65 studies involving parent–child relationship and child shame, adaptive guilt, and maladaptive guilt. They found small correlations between the variables, ranging from $r = 0.14$ to 0.17 .

Other social evaluative emotions that are relevant for children are disappointing other people and experiencing an insult. Social evaluative emotions associated with these situations appear to have been less studied. The lack of study of the emotion of disappointing another person is of concern to clinicians, as many people confuse the emotion of disappointing others with guilt, where an action breaches an ethical principle.

Yeo and Ong [281] reviewed cognitive appraisal therapies of emotion that are based on the premise that emotions are produced from a person's interpretation/appraisal of events they experience. Yeo and Ong [281] conducted a meta-analysis of 309 studies of relationships between appraisals and emotions experienced and found an effect size of $r = 0.33$.

In summary, research has been conducted on social evaluative emotions that are experienced by children when they realize they are being evaluated and judged by other people. The therapy used by clinicians to help children manage social evaluative emotions appears to be cognitive reappraisal therapy.

5.6. Social–Emotional Skills Relevant to Social Evaluative Emotions

A substantial body of research has been devoted to examining the development and assessment of children's social–emotional skills that are relevant to social evaluative emotions. Research related to the development of children's conscientiousness, trust, and forgiveness is briefly reviewed.

5.6.1. Children's Conscientiousness

Early theories about the development of children's conscientiousness were expressed by Kochanska et al. [282–285]. Kochanska et al. [282] reported that some children aged 26–41 months exhibited evidence of a conscience, as they are reported by their mothers to feel emotional discomfort over people's transgressions of rules and to display signs of spontaneous reparation, confession, attempts to regulate their own behavior, and concern over others' wrongdoing. Individual differences in conscientiousness between children were found. Conscientiousness was associated with a child's internalization of rules and following a rule when they were not monitored [283]. A child's ability to inhibit prohibited actions and to self-regulate was used as a measure of early conscientiousness [284,285].

A model of the development of conscientiousness in children was proposed by Eisenberg et al. [277]. Kim and Kochanska [285] summarized research on the development of conscientiousness in children using the constructs of temperamentally based effortful control and a child's committed compliance. Effortful control is assessed from a child's ability to sustain and redirect attention to achieve a desired goal, to persist in a task, and to resist distractions. Committed compliance was defined as a child's general receptiveness to parental influence and following the family's standards of conduct. Kim and Kochanska [285] found that children demonstrated early effortful control and were able to internalize rules and to show committed compliance between the ages of 4.5 and 6.5 years.

Leonard et al. [286] found that when a parent took over a challenging task their child was attempting to perform, the child was rated as showing less perseverance. Taylor et al. [287] found that children of parents who used intrusive parenting practices when their child was aged 18–30 months scored lower on effortful control at 42 months, indicating that parenting practices that are intrusive and over-helping reduce children's abilities to persist and to regulate their own attention and behavior.

An examination of trajectories in the development of children's conscientiousness between the ages of 10 and 16 years was provided by Tackman [288]. Turner and Hodis [289]

reviewed interventions to improve conscientiousness and reported a paucity of intervention studies on improving children's conscientiousness. While many parents manage social-evaluative emotions by explicitly teaching moral principles to their children, the approach of identifying universal ethical principles and teaching children universal ethical principles appears not to be used by therapists.

5.6.2. Children's Trust

Rotenberg et al. [290] examined associations between trust beliefs of children aged 8–11 years and their interactions with peers. The study found that, compared to children who received middling scores on trust beliefs, children who scored both highly and lowly on trust beliefs: (a) were less accepted and more rejected by their peer group in group interactions; (b) were alone more and showed more non-engagement with peers; (c) showed more indirect aggression; and (d) showed greater distress. The findings support the hypothesis that children who are gullible and trust peers too much and children who are unduly suspicious and trust people too little are both at risk of psychosocial maladjustment.

Rotenberg [291] proposed a model of trust with three indicators that a person is trustworthy: (a) a person is reliable in fulfilling their promises; (b) a person shows emotional trustworthiness by refraining from causing emotional harm and maintains confidentiality; and (c) a person is honest by telling the truth as opposed to lying and engaging in deceitful behavior and is guided by benign rather than by malevolent intentions. Rotenberg [291] summarized research on the relationship between trust beliefs and psychosocial adjustment and concluded that the relationship is curvilinear, as both high and low trust beliefs are associated with maladjustment. The curvilinear relationship is relevant to a concern that children can be too trusting and become vulnerable to maltreatment by bullies and by some adults. The curvilinear relationship indicates that children who are very trusting and children who are very distrusting are both subject to maltreatment by peers, including suffering aggression and rejection. One implication of the findings is that it is important for parents to teach children how to assess the trustworthiness of other people.

Malti et al. [292,293] examined the association between children's beliefs about trust and childhood aggression in a longitudinal study involving 1028 children aged 8–11 years. The study found that the developmental course of aggression during middle childhood was semi-predictable from children's own trustingness and trustworthiness. A growth curve analysis revealed a developmental trajectory of the course of aggression during middle childhood using measures of children's trustworthiness and trustfulness, as children who were rated by peers as being low in trustworthiness were more likely to exhibit aggression that was stable over time, suggesting that perceived trustworthiness is an important variable in the development of friendships. Children who were consistently aggressive also showed lower levels of trust in other people, and this was interpreted by the authors as suggesting that many aggressive children did not appreciate the impact of their own aggression on other people or appreciate that children reciprocate by showing distrust in people who distrust them.

Malti and Krettenauer [294] conducted a meta-analysis of 42 studies of relations between attributions of moral emotions and prosocial and antisocial behavior and found a significant association between the variables ($d = 0.26$). A further meta-analysis by Lefebvre and Krettenauer [295] involving 57 studies of attributions found that larger effect sizes occurred with the positive social emotions of sympathy, empathy, and compassion ($r = 0.41$), and smaller effect sizes were associated with the negative emotions of moral anger, contempt, and disgust ($r = 0.16$).

In the analysis by Lefebvre and Krettenauer [295], prosocial behavior was defined as actions that benefit others, while antisocial behavior was defined as actions that harm or

distress others. The review noted that many very young children spontaneously engage in prosocial, other-oriented behaviors of sharing, helping, and consoling others. On the other hand, some young children are self-centered, and they focus on the benefits of actions to themselves without considering the impacts on other people, as many children lack the cognitive skills to develop a sense of perspective-taking and to recognize the perspectives of other people before the age of about 7 years. The authors proposed that children who can recognize the perspectives of other people are better able to coordinate their emotional responses to the emotional responses of other people, and this helps children to develop a sense of fairness and to care for others.

Lefebvre and Krettenauer [295] used the construct of children's 'emotion attribution' to explain the development of children's moral judgments and behavior, where emotion attribution refers to the way children explain emotions and behavior. Emotion attribution is presumed to be based on emotional reactions experienced by a child during their upbringing, leading to their expecting certain emotional reactions to follow their own actions. The meta-analysis found relations between emotional attributions and both prosocial and antisocial behaviors. Associations were stronger between children's emotion self-attributions for aggressive behavior ($d = 0.39$) than for prosocial behavior ($d = 0.26$). The review found that associations between children's emotion attributions were higher when a child explained their own antisocial behavior ($d = 0.47$) than when they explained another child's antisocial behavior ($d = 0.26$), indicating that children referred to their own emotions when they explained their own antisocial behavior, but they explained the antisocial behavior of other children in terms of other factors. One implication for therapists is that it is good practice to help a child discuss and reflect on their own prosocial and antisocial actions and emotions to promote accurate attributions of emotions, and to promote the idea that other children are like themselves.

Krettenauer et al. [296] proposed that encouraging children to make moral judgments and moral emotion attributions is a critical element in helping a child to develop a conscience, and they indicate this can commence from the age of 6 years.

Smetana and Ball [297,298] studied how children aged 4–9 years judge and attribute emotions in tasks where intentions were rated for three types of hypothetical harm (physical harm, psychological harm, and uneven distribution of resources) that involved four groups of peers (close friends, acquaintances, disliked peers, and bullies). The study found that children aged 4 years judged some actions as wrong based on presumed intentions of the violator because the violator harmed others or was unfair, independently of whether actions were prohibited by authorities, indicating that children made their own innate moral judgments, and this effect occurred increasingly with children's age. Young children made attributions about peers who displayed helpful and harmful intentions, and they avoided helping peers who might harm them. When children viewed moral transgressions as wrong independently of rules and sanctions by authorities, they justified their views by referring to negative consequences for the welfare of others and to principles of fairness using moral criteria. As children grew older, they increasingly recognized psychological harm resulting from the actions of other people. Older children agreed with the principle that allocation of resources is fair if resources are allocated according to each child's effort, need, and merit.

The Malti and Krettenauer [294] analysis found that when parents used three categories to help children describe the intensity of their feelings, the effect size of emotion attribution was higher ($d = 0.50$) than when parents used only two categories to describe the intensity of their child's emotions ($d = 0.24$), indicating that children learn to reflect on their own emotions more carefully when their parents describe their child's emotions using three levels of intensity.

Malti and Krettenauer [294] found that children under the age of 7–8 years commonly did not experience negative self-evaluative emotions, such as remorse, when they acted in ways that broke a moral principle, and they did not expect other children to experience negative emotions because of their moral transgressions. The authors noted this phenomenon is inconsistent with writings that presume the development of self-evaluation emotions of guilt and shame are important indicators of a child's readiness to comply with social rules and standards.

Overall, Malti and Krettenauer [294] concluded that some children have a temperament where they experience moral motivation from a young age, and this temperament might be indicated by combined traits of high agreeableness and conscientiousness that are associated with empathy that, in turn, is associated with an internalized sense of responsibility for feelings generated in other people.

Malti and Krettenauer [294] noted that their meta-analysis focused on studies that examined negative emotions of guilt and shame rather than on positive emotions such as pride in one's own achievements. They hypothesized that a child's prosocial behavior can be built by encouraging self-pride in prosocial actions.

In a subsequent study, Malti et al. [299] examined the relative effects of sympathy, guilt, and moral reasoning in promoting cooperation, helping, and sharing in children aged from 6 years to 12 years. One finding was that sympathy is an important antecedent of all three prosocial behaviors from early childhood to early adolescence, confirming longitudinal research that shows a central role of sympathy in the development of prosocial behavior.

Malti et al. [300] examined the development of respect in samples of children between the ages of 5 and 15 years. They reported three main results. First, across age, children considered prosocial behavior to be the most important component of respect. Second, they found that age-related increases in children's beliefs about fairness were a core component of respect, and older children reported feeling higher levels of respect for people who engaged in ethical behaviors such as sharing and inclusion, rather than for personal achievements.

Ma et al. [301] reported that children who received an apology following a transgression were significantly more likely to demonstrate trusting behaviors and positive emotions towards the transgressor compared to children who received no apology, and that an apology improved the emotional state of children who had been the subject of a transgression.

A study by Tang et al. [302] found that children aged 4–5 years displayed more trust in adults who expressed more positive emotions towards the child.

Markson and Luo [303] reviewed studies indicating that young children trust people whom they consider to be well-meaning and who keep their promises.

A longitudinal study of 7–13-year-olds by Li et al. [304] involving three waves over a period of 2 years found that the way children evaluate interpersonal trust has a significant influence on the formation of their friendships, especially for girls. The study found that children first learn to trust based on the extent to which their potential friends are generally trustworthy, then individuals spend more time together, and their experience of trustworthiness influences the ongoing nature of their relationship.

A study by Petrocchi et al. [305] found that both very high and very low trust beliefs were associated with higher pessimism than intermediate trust levels in young adults.

In summary, there is a considerable body of research about the development of trust in children that can be used by clinicians who follow an evidence-informed approach. Effect sizes are reported in the range of 0.16 to 0.50. The studies reviewed report associations between variables that can be used to inform therapy, but no studies were found on the efficacy of therapy interventions that applied the principles.

5.6.3. Children's Forgiveness

Oostenbroek and Vaish [306] reported studies about the relationship between remorse and forgiveness when a transgression occurred between two children. The study found that some young children show remorse and attempt to repair harm they have caused. The study examined whether victims were willing to forgive and found that 4-year-olds were willing to forgive a transgressor who apologized, while 5-year-olds might forgive a transgressor who showed remorse without an explicit apology.

A study by McElroy et al. [307] found that the forgiveness of children aged 6 years who were a bystander takes account of both a transgressor's intentions and their display of remorse.

Cheng et al. [308] found that children aged 4–6 years were more likely to forgive transgressions that were viewed as unintentional and transgressions made by people who held an authoritative position.

McLaughlin et al. [309] found that interventions by third parties such as a parent or teacher influenced forgiveness by children aged 5–9 years when intervention involved compensation, punishment, pardoning, or doing nothing. The study found that children considered both who the intervenor is and how the intervenor engaged in justice-oriented interventions when deciding about forgiving a transgressor. The study found that forgiveness by victims was more likely if an intervening third party compensated, punished, or forgave compared to if a third party did nothing.

Enright and Fitzgibbons [310] report that researchers generally do not equate forgiveness with reconciling or restoring a damaged relationship because forgiveness is not contingent on a continuing relationship with a person who has behaved offensively. Rather, forgiveness is associated with the offended person not having to carry a burden of remaining angry at their offender and experiencing rumination.

A REACH model of forgiveness by Worthington [311] defines forgiveness as having two components: decisional forgiveness, which is a decision to not seek revenge, and emotional forgiveness, where an injured party replaces negative emotions of resentment, bitterness, hate, hostility, anger, and fear with positive emotions such as understanding and compassion. Therapists who use the REACH model engage their client in five steps: (a) recall the hurt; (b) empathize with the offender; (c) altruistic giving a gift of forgiveness; (d) commit to forgive; and (e) hold onto the forgiveness.

A meta-analysis of 20 studies of children with a mean age of 11 years by Rapp et al. [312] found that interventions that encouraged forgiveness were positively associated with forgiveness ($g = 0.54$) and with less anger ($g = 0.29$).

In summary, there is a body of research about forgiveness that can be used by clinicians who follow an evidence-informed approach.

5.7. Emotion-Focused Therapies

Some therapies explicitly address how children regulate their emotions. Jugovac et al. [313] reviewed 43 studies that used attachment- and emotion-focused parenting interventions to help parents to understand and respond to their child's underlying attachment and emotional needs. They found that emotion-focused interventions were superior to waitlist controls for internalizing ($d = -0.34$) and externalizing behaviors ($d = -0.17$), and effects were sustained at follow-up periods of 6 months and longer.

Zahl-Olsen et al. [314] reported a meta-analysis of 33 studies of emotionally oriented parenting interventions with community parents. They found small to medium effect sizes for parental use of emotionally oriented parenting, with benefits for parenting practices both at a post-test ($d = 0.44$) and a follow-up ($d = 0.36$), for children's internalizing behavior ($d = 0.25$) and externalizing behaviors ($d = 0.31$), and for parental mental health ($d = 0.18$).

England-Mason et al. [315] reviewed 26 studies about emotion socialization parenting interventions during children's first six years of life. Parents who follow an emotion coaching approach attend to their own and their children's emotions and view their children's emotions as a time for connection and teaching rather than discipline. They found that interventions had a positive effect on positive and negative emotion socialization parenting practices ($g = 0.50$) and on child emotional competence ($g = 0.44$). Interventions had a positive effect on both positive ($g = 0.74$) and negative parenting behaviors ($g = 0.25$), on parent psychological wellbeing ($g = 0.28$), and on child behavioral adjustment ($g = 0.34$).

Cognitive reappraisal therapy has been used to help young people to regulate their emotions. Eadeh et al. [316] conducted a meta-analysis of 41 studies of the efficacy of therapy interventions to improve emotion regulation skills of adolescents. They found a pre/post effect size of $g = 0.29$, with community samples showing significantly lower effect sizes than clinical samples.

Helland et al. [317] analyzed practice elements in 30 studies of mental health interventions that measured emotion regulation in adolescents aged 13–17 years. They found that psychoeducation about acceptance ($d = 0.50$) and setting goals for treatment ($d = 0.40$) were components of effective interventions.

Espenes et al. [318] conducted a meta-analysis on studies of the efficacy of psychosocial interventions on emotion regulation outcomes in children and youth aged up to 23 years. They found an overall effect size of $d = 0.37$, with more effective interventions being ACT, DBT, CBT, and behavioral parent education interventions. The analysis also found that improving a young person's ability to recognize emotions was associated with improved mental health with an effect size of $d = 0.39$.

Meyers et al. [319] found that cognitive reappraisal therapy is an effective intervention for changing emotions, rather than for changing moods. However, Shu et al. [320] reported that cognitive reappraisal was less effective with individuals who have a trait involving intolerance of uncertainty. Sahib et al. [321] provided a meta-analysis of 91 studies into relations between intolerance of uncertainty and emotional regulation and found a moderate relationship.

In summary, research into the efficacy of emotion-focused interventions to help children regulate their emotions finds effect sizes ranging from 0.17 to 0.74.

6. Children's Temperaments

Researchers have examined relations between children's temperamental traits and their disturbed behaviors. Research has been conducted in the context of models, so we commence by reviewing models of temperament used by researchers.

6.1. Models of Temperament

Sanson et al. [322] identified three models used by researchers to examine children's temperaments. One model emphasizes a biological role in determining children's behavior and might imply that it is difficult to change temperament-related behavior. A second model indicates that a child's temperament is influenced primarily by the parenting a child receives, implying that a child is a passive recipient of the parenting they receive, leading to a unidirectional model that appears to underlie some universal parenting programs. A third model proposes that influences are bi-directional, as a parent's actions influence their child's behavior, and the child's actions also influence the parenting practices used to raise them. The third model indicates that therapists need to pay attention to interactions that occur between a parent and child. Sanson et al. [322] described an approach that groups children according to their temperament as being a person-oriented approach.

The construct of temperament guiding Sanson's review that temperament is a relatively stable, biologically based, intrinsic characteristic, which is nevertheless modifiable

through environmental influences and learning, is like the definition of temperament proposed by Zentner and Shiner [323].

A fourth model of temperament described by Widiger and colleagues [324,325] hypothesized there may be links between some personality traits and some disorders and that some children's misbehaviors may represent maladaptive versions of standard temperament traits. This interpretation is important as it means that a therapist who follows a trait approach is not attempting to change a child's temperament but rather aims to help a child to express their temperamental needs in prosocial ways.

A fifth model of temperament described by Zuckerman is called the stress–diathesis model [326]. The stress–diathesis model indicates that a child will develop a mental disorder if they both have an underlying vulnerability or diathesis (that might be associated with a temperamental predisposition), and they also experience a specific environmental stressor that triggers their predisposition. The hypothesis indicates that a person who encounters a stressful negative event will experience a disorder only if the person has a predisposition that renders them vulnerable to the stressor. The stress–diathesis model indicates that a child's temperament might render them vulnerable to certain types of negative life events.

A sixth model of temperament was proposed by Rothbart [327], who provided evidence that children are not simply passive recipients of their parents' attachment-related behaviors but that children participate actively in the attachment process and their responses are influenced by their temperament.

A seventh model of temperament was proposed by Belsky and colleagues, who advanced a differential susceptibility model [328–332]. The differential susceptibility model proposes that children with different temperaments are differentially sensitive to environmental events, and that some children are both more susceptible to negative influences and more positively responsive to supportive environments and benefit more from supportive intervention programs.

One version of the differential susceptibility model of temperament allows that while all children have the same basic needs, the rank order of importance of needs might vary between children who have differing temperaments, and the rank order of importance of a child's needs might be reflected in a child's trait profile.

Corr offered a reinforcer sensitivity hypothesis [333–339] proposing that individuals vary in their sensitivity and responsiveness to consequences. Corr proposed that differences in how children evaluate environmental events might explain the consistent clusters of behavior that are observed in children's temperaments. Tustin developed the reinforcer sensitivity construct by hypothesizing that one reason behaviors cluster into traits is that children prefer the natural outcomes of these behaviors, and children with differing traits allocate more effort to actions that deliver their preferred reinforcer [340]. This interpretation of behavioral consistency indicates that one way to examine choices made by children is to examine their preferences for alternative types of reinforcers in choice situations, an interpretation that leads to the introduction of concepts used in behavioral economics [341–345]. It is presumed that children reveal their preferences for reinforcers both by their allocation of responses between alternatives in choice situations and to constraints that inhibit access to their favored reinforcers. Morgan and Tustin [344] used a behavioral economic model of work rate that distinguishes two aspects of performance (total work rate measured on an expansion path and efficiency of allocating responses assessed by movement off an efficient expansion path). Morgan and Tustin analyzed data from an experiment with animal subjects to test hypotheses about the sensitivity of animals' allocation of responses when schedule arrangements varied and found individual differences in both allocation of total work rate and efficiency in allocating responses. Another re-analysis of data used the behavioral economic model to distinguish effects of drugs on energizing behavior and

allocating responses efficiently [345]. Three single case studies were reported where adults with intellectual disability worked for different reinforcers when the price of reinforcers was increased, showing different patterns of allocating responses when analyzed using the work-rate model [342].

The behavioral economic model used experimental procedures to assess sensitivity to reinforcers. There is a need to find simpler procedures to obtain objective assessments of how children reveal their preferences for different reinforcers and constraints. If the hypothesis linking reinforcer sensitivity to children's temperaments is substantiated, then it is wise to help parents to identify rewards that are valued by their children, to allow children to earn legitimate rewards that are important to them, and not to arbitrarily withhold legitimate rewards that are important to children as a form of discipline.

The following hypotheses to link temperament traits and outcomes are offered. The trait of extraversion involves sensitivity to environmental stimulation, and extraverts prefer strong stimulation while introverts prefer low stimulation. The trait of agreeableness/collaboration is about the sensitivity to social feedback from other people, and other-centered children prefer praise and acceptance while individualistic children prefer to follow their own preferences. The trait of emotionality is about expression of emotions, and expressive children prefer to express their feelings freely, while calm children prefer low expression of negative emotions. The trait of self-management is about orderliness, and orderly children prefer to follow rules and routines, while spontaneous children prefer to be free of constraints. The trait of open-mindedness is about receiving new information, and open-minded children are curious, while practical children are content to operate using the information they already have.

Clarifying whether children's temperaments are related to their evaluations of environmental events will facilitate a long-standing aspiration to provide parenting that matches a child's needs as reflected in their temperament and providing a good fit between a child's needs and the parenting the child receives. Researchers hypothesize that behavioral problems are more likely to occur when there is a poor match between a child's temperament and the parenting a child receives [346–348].

In summary, a range of models have been used to analyze children's temperamental traits. Research that evaluates the alternative models of temperament is limited.

6.2. Stability of Temperament Traits

A review of literature about children's temperaments by Perez-Edgar et al. [349] countered a popular assumption that children's temperamental traits are rigid, static, and determine the child's development, as the reviewers found that research has established that temperaments are dynamic, sensitive to environmental input, and have a probabilistic influence on children's behavior rather than a deterministic influence. In other words, parents can teach children to behave in ways that vary from their child's natural temperamental inclinations.

A meta-analysis of 152 studies of the consistency of traits obtained in longitudinal studies was provided by Roberts and DelVecchio [350]. Their analysis found that correlations measuring the consistency of traits increased from 0.31 in childhood to 0.54 during the college years to 0.64 at age 30 and then reached a plateau around 0.74 between ages 50 and 70 years. These figures demonstrate both that there is consistency in traits over long periods of time, as well as change, as consistency measures were lower than 1.0.

In summary, analyses of the consistency of traits find that traits are moderately consistent in children and become more consistent as people grow older.

6.3. How Is Temperament Assessed?

Goldsmith and Gagne [351] reviewed approaches used by researchers and clinicians to assess children's temperaments and identified six approaches in use: (a) parent report using a structured questionnaire; (b) a report by a third party such as a teacher; (c) observations of a child's behavior in a natural environment; (d) observations of a child performing structured challenging tasks; (e) self-reports by older children; and (f) measures of physiological reactivity. The reviewers favored the use of multiple methods to gather information when assessing temperaments, especially when a family is court-involved.

6.4. Questionnaire Measures of Temperament

The development of questionnaires to assess children's temperament has gone through three phases. Chess and Thomas [226] proposed that the temperaments of infants be assessed using nine dimensions: activity level, regularity, approach—withdrawal, adaptability, responsiveness threshold, intensity of reaction, quality of mood, distractibility, and attention span/persistence. However, a review by Saudino [352] found that no consensus had emerged between researchers about instruments to measure these variables in infants and very young children.

Mary Rothbart and colleagues assessed the temperaments of community children aged 3–8 years using a 195-item instrument called the Children's Behavior Questionnaire (CBQ) [353–355]. Factor analyses of CBQ items identified three factors, leading to temperament traits being described on dimensions called 'surgency/positive emotions', 'negative emotionality', and 'effortful control/conscientiousness'.

Kotelnikova et al. [356] conducted separate factor analyses of CBQ items for children aged 3 years and 5–6 years. Their analysis found that only 88 of the 195 CBQ items loaded on factors. They identified five higher-order traits in children aged 3 years that they called: (a) sensation seeking; (b) effortful control/inhibition; (c) negative emotionality involving anger-sadness and impulsiveness; (d) soothability and emotion regulation; and (e) smiling/positive anticipation. Their analysis identified four higher-order traits in children aged 5–6 years that were called: (a) disinhibition/anger with low effortful control, anger-frustration, and activity level; (b) sensation seeking with adventurous play—quiet play; (c) smiling and approach/positive anticipation; and (d) soothability.

Subsequent researchers have favored use of a five-factor model to assess children's temperaments, drawing attention to research showing that childhood temperamental traits are like adult personality traits [357–361].

A review of research about the five-factor model of children's temperaments by Chernyshenko et al. [362] on behalf of OECD identified two instruments to assess traits in children's temperaments, a Hierarchical Personality Inventory for Children (HiPIC, Mervielde & de Fruyt) [363], and an Inventory for Child Individual Differences (ICID, Halverson et al.) [364].

HiPIC uses 144 items to assess temperaments in children aged 6–12 years. A factor analysis by Mervielde and de Fruyt [363] identified five higher-order traits and 18 lower-order traits. Vollrath et al. [365] reported a need for a short form of HiPIC for clinical use, so they developed a 30-item HiPIC form to replace the long form. ICID uses 141 items to assess the temperaments of children aged 3–12 years. A factor analysis of ICID items by Halverson et al. [364] identified five higher-order traits and 15 lower-order traits. Halverson et al. reported correlations between the five higher-order children's traits assessed by ICID and measures of children's problem behaviors using the Revised Behavior Problem Checklist [366].

Tackett et al. [367] analyzed relationships between the HiPIC and ICID instruments and found strong convergence in higher-order traits measured by the two instruments. Tackett

et al. [367] analyzed associations between HiPIC/ICID traits and children's internalizing and externalizing problems and found that internalizing problems were best predicted by traits of high neuroticism and low extraversion. The HiPIC and ICID-S instruments made divergent predictions regarding the role of the agreeableness trait in producing internalizing problems, as the Benevolence scale in HiPIC had a small negative correlation with internalizing problems ($r = -0.08$) whereas the Agreeableness trait in ICID had a small positive correlation with internalizing problems ($r = +0.17$).

Chernyshenko et al.'s Table 1.2 [362] lists recommended names for higher order temperament traits. Their Table 7.2 proposes names for end points of each trait dimension. Recommended names for traits and endpoints are: emotion regulation ranges from calm to emotionally expressive; collaboration ranges from self-centered/in dependent/individualist to other-centered; engagement ranges from reserved to exuberant; self-management ranges from spontaneous to orderly; and open-mindedness ranges from practical to open-minded.

Instruments used to assess the five-factor model of children's temperament have been reviewed by Campbell et al. [368] and Halle et al. [369].

In summary, research about children's temperaments has moved from identifying 3 dimensions to identifying 5 dimensions, facilitating comparison between childhood temperament traits and adult personality traits. Limited research has been conducted into similarities in clusters of children's temperament traits identified using the two five-factor models of children's temperaments and clusters of children's maladaptive behaviors that are identified in tests that assess internalizing and externalizing behaviors.

6.5. *Observational Measures of Temperament*

An alternative approach to assessing children's temperament by asking adults to complete questionnaires is for a trained observer to record a child's behavior while the child engages in a standardized set of challenging activities that are likely to highlight temperamental differences [370,371]. One observational approach uses a set of 20 everyday situations that each last for 3–5 min called a Lab-Tab procedure. Planalp et al. [371] described the Lab-Tab procedure and provided a list of activities selected for the procedure. Planalp et al. [371] report that Lab-Tab activities can be used to assess the emotional responsiveness of a child on the topics of fearfulness, anger, sadness, positive affect, persistence, and activity level.

Limited research has been reported about consistency between observational measures and parent report measures of children's temperaments.

6.6. *Associations Between Temperaments and Disturbed Behaviors*

As stated above, one model of temperament is based on a hypothesis of differential susceptibility that proposes children have different sensitivities to environmental events and that this can be associated with children's disturbed behaviors. A review by van IJzendoorn et al. [26] found evidence in support of the differential susceptibility hypothesis. A study by van Zeijl et al. [372] found that mothers of children aged 1–3 years with a difficult temperament used more negative discipline as the children engaged in more externalizing behaviors, and the children were more responsive to positive discipline by displaying fewer externalizing behaviors, compared to children with a relatively easier temperament.

Eggum et al. [373] studied two temperament traits (shyness and negative emotionality) of children in a longitudinal study in three waves between ages 6 and 9 years and their internalizing behaviors. The study found that for some children, shyness predicted negative emotionality two years later, and that shyness and negative emotionality were associated with internalizing behaviors.

Bayer et al. [374] explored the question of why temperamentally inhibited young children develop anxiety disorders and internalizing problems, with a focus on family factors. They found that close to half of socially inhibited young children had anxiety disorders, and one in seven had clinical-level internalizing problems, with girls being at higher risk of developing internalizing problems. Family factors associated with this high-risk profile were overinvolved/protective parenting for both girls and boys and the use of harsh discipline for both girls and boys.

Boyce and Ellis [375] reported a biological basis for differential sensitivity to environmental events that is based on the functioning of the stress system.

Tackett et al. [376] analyzed temperament traits of 1080 young people aged 6–18 years and found that the traits of negative emotionality and disagreeableness were correlated with externalizing behaviors, making the point that children who display externalizing behaviors often experience emotional distress and that clinicians need to address more than a single syndrome of conduct disorder.

Kostyrka-Allchorne et al. [377] conducted a meta-analysis of 25 longitudinal studies that examined associations between infant temperament and child/adolescent psychopathology. They found small associations between measures of psychopathology aggregated across all domains. They found that both infant negative emotionality ($r = 0.15$) and self-regulation ($r = -0.19$) were associated with later psychopathy.

Forbes et al. [378] examined data for 4983 children from the first five waves of a cohort from the Longitudinal Study of Australian Children, spanning children aged 4–5 to 12–13 years, to assess whether childhood traits of reactivity, approach-sociability (uninhibited in approaching people), and persistence at age 4–5 predicted children's subsequent development of symptoms of psychopathology. The study found that higher levels of persistence were related to lower trajectories towards conduct disorder and ADHD, and higher levels of approach-sociability predicted higher trajectories towards conduct disorder and ADHD. The findings indicate that some traits in children are associated with later disorders.

Scholars such as Tucker-Drob and Briley [379], who examine temperaments, agree that temperamental differences between children reflect both inherited genetic factors and environmental influences.

Sulik et al. [380] examined relations between combinations of specific genes called haplotypes and the development of children's non-compliance and aggression during the ages of 18–54 months. They found that the quality of early parenting was related to noncompliance only for children with a specific haplotype. The authors interpreted their results as supporting a hypothesis of differential susceptibility where children with some temperaments are more sensitive and reactive to both supportive and unsupportive parenting practices.

Walters [381] reported a study of 2697 children in a National Longitudinal Survey of Youth–Child. Walters found that a child having a difficult temperament at age 0–2 years was associated with the child's lower self-control at age 10–11 years. Walters concluded that consideration needs to be given to children's temperament in parent education programs.

Zhou et al. [382] examined the attention skills of 356 children from the ages of 5 to 10 years in a longitudinal study where measures were taken in three waves and examined associations between attention skills and externalizing problems. Measures were taken of children's ability to focus their attention based on reports by parents and teachers and on children's attentional and behavioral persistence as observed in a laboratory task and of effortful control. The study found that attention-focusing skills remained relatively stable over time, but persistence skills were variable, especially among children with lower levels

of effortful control. Children with lower and less stable trajectories of effortful control showed more elevated and/or fluctuating trajectories of externalizing problems.

Mesman et al. [383] examined the development of externalizing problems in a sample of 150 children who were selected at age 2–3 years for displaying high levels of externalizing problems. The children were followed to age 5 years. The study investigated associations with maternal psychopathology, maternal parenting, and child temperament. The study found that mean levels of externalizing problems decreased over time. Parental sensitivity was associated with a stronger decrease in externalizing problems only for children with difficult temperaments. The authors interpreted their results as showing that temperamentally difficult children are more susceptible to environmental influences in the development of externalizing behaviors.

Olson et al. [384] examined a hypothesis that there are five sub-components of children's externalizing behavior that remain consistent over time, involving overt aggression, covert aggression, oppositional defiance, impulsiveness/inattention, and emotion dysregulation. They studied 543 children aged 5–13 years in three waves. They found that most components of externalizing behavior increased significantly across the early school age period, except for aggression. The authors interpreted their results as showing a need to adopt a developmental approach to the analysis of the development of children's externalizing behaviors.

Zarra-Nezhad et al. [385] reported a longitudinal study of Finnish parents and children between Grades 1 and 3. The study examined three variables: (a) parenting styles involving affection, behavioral control, and psychological control; (b) children's temperaments on a scale of difficult negative emotionality, easy, and inhibited; and (c) children's social-emotional development. The study found that mothers' high affection was associated with low levels of negative emotions, particularly among children with a reserved/inhibited temperament. Mothers' behavioral control was associated with low levels of negative emotions among children with a reserved temperament. Mothers' psychological control was associated with a high level of negative emotions among children, independently of the child's temperament.

Bayer et al. [386] conducted a longitudinal study of community children assessed as displaying inhibition as preschoolers until age 10 years to assess associations between a trait of behavioral inhibition and anxiety. The study found that by mid-childhood, 57% of preschoolers who had been inhibited had clinical-level anxiety problems, and 22% had depressive problems. The study identified parental distress and two parenting practices (overinvolved/protective and harsh discipline) as key predictors of inhibited preschoolers developing internalizing problems in mid-childhood.

Van IJzendoorn and Bakermans-Kranenburg [387] highlighted that the construct of children's differential susceptibility to environmental influences has facilitated an integration of principles from temperament and attachment theories, ending decades where there was a competitive approach between the two fields of study.

6.7. Summary

In summary, research has established that consistent temperaments can be identified in children and has linked traits in children's temperaments to traits in the five-factor model that is used to describe adult personalities.

Research has established that children's temperament traits of negative emotionality and conscientiousness/effortful control are related to the development of children's mental health disorders and need to be considered by clinicians when planning therapy interventions. No evidence was found that universal parenting programs have introduced tests that assess children's temperaments or recommended that interventions be varied according

to a child's temperament. Limited progress has been made in determining how universal intervention programs might be adjusted to cater to a child's temperamental profile.

Limited research has been conducted on the relationship between behaviors that define children's normal traits and clusters of misbehaviors that are identified using tests that identify mental disorders.

7. Peer Influences

A further set of research has examined the influence of peer factors in the development of mental disorders in children.

Dishion et al. [388] videotaped 186 adolescent boys aged 13–14 years who were delinquent, and a matched sample of non-delinquent adolescents, and asked both groups to discuss with a friend how they would manage three social situations: planning a joint activity; solving a problem about getting along with peers; and solving a problem about getting along with parents. Assessments were made of verbal and nonverbal behaviors that were coded into two topic categories (normative and rule-breaking), and two reaction codes (laugh and pause). The study found differences in conversations between delinquent and non-delinquent boys. Non-delinquent pairs reacted more positively to normative talk and were less likely to laugh in response to rule-breaking talk. Delinquent pairs displayed the opposite pattern as they engaged in rule-breaking comments four times more than did the non-delinquent pairs. They were more likely to react to comments about rule-breaking with laughter; their laughter led to an increase in rule-breaking comments, and they were less likely to socially reward normative comments.

Vitaro and colleagues [389–391] reported research on the influence of peers on each other's antisocial behavior, with an emphasis on the concept of late-onset reactive aggression. The research group drew the following conclusions: (a) caution is needed regarding programs that provide group therapy for youth with severe conduct disorders from a concern that peers will reinforce and imitate each other's antisocial behavior; (b) use of suspension by schools to manage conduct disordered behavior increases children's feelings of being rejected by society; (c) a public policy of placing youth with severe conduct behaviors together in group accommodation that is supervised by rostered staff can be counter-productive, especially if staff are reluctant to exercise a disciplinary parental role.

Studies that appear relevant to the education of staff who supervise vulnerable children in congregated accommodation are summarized.

De Haan et al. [392,393] conducted a longitudinal study where they observed children between the ages of 6 and 15 years. They found that aggression in youth was associated with carer over-reactiveness, especially for youth with a temperamental profile of being introverted, individualistic, and spontaneous (rather than conscientious).

Rathert et al. [394] studied a community sample of children aged 9–12 years and examined relations between children's level of effortful control (ability to focus and shift attention), parental use of psychological control by manipulating a child's inner experiences, and children's proactive and reactive aggression. The study found that use of psychological control with youth with high levels of effortful control was positively associated with proactive aggression, but this result was not evident for children with low levels of effortful control.

In summary, studies caution against bringing youth with conduct problems together in congregated accommodation. There is research that is relevant for staff who work in congregated accommodation for young people with conduct problems.

8. Disorganized Attachment

Meta-analyses have found that a child having a disorganized attachment bond with their mother/carers is a risk factor for developmental problems and externalizing behav-

iors [162,395–397]. Fearon et al. [162] conducted a meta-analysis of 69 samples and found the association between disorganized attachment and externalizing problems was $d = 0.34$. This effect size makes it clear that children who have formed a disorganized attachment with their parent/carer need to be considered for targeted early intervention therapy. A review of 42 studies by Groh et al. [397] found that the association between disorganized attachment and internalizing problems was $d = 0.08$.

Dozier and Bernard [398] reported an Attachment and Biobehavioral Catch-up (ABC) program that is designed to assist parents whose child resists forming an attachment bond. Lind et al. [399] reported that the ABC program was effective in improving parental sensitivity and compliance by children with a mean age of 9.4 months who had been referred to a child protection service, with improvements in parental sensitivity being maintained when children were aged 18 months and 36 months.

Grandqvist et al. [51] wrote to correct misapprehensions that had arisen about disorganized attachment bonds, including the following: (a) that disorganized attachment is a strong predictor of pathology; (b) that disorganized attachment represents a fixed trait; (c) that measures of disorganized attachment can be used in forensic assessments; and (d) that disorganized attachment is an indicator a child has been maltreated. Grandqvist et al. [51] recognized that a child having a disorganized attachment bond is grounds to refer a family for early intervention therapy.

Three sets of research have focused on children who live in families where notifications have been made that a child is at a heightened risk of forming a disorganized attachment bond and being harmed. Each set of research has resulted in the production of an assessment instrument designed to identify children at heightened risk and to facilitate targeted therapy.

Cooke et al. [400] developed an instrument that records observations of parenting practices called AMBIANCE-brief that identifies five types of disrupted caregiving. AMBIANCE-brief uses 45 items to assess five dimensions of disrupted caregiving that are: (a) affective communication errors, e.g., laughing when the child is crying or distressed; (b) role confusion, e.g., demanding a show of affection from the child; (c) fear or disorientation, e.g., startling to infant behavior without clear cause; (d) intrusiveness/negativity, e.g., mocking or teasing a child; and (e) withdrawal, e.g., backing away from a child.

Brumariu et al. [401] developed an observation-based instrument to record inappropriate parenting practices during the mid-childhood years, which they called Middle Childhood Attachment Strategies (MCAS). Observations are made of interactions between a parent and child when they discuss a topic that has been in dispute for 8 min. Interactions are coded into six interaction patterns: secure, ambivalent, avoidant, disorganized/disoriented, caregiving/role-confused, and hostile/punitive.

Khoury et al. [402] identified aspects of parent–child interactions during infancy that are predictors of severe maltreatment of children. Interactions associated with severe child maltreatment by age 18 years included: (a) maternal hostility during infancy; (b) maternal withdrawal in infancy and middle childhood; (c) child disorganized attachment behavior in middle childhood and late adolescence; and (d) hostile and role-confused interactions in late adolescence.

In summary, research has identified a child having a disorganized attachment bond as a risk factor for the development of a mental disorder. Evidence-based therapy to address disorganized attachment has been developed. Instruments have been developed to assess ongoing risks to children. The topic of childhood disorganized attachment can be identified as one for immediate prioritization for the provision of evidence-based early intervention therapy.

Summary of Effect Sizes of Associations

The preceding sections have reported several meta-analyses that compute effect sizes between variables that are hypothesized to be associated with harm to children. Effect sizes that are reported in this review are summarized in Table 2.

Table 2. Effect sizes of variables associated with risk to children.

Parental Factors	Variables	Effect Sizes
Attachment bonds	Sensitivity & attachment types	$r = 0.24$ to 0.25
	Sensitivity & secure attachment	$r = 0.31$
	Sensitivity & insecure attachments	$r = 0.21$
	Sensitivity & disorganized attachment	$r = -0.19$
	Stability of attachment types	$r = 0.23$ to 0.37
	Maltreatment & disorganized attachment	$r = 0.77$
	Avoidant & internalizing problems	$d = 0.17$ to 0.29
	Avoidant & externalizing problems	$d = 0.12$
	Resistant & low social skills	$d = 0.29$
Disorganized & internalizing problems	$d = 0.20$	
Parenting styles	Authoritarian style & externalizing problems	$d = 0.14$ to 0.20
	Authoritarian style & internalizing problems	$d = 0.20$ to 0.24
	Perception of parental control	$r = 0.45$
	Psychological control & internalizing behavior	$r = 0.17$ to 0.19
	Psychological control & externalizing behavior	$r = 0.21$
Parental appraisals	Parental over-involvement & internalizing behavior	$r = 0.18$
	Hostile attribution & aggression	$d = 0.33$
	Mentalization & attachment security	$r = 0.25$ to 0.30
	Mentalization & externalizing problems	$r = 0.49$
Parental personality traits	Mentalization & internalizing problems	$r = 0.67$
	Parental warmth & agreeableness	$r = 0.19$
	Parental warmth & neuroticism	$r = -0.17$
	Parental warmth & extraversion	$r = 0.14$
	Parental control & neuroticism	$r = -0.14$
	Parental control & conscientiousness	$r = 0.11$
	Parental autonomy support & neuroticism	$r = -0.15$
	Parental autonomy support & openness	$r = 0.14$
	Parental assertiveness & neuroticism	$r = -0.31$
Parental assertiveness & extraversion	$r = 0.28$	
Parental assertiveness & conscientiousness	$r = 0.23$	
Parental mental health	Maltreating parent & child low emotion regulation	$r = 0.44$
Childhood factors	Relational & physical aggression	$r = 0.49$
	Reactive & proactive aggression	$r = -0.10$ to 0.89
	Disorganization & externalizing problems	$r = 0.34$
	Disorganization & internalizing problems	$d = 0.08$

Table 2 indicates that many variables have been established as being linked to an increased likelihood of harm to children and need to be addressed in intervention programs. However, many variables would be categorized as having a low or moderate effect size as they are in the range below $d = 0.80$. The data in Table 2 cautions against allowing any one theory of child development to predominate over other theories when developing intervention plans that aim to promote the best interests of children. The data in the table support the opinion that interventions should focus on parenting practices, as most evidence supports the hypothesis that parenting practices are a very influential factor in

the welfare of children. The data in Table 2 support the conclusion that parenting practices need to address a range of childhood factors.

9. Therapy for Vulnerable Children

Interventions to reduce the risk of harm to vulnerable children can be viewed as falling into two main forms of therapy: traditional clinical treatment and parent education. Carr [1,2] discussed distinctions between the two forms of therapy and used the term 'systemic therapy' to describe therapy interventions where two members of a family receive therapy, being a parent and child.

Clinical interventions to improve parenting practices in vulnerable families appear to have emerged in two phases. Initial programs were designed to meet the needs of mainstream families in the community and are called universal programs. Further programs have been introduced to address specific risk factors in families who present a higher number of risk factors and where children are more vulnerable, and these are called targeted programs as they are available only to eligible families.

9.1. Universal Parenting Programs

Carr [1] identified six universal parent education programs as having demonstrated efficacy with mainstream community families and as being evidence-based. These are: the Oregon model of parent management; Parent–Child Interaction Therapy (PCIT); the Incredible Years Program; the Triple-P positive parenting program; the Parents Plus program; and Kazdin's parent management training and social problem-solving skills programs. Each universal program aims to change parent–child interactions, as well as interactions in co-parenting relationships and relationships between parents and relevant professionals such as teachers. Programs aim to change repetitive and dysfunctional interactions between parents and children and the associated beliefs and emotions. Universal programs draw on principles that are evidence-informed and come from a range of theories, including social learning theory, attachment theory, and ecological social systems theory. Universal programs include two core sets of interventions: first, to increase children's prosocial behavior by coaching parents to use positive parenting practices with their children rather than frequent punishment and second, to reduce children's antisocial behavior both by improving consistency and efficiency with which parents address these behaviors and by improving children's self-regulation skills. Intervention methods used in effective programs include in-session psychoeducation, modeling, rehearsal, feedback while a parent watches their own parenting practices in a video recording, home visits, and practice between sessions is reviewed in sessions.

This review described programs as including several components or specific interventions. Reviews of universal interventions find that they are effective in changing parenting practices and in benefiting children. Comer et al. [403] provided a meta-analysis of 36 controlled trials of the effects of psychosocial treatments on children's early disruptive behavior problems. Their analysis found that psychosocial treatments collectively demonstrated a large and sustained effect on children's early disruptive behavior problems, with an effect size of $g = 0.82$. The largest effects were associated with behavioral treatments ($g = 0.88$). The authors concluded that universal psychosocial programs used to target children's early disruptive behavior problems should emphasize behavioral interventions that are implemented by caregivers.

Further meta-analyses of the efficacy of universal parent education programs have been provided by O'Dwyer et al. [404], Sanders et al. [405], Weisz et al. [406], and Bakker et al. [407].

O'Dwyer et al.'s [404] meta-analysis of 21 studies found effect sizes of $g = 0.42$ for children's behavior, $g = 0.67$ for parent satisfaction, and $g = 0.45$ for parental stress.

Sanders et al. [405] provided a meta-analysis of 116 studies that used a Triple P positive parenting program and found the following effect sizes: $d = 0.58$ for changing parenting practices; $d = 0.47$ for beneficial outcomes for children's social, emotional, and behavioral functioning; $d = 0.50$ for observational data about children's functioning; $d = 0.52$ for parental satisfaction; $d = 0.34$ for parental personal adjustment; and $d = 0.22$ for parents' couple relationship.

Weisz et al. [406] analyzed 447 studies to examine the efficacy of psychological therapies for problem behaviors of youth. They found an overall mean posttreatment effect size of 0.46, indicating that the probability a youth in the treatment program would fare better than a youth in the control condition was 63%. They found that the mean effect size was strongest for anxiety (0.61), weakest for depression (0.29), and nonsignificant for multi-problem treatment (0.15).

Bakker et al. [407] reviewed 17 studies that described 19 interventions. They reported outcomes according to the reporter, with d of 0.36 for parent-reported outcomes, d of 0.26 for teacher-reported outcomes, d varying between 0.06 and 0.47 for blind observer outcomes, and d varying between -0.25 and 0.23 for self-reported outcomes.

However, a systematic review of outcomes of 262 parent training studies by Chacko et al. [408] found that 25% of parents who were identified as appropriate for a parent training program did not engage, and a further 26% dropped out of the program. In a meta-analysis of 31 studies, Reyno and McGrath [409] found that parents who had limited social support, high levels of poverty-related stress, and mental health problems derived less benefit from universal parent training programs. One interpretation of these findings is that there is a need for universal programs to be supplemented with more targeted programs that meet the needs of specific groups of high-risk families where children display clinical issues.

A study by Karjalainen et al. [410] raises issues about follow-up support for parents who have participated in an intervention program and whose children present with complex behavioral issues. Karjalainen et al. [410] provided a 19-week group-based universal parenting program to parents in Finland who were involved with child protection services, where children had a mean age of 5.3 years. The study found that improvements were made in children's behavior immediately post-intervention, as assessed using CBCL. However, improvements were not sustained in a follow-up one year later, and improvements made at home did not generalize to the school environment. The authors pointed to a need for periodic ongoing support for this cohort of families. The provision of periodic follow-up support for some cohorts of children warrants further research.

9.2. Efficacy of Universal Programs with At-Risk Children

Gubbels and colleagues have provided information about components of universal interventions that minimize child abuse [411,412]. Gubbels et al. [411] reported a meta-analysis of 51 studies examining the efficacy of parent training programs for preventing or reducing child maltreatment and found an overall effect size of $d = 0.416$. Their analysis supported the conclusion that parenting programs to prevent child abuse need to include many interventions. Gubbels et al. [413] conducted a meta-analysis of 77 studies examining the efficacy of home visiting programs to reduce child maltreatment and found that programs using video feedback of parenting practices had an effect size of $d = 0.397$; programs that focused on improving parental expectations of the child had an effect size of $d = 0.308$; and programs targeting parental responsiveness/sensitivity to a child's needs had an effect size of $d = 0.238$.

Gubbels et al. [412] conducted a meta-analysis of 34 studies of school-based interventions to reduce child abuse and 22 studies examining children's self-protection skills. The analysis found that school-based programs improved children's knowledge ($d = 0.57$), especially if programs addressed children's social-emotional skills and improved children's self-protection skills ($d = 0.528$).

9.3. Efficacy of Targeted Parent Education Programs

Several studies have reported the efficacy of interventions that target children who present with specific issues.

Lindstrom-Johnson et al. [414] conducted a meta-analysis of 21 parent education programs that are targeted at families who have been exposed to domestic violence, where interventions are trauma-informed. They identified a distinctive set of interventions that showed benefits for outcomes of improved positive parenting practices ($d = 0.62$) and for children's internalizing problems, externalizing problems, and trauma symptoms, with d ranging from 0.48 to 0.59.

Kerns et al. [415] examine factors associated with the development of anxiety symptoms during middle childhood. They found that children who were more anxious in their early mid-childhood years had been more behaviorally inhibited as preschoolers, their mothers had been more anxious, and in middle childhood, the children lived in families who experienced more negative life events.

Piquero et al. [266] analyzed outcomes of 78 targeted parent training programs for families where youth engaged in antisocial behavior and found an effect size of 0.37.

Moss et al. [416] reported an intervention based on attachment principles that aimed to reduce the risk of maltreatment of children aged 1–5 years by providing 8 weekly interventions in the home that reviewed videos of parent–child interactions with a focus on emotion regulation. The study found improvements in parental sensitivity, improved child attachment, and less disorganized attachment. The study found reduced internalizing and externalizing behaviors in older children following intervention.

Letourneau et al. [417] provided a 10–12-week course for families with children aged 0–5 years where children were at risk of maltreatment and found improvements on several outcome variables.

9.4. Involving Parents in Joint Therapy

One debate involves whether therapy for children who are both vulnerable and troublesome should involve only the child or whether a supportive parent should also be involved in joint systemic therapy. In a meta-analysis of 30 studies of behavioral parenting education and 41 studies of individual therapy, McCart et al. [418] found that effect sizes favored parent education with an effect size of $d = 0.45$ for parent education and involvement compared to $d = 0.23$ for individual CBT with children aged 6–12 years.

Dowell and Ogles [419] provided a meta-analysis of 48 studies that directly compared the efficacy of individual child treatment against a combined parent–child/family therapy treatment. Their analysis found that combined parent and child treatment produced a moderate benefit above outcomes achieved by individual child-only treatment, with an effect size of $d = 0.27$.

Brendel and Maynard [420] reviewed 8 randomized controlled trials examining the effects of CBT involving family members or only a child. They found an effect size of $d = 0.26$ for parent–child interventions, which was higher than the effect size for child-only therapy.

Breinholst et al. [421] noted there are some circumstances where involving a parent in therapy can reduce the efficacy of an intervention, including if a parent has contributed to a child's anxiety by using parenting practices of intrusiveness, negativity, and distorted

cognitions. They concluded that a clinical judgment is required before involving a parent in systemic therapy. Kurzweil [422] surveyed clinicians about their decisions to involve parents when providing therapy for children aged 6–12 years. Most clinicians reported using both cognitive-behavioral and family system interventions. The study found that 90% of clinicians believed that working with parents was effective, especially when children displayed symptoms of oppositional defiance or conduct disorder, with less involvement of parents when a child displayed symptoms of attention-deficit hyperactivity disorder, depression, anxiety, and posttraumatic stress disorder or trauma. Factors considered by clinicians when deciding about involving parents were a child's age and diagnosis, parental level of stress, and parental interest in working with the clinician.

Khanna and Kendall [423] examined how clinicians adjusted their practices when involving a parent as compared to providing individual therapy for a child. They identified two changes in practice that contributed significantly to improvements in children's global functioning when providing joint therapy: teaching parents anxiety management techniques and transferring some control in sessions to a parent.

Wei and Kendall [424] reviewed literature showing that 40% of anxiety-disordered youth remain unresponsive to traditional treatment. Their review cautioned against involving a parent in the treatment of a child's anxiety if the parent had contributed to the child developing anxiety.

Legerstee et al. [425] conducted a study where they assessed parental anxiety as well as the anxiety of their child or adolescent offspring. The study found that involving the parent by providing four educational sessions for an anxious parent was associated with improvements for adolescents but not for children.

Cardy et al. [426] conducted a systematic review of 23 studies involving parents in the joint treatment of adolescents with anxiety. The review identified differing forms of parental involvement, including some separate sessions for parents, joint parent-adolescent sessions, and providing worksheets for parents. Cardy et al. [426] reported that one benefit of involving parents in joint therapy is that parents understand the key principles of therapy, can participate in supporting their offspring, and might apply principles to manage their own behavior. The review concluded from outcomes that CBT with parental involvement is an effective intervention for adolescent anxiety disorders, with caution.

Calderone et al. [427] provided a systematic review of the efficacy of one therapeutic model with children who displayed disruptive behaviors and found the intervention produced significant reductions in both child behavior problems and parental stress.

Scherpbier et al. [428] reported a follow-up of parents' satisfaction with one intervention program nine years after its completion. The parents described overall satisfaction with the decrease in their child's disruptive behavior, in their own lower parenting stress, in the lasting benefits of learning parenting skills, and in improved family relationships. The parents expressed dissatisfaction with some components of the program, including its emphasis on the exclusionary timeout procedure and the presumption that a universal program is suited to all children. Many parents reported a resurgence in behavior problems three years after participating in the program, when they sought additional input.

Helander et al. [429] provided a systematic review and meta-analysis of 25 RCTs involving children aged 2–13 years with clinical levels of disruptive behavior where interventions were conducted using Parent Management Training (PMT), Parent–Child Interaction Therapy (PCIT), and PMT combined with child cognitive behavioral therapy (CBT). The review found that PMT ($g = 0.64$) and PCIT ($g = 1.22$) were more effective than waiting-list controls in reducing parent-rated disruptive behavior, and PMT also improved parenting skills ($g = 0.83$) and children's social skills ($g = 0.49$). PCIT was recommended for younger children.

Overall, research indicates that involving parents in joint therapy for children is effective, but therapists need to exercise clinical judgment about when and how to involve parents in joint therapy when their child experiences anxiety. It is not appropriate to involve a parent in joint therapy if a parent has actively contributed to a child's anxiety.

One topic that requires research involves including a parent in joint therapy if the parent was not an offender but was considered to have not been sufficiently protective of a child.

10. Evolution of a Tiered Intervention Model for Vulnerable Children

The review identified an intervention model known as the Oregon model as a model that has evolved from a universal model towards developing targeted components, as reported by Dishion et al. [430].

The Oregon model uses a Family Check-up screen to identify parents who warrant referral to a brief universal intervention that provides coordinated sessions for parents and children [430]. The initial assessment protocol used in Family Check-up was described by Lunkenheimer et al. [431]. During a home visit, an assessor videos interactions between a parent and child as they perform the following activities: a period of free play (15 min), each carer and child participating in a clean-up task (5 min), a delay of gratification task (5 min), four teaching tasks (3 min each), a second free play (4 min), a second clean-up task (4 min), the presentation of two toys children are discouraged from playing with (2 min each), and a meal preparation and lunch task (20 min). The video assessment takes about an hour for 3-year-olds and 72 min for 4-year-olds. Parents are invited to participate in brief, focused educational sessions if shortcomings are noted in their parenting practices.

Family Check-up interventions are provided both in a clinic and through home visits and focus on observed interactions between a parent and child to make an individualized assessment. Additional components have been added to target interventions that address specific risk factors in sub-groups of families, leading to the introduction of more targeted models of intervention. Interventions address the common needs of parents as well as the needs of children, giving a family focus. The therapeutic approach is based on motivational interviewing, with interventions from other theoretical approaches being incorporated into interventions.

Dishion et al. [432] described the evolution of an integrated tiered model of interventions to meet the needs of families with more complex issues, using a multi-stage assessment process. Family Check-up is used with mainstream families who are intact and where a child displays behavioral disturbances in specific circumstances, such as when making a transition, such as commencing school. Two further intervention models were added, called Parent Management Training (PMT) and Treatment Foster Care (TFC). PMT is designed for families that experience tensions within the family and where a child's problem behaviors could cascade over time, from a child regularly engaging in minor problem behaviors and developing into more serious and ongoing forms of antisocial behavior, including violence. TFC is designed for families where child protection concerns have been raised. In all models, interventions are provided by a trained parent consultant.

In PMT, the parent/carer is the primary agent of change, with a consultant acting as an advisor. Lansford et al. [433] described steps a child might experience in a cascade over time as: ongoing early childhood defiance, co-occurring reactive and proactive aggression, school difficulties, association with deviant peers, leading on to serious antisocial behaviors during adolescence. The cascade model recognizes that parents benefit from some personal assistance in managing their own issues so they can better support their children. The PMT program is delivered for an average of 25 weekly sessions and includes both clinic sessions and home visits. A parent receives feedback while observing video recordings of their parenting practices.

TFC is provided when children present with very challenging behavior, and there are parental risk factors, so a multi-dimensional approach is required. TFC is offered for children who are in foster care, where one key worker is committed to taking on the role of being a key worker for an individual child and is involved in planning and implementing interventions as a carer. The emphasis of TFC is on providing nurturing, monitoring, and consistent limit setting and discipline. Both a foster carer and a birth parent are involved in TFC therapy that is provided for 6–9 months. A consultant is available to provide daily phone contact and has a caseload of 10 families. Individualized therapy is provided based on an assessment of the child and family's needs. Interventions include parent education, and therapy for a child on topics including managing distress, selection of friends, building trust in trustworthy adults, and school attendance, with a psychiatric referral being made if considered necessary. The aim of the TFC intervention is to reduce cascades of disruption and involvement with state authorities such as the police. The TFC program emphasizes the risks of peer contagion of antisocial behavior, uses data-based decision-making, and uses evidence-informed practices.

The current review identified the following characteristics in the Oregon models of intervention. The models emphasize the use of scientific and quality improvement practices. This includes: (a) an emphasis on research findings about trajectories of child development [122,229]; (b) a focus on parent–child interactions [434–437]; (c) identification of modifiable risk and protective factors [438,439]; (c) use of interventions that are evidence-informed [229]; (d) a focus on children with complex problems [440]; (e) a focus on influence of children's temperament [441–444]; (f) an ongoing emphasis on assessing efficacy of interventions using instruments to measure outcomes [445]; (g) use of randomized controlled trials [122]; (h) assessment of impacts on family functioning [446,447]; and (i) a willingness to introduce a tiered system of interventions [448].

Financial evaluations have been conducted of the Oregon model. Kuklinski et al. [449] conducted a cost analysis of the initial Family Check-up program. The analysis found the annual average cost per family was US \$1066. Costs declined significantly from children's ages 2 through 5 years. Once training and oversight patterns were established, new families were supported at half the initial cost, at US \$501 per family. The analysis found that the cost of supporting higher-risk families was higher (mean US \$583 per family compared to US \$463 for lower-risk families), but the analysis found that higher-risk families benefited more from the program.

The Oregon model has been explained sufficiently clearly that other clinicians have been able to introduce variations to meet the needs of other family types. Tustin [450] reported an intervention involving parents with severe mental health problems where a mental health clinician provided in-session therapy while a parenting coach provided in-home coaching of parenting practices, and where inputs were coordinated by regular meetings between the parent, clinician, and coach.

In summary, considerable information has accumulated about how to provide tiered interventions for families who present children with different levels of risk. The Oregon program is identified as providing a tiered model with three levels of intervention to deliver early intervention therapy to families assessed as presenting with different levels and types of risk.

A similar review of the evolution of the PCIT intervention model was provided by Campbell et al. [451].

11. Screens to Identify High-Risk Children

An assessment of intervention programs by Piehler et al. [452] noted that intervention programs for children with externalizing problems that were not based on a careful assess-

ment of family need and were not well-targeted produced only modest overall effect sizes and were ineffective for a sizable proportion of children who participated.

One proposal is that, as at-risk children follow different trajectories that result in mental disorders and high-risk behaviors, there is a need for a range of early intervention therapy programs. To identify which set of interventions is relevant for each cohort of children, it is necessary to introduce screening instruments that identify differing risk profiles of a child following a trajectory to become a dual-involved child.

Research reviewed above shows that researchers have produced lists of indicators that can be used to formulate screens that identify children who are at increased risk of becoming a dual-involvement child. As research identifies different trajectories, a screen might require sub-screens to identify cohorts of at-risk children with differing risk profiles who require different interventions.

The next section describes an assessment approach to ensure that at-risk families receive the right intervention at the right time.

11.1. Administrative Procedure

Harnett [453,454] described an administrative procedure to facilitate assessment of the capacity of court-involved parents to participate in a change process where they modify their personal and parenting practices. The assessment procedure involves five steps: (i) a parent is referred to an early intervention program and is informed about reasons for concern; (ii) a therapist who is equipped to address the concerns receives information about the referral; (iii) the therapist delivers therapy and monitors the parent's responsiveness to therapy for a set period of time; (iv) the therapist assesses changes achieved, perhaps using a Stages of Change scale; and (v) the therapist provides a treatment report to authorities as agreed.

11.2. Current Screens

This review identified several instruments that have been offered as screens to identify families where children are vulnerable and require a referral for early intervention therapy. These screens are briefly reviewed. Family Check-up uses its own assessment instrument. Winter et al. [455] proposed a Knowledge of Effective Parenting Scale (KEPS) instrument for use as a screening instrument for use by public health services to refer families to universal parenting programs. The Keys to Interactive Parenting Scale (KIPS) was identified by Comfort et al. [456] as a universal screen for identifying vulnerable families who required additional services. KIPS is based on observations of films of 20 min of parent-child interaction, of which 15 min involve free play and 5 min involve clean-up. Observers rate parental behavior on twelve items that are: sensitivity of responses; response to emotions; encouragement; promoting exploration/curiosity; involvement in child activities; language experiences; touch/physical interaction; limits and consequences; being open to child's agenda; reasonable expectations; adapting strategies to the child; and supportive directions. All items are scored on a 5-point scale where 5 reflects exemplary behavior. KIPS both identifies the strengths of each parent and identifies topics for intervention.

Several reviews of screening instruments regarding child protection issues have been published. Fallon et al. [457] emphasized the difference between families who display risk factors for increased likelihood of maltreatment and families where maltreatment has been substantiated. Vial et al. in 2022 [458] reviewed 11 instruments used by child welfare services to assess the safety of children from immediate hazards and found that the content of the instruments was relevant, but research was required on the psychometric properties of the instruments. McNellan et al. in 2022 [459] reviewed risk assessment instruments used by child welfare services to help decision-making and found that conceptualizations of risk varied widely, and there was a general dearth of evidence about the applicability of instruments.

Saini et al. in 2019 [460] reviewed 52 instruments used to assess the risk of child abuse and found that only 15% of instruments had moderate to strong evidence on expected criteria, with no instrument having evidence on all expected criteria. Yoon et al. in 2020 [461] assessed the quality of 15 instruments that relied on parent or caregiver reports about child maltreatment for their content validity and found the quality of evidence was generally poor. Chen et al. in 2022 [462] reviewed 15 screening instruments used by healthcare professionals to identify children at risk of maltreatment and found no instrument that met professional standards. Georgieva et al. in 2022 [463] reviewed the psychometric properties of five instruments most used to assess the risk of child maltreatment and found a general lack of information regarding the psychometric properties of the instruments. Navarro-Perez et al. in 2023 [464] provided a review of instruments in 2023 and found that assessment of measurement error was the least examined psychometric property of instruments. Ponticelli et al. in 2026 [465] reviewed properties of the Child Abuse Potential Inventory that was introduced to assess the risk of physical maltreatment. Hayworth et al. in 2024 [466] assessed instruments designed to measure the risk of child neglect.

Charak and Hamilton-Giachritsis in 2021 [467] reported on the qualities expected of instruments used to assess the likelihood of maltreatment of children and identified the following qualities: succinctness; identify the probability of harm to a child; identify the error rate in predicting future risk with good sensitivity (identify cases correctly) and specificity (low rate of false categorizations); help to refer to appropriate clinical interventions; have internal consistency; have ecological validity for legal purposes; and be used to enhance rather than replace professional decision-making.

Zumbach et al. [468] reviewed 2137 reports about observational procedures used with families where a child either had been removed from parental care or was at risk of removal. They identified 11 coding systems that record observable interactions between parents and children in vulnerable families that appeared relevant to the assessment of risk of child maltreatment, including the Dyadic Parent–Child Interaction Coding System-II [469]. Their review identified five parental variables that indicate children are at higher risk of maltreatment and of developing mental disorders: (a) low parental sensitivity; (b) low parental empathy and warmth; (c) low parental comforting; (d) hostile/strict control; and (e) developmentally inappropriate expectations. The reviewers did not identify any instrument as suitable to be used alone for the forensic task of identifying parents whose practices pose high risks for children. The authors noted that sample sizes in studies were small, and this reduced the power of the instruments. They recommended that instruments for forensic assessments be multi-dimensional and include the presence of adaptive parental behaviors as well as the presence of maladaptive parental behaviors. They noted that the most effective instruments use behavioral observations of interactions between a child and carer, rather than questionnaires or self-reports that are completed by parents.

Peterson et al. [470] provided indicators that are both risk factors and protective factors for the development of externalizing behaviors in children from the age of 5 years that cover domains of family process, peer process, stress, and individual characteristics. Their model accounted for 70% of the variance, with moderate sensitivity and specificity in predicting arrests.

11.3. Assessing Cumulative Risk

Sameroff et al. [471] proposed that the number of risk factors in a family is more predictive of future harm to a child than any single risk factor, as the principle of cumulative harm is relevant to the cohort of vulnerable children. They proposed that a cumulative risk instrument be used as a screen to identify families who are eligible for specific targeted intervention programs. They proposed that cumulative risk scores be used to set thresholds between three groups of families: families whose parenting is adequate; families where

parenting is inadequate to meet the needs of their child and the family can safely be referred to an early intervention therapy program for a limited period of time while remediation occurs; and families where parenting is abusive and children need to be removed immediately from the care of their parents.

Gach et al. [472] used multiple environmental risk factors during early childhood to predict a broad range of adverse developmental outcomes. They predicted children's externalizing behaviors at age 10 years using a cumulative risk index consisting of 6 singular risk variables. They found that the cumulative risk index was a better predictor of children's externalizing behaviors than any single predictor of corporal punishment, warm responsiveness, maternal efficacy, and negative perceptions of the child's behavior.

Tustin and Whitcombe-Dobbs [473] provided a Parenting Capacity Instrument that lists evidence-informed risk factors for children's development that include parent variables, parenting practices used, and co-parenting factors. Parenting capacity might be viewed as being inversely related to the risk to a child.

In summary, data have been gathered that can be used to develop screening instruments to identify children who are at increased risk and require targeted intervention. Current instruments have been reviewed by several writers and have been found to be lacking in important psychometric properties. One research task is to generate instruments to assess the risk of harm to children, including children who live in court-involved families.

12. Under-Researched Topics

The review searched for research on three topics with legal and administrative implications that are relevant to clinicians who provide therapy for vulnerable children who live in court-involved families. The topics are administrative arrangements in child protection systems, definitions of parenting capacity, and practice guidelines for joint parent-child therapy.

12.1. Administrative Arrangements in Child Protection Systems

Clinicians who provide assessments and therapy for court-involved families operate in legal systems. Australia is a federation with separate parliaments that govern the Commonwealth and States, where there is a convention that health services are provided primarily by the Commonwealth Government and child welfare services are provided by State Governments.

Several Australian state governments have arranged royal commissions to investigate the functioning of their child welfare systems, where commissions have recommended administrative changes to the overall child welfare system. Reports by the commissions indicate that state governments vary in how they fund assessment and therapy services for court-involved families, as some state governments allocate funds for both assessment and early intervention services to the child protection department that prosecutes parents, while other state governments allocate funding for assessment and therapy either to the relevant court or to the health system.

No research was found about outcomes of varying funding and administrative systems for providing assessment and therapy services for court-involved families.

12.2. Definitions of Parenting Capacity and Cumulative Risk

Australian child custody and child protection legislation uses the concept of parenting capacity and requires courts to apply this concept when assessing the adequacy of parenting provided to court-involved children. The topic of parenting capacity might be considered the inverse of a child's needs, as it is the role of parents to meet children's needs. The research about parenting capacity is discussed by Tustin and Whitcombe-Dobbs [473], who

recommended that parenting capacity be assessed by identifying the number and severity of risk factors.

One topic that remains to be addressed in research involves a question of how to add likelihood of maltreatment when a parent displays several risk factors. There is a growing convention to set thresholds between levels of parenting capacity based on the number of substantiated risk factors (such as four) to distinguish between parents who can safely be referred to early intervention therapy and parents where there is an immediate risk to a child, and a child needs to be removed from parental care. Research is required on how to add probabilities where there is a cumulative risk of harm as a parent and child display more than one risk factor to determine whether risk reaches the legal standard of evidence, which is 'on the balance of probabilities', which is the standard applied to civil matters in Australia.

12.3. Ethical Dilemmas and Practice Guidelines for Systemic Therapists

Carr [1,2] identified therapies that examine interactions between two members of a family as being systemic therapy. A clinician who provides systemic therapy views the parent as being a change agent who influences their child's behavior, and the clinician provides coordinated early intervention therapy to both a parent and child without waiting until a child reaches criteria to be diagnosed as having a mental disorder. The review found that effect sizes associated with systemic therapies are in the moderate range of efficacy with d between 0.26 and 0.45. The review recommends that systemic therapy be recognized by authorities as providing effective interventions for parent-child difficulties and be granted an equivalent status to treatments of disorders.

Carr [1,2] drew attention to the fact that different ethical principles apply when a clinician provides therapy for two members of a family in systemic therapy. When a therapist has clients who are members of the same family, it is possible that a dilemma will arise where an intervention required by legal case law as being in the best interests of one family member is not in the best interests of the second family member. Although Australian family-oriented legislation requires parents to use child-rearing practices that are in the best interests of their child, a parent might perceive that a clinician has acted against the interests of the parent in some circumstances. Potential ethical dilemmas become acute when a clinician provides a treatment report to a family-oriented court, as discussed by Greenberg and Gould [474] and Tustin [475].

The Australian Psychological Society provides a Code of Ethics [476], and the regulatory Australian Psychology Board provides a Code of Conduct for psychological practice [477]. Both codes identify the topics of informed consent by young people, boundaries, multiple relationships, simultaneous services, and conflicts of interest as topics that require special ethical consideration when a therapist provides systemic therapy and delivers services to more than one member of a family. However, neither code provides practice guidelines that advise clinicians how to manage ethical and legal dilemmas that arise when providing therapy to a parent-child combination.

The review did not identify any research relevant to ethical practice guidelines when using systemic therapy with court-involved families beyond that reported by Tustin [477].

13. Conclusions and Discussion

The primary aim of the review is to identify modifiable risk factors that increase the likelihood a child will develop a mental disorder and will progress along a trajectory towards persistent offending and will become a dual-involved child, where risk factors can be changed by a clinician. One aim of the review is to consider whether adequate assessment and early intervention therapies are available to meet the needs of the cohort of children who are at risk of becoming dual-involved children.

13.1. Organizing Framework

Table 2 used three headings to organize variables found in research to be associated with increased risk that a child will develop a mental disorder: parental factors, childhood factors, and peer factors. It is proposed that the three sets of variables can be integrated using a macro-construct of 'role of parent' to provide an evidence-informed definition of constructs that are relevant to the provision of therapy for children who live in court-involved families. Identifying this overall coordinating construct provides an evidence-informed definition of the role of a parent to include management of their own personal issues, addressing children's issues, and supervising their child's friendships.

Each variable in Table 2 can be addressed in systemic therapy, where a clinician provides services to two family members. Table 2 can be used to provide an empirical framework that organizes variables that need to be considered in systemic therapy. In other words, Table 2 provides an empirical basis for systemic therapy to become more systematic and better defined.

Table 2 summarizes effect sizes between variables that are nominated in psychological models as being important when raising vulnerable children. Effect sizes range from below 0.20 to a high of 0.89, indicating that most effect sizes are in the range of having low to moderate influence. Effect sizes associated with different theoretical approaches overlap, indicating that no one theory covers all variables that are relevant to dual-involved children. It is concluded that the topics of assessing risk to children and providing relevant therapy are complex topics, as many variables have a moderate influence, as foreshadowed by Tryphonopoulos et al. [478]. When an effect size is positive but low, a treating clinician needs to use clinical judgment to identify those families where a variable is relevant and requires therapy. It is concluded that the roles of assessing court-involved families and providing early intervention therapy are complex topics where services are best provided by well-qualified professionals who are legally accountable and who use validated assessment instruments.

The review has limitations. The field of study that is reviewed is large, and terms used to describe systemic therapy are not well standardized, so it is possible that the key words selected did not capture some important contributions.

13.2. Synthesizing Results

The variables listed in Table 2 arise from different theories. One conclusion from the review is that interventions for vulnerable children need to be provided by clinicians who adopt a trans-theoretical approach as well as an evidence-based approach. Arguably, a trans-theoretical approach will become client-centered.

Questions arise about how to integrate and synthesize constructs that originate from differing theoretical bases. It appears from the review that many researchers apply constructs from one theory and perhaps defend a favored theory. The review found evidence of trans-theoretical research that uses constructs originating from different theories. For example, the review cited studies that used constructs of children's internalizing and externalizing behaviors to analyze the impacts of interventions that originate from attachment theory and from other theories. Van IJzendoorn [26] reported that the construct of differential susceptibility facilitated integration of constructs from attachment theory and the theory of temperament. It is hypothesized that the construct of reinforcer sensitivity may facilitate research that further integrates constructs from temperament theory, attachment theory, and parenting styles.

The review has identified important components of several models of parenting and proposes that a new model of adequate parenting for vulnerable children be introduced, incorporating components from each of the models reviewed. It is proposed that components of adequate parenting be organized as follows. First, interventions commence by forming a basic

assessment of each child's temperament based on the child's common behaviors and preferences. Second, child-rearing focuses on encouraging children to express emotions moderately in ways that are acceptable in the family and in society, beginning with primary emotions at about age 2 years and progressing to self-evaluative emotions and social-evaluative emotions during the mid-childhood years. Third, parents particularly monitor expressions of anger from the age of 2 years and encourage reasonable assertiveness. Fourth, parenting practices from the age of about 3 years promote a child's decision-making about safety and autonomy and encourage intrinsic motivation. Fifth, parents monitor both excessive externalizing and internalizing behaviors and co-occurring behaviors and encourage children to manage challenges using resilient coping rather than over- or under-controlling coping styles. Sixth, parents reflect on how they appraise their child's behavior and ensure their parenting practices are child-centered and are not primarily an expression of their own personality. Finally, parents encourage their child to express their own temperament within reasonable social limits.

13.3. Universal Parenting Programs

Universal parenting programs comprise components, as described by Carr [1,2]. The review identified two large areas of research where although there is evidence that variables are associated with an increased risk of a child developing a mental disorder, the variables appear not to be emphasized in current universal parenting programs. Missing components include a child expressing strong emotions in acceptable ways and a child's temperament. There is an apparent need to add components to early intervention programs to assist therapists who wish to use evidence-informed interventions in their therapy.

Commentators identified that some parents, including court-involved parents, do not engage fully in current universal intervention programs and are hard to reach. Research associated with attribution therapy notes that some court-involved parents adopt an explanatory style that leaves a parent feeling defensive when they are asked to reflect on their parenting practices and possibly adopt a hostile attribution bias. There appears to be a need to supplement current interventions with innovative therapies that are designed to reduce defensiveness in court-involved parents. The reviewer proposes that there is scope to introduce a form of therapy called bibliotherapy, where a therapist provides a client with a vignette that describes parenting by a de-identified parent whose situation is like the situation of the current client and invites the client to comment on practices used by the de-identified parent.

13.4. Targeted Early Interventions

Targeted early intervention therapies include interventions that are delivered before a client meets criteria for a diagnosis of having a mental disorder. Systemic therapy provides coordinated therapy to two family members in joint parent-child therapy, being a parent and child. The review found evidence that systemic therapies are as effective as traditional diagnosis-oriented therapies for vulnerable children, with behavioral parent education and PCIT achieving results with effect sizes above 0.8 with mainstream families. Other effective therapies where components can be added to universal programs are emotion-focused therapies, attachment-based therapy, and therapy based on some parent appraisal models, including cognitive reappraisal therapies. Therapies that address specific childhood factors, such as trauma, can be provided as targeted therapies. Therapies that address parental factors can also be provided as targeted therapies.

The review identified the importance of authorities recognizing the need for targeted interventions to be available for court-involved families where children are more vulnerable if their family displays a high number of risk factors. The review supports the conclusion that systemic therapies that are provided before a child reaches criteria for having a mental disorder are recognized by authorities as an essential form of therapy for children who are

at higher risk of following a trajectory towards becoming a dual-involved child. Systemic therapy is especially relevant for children who are below the age when they can participate in individual therapy.

The review summarized information about the effect sizes of therapies used in early intervention. Table 3 shows that meta-analyses report the efficacy of intervention programs varies from 0.13 to a high of 0.88. None of the therapies reviewed consistently achieved effect sizes with vulnerable children that are sufficiently high to conclude that one current therapy should dominate service delivery. The effect sizes indicate that it is important for clinicians to base their selection of interventions on empirical evidence and not to select interventions based on a favored theoretical model. The evidence shows that a range of theoretical models produce effective interventions, indicating that interventions should be provided by practitioners who are well informed about interventions generated by differing theories. Finally, the data shows that, as no program reliably achieves a very high success rate with children at highest risk, there is an ongoing need to develop further intervention programs for very vulnerable children.

The review indicates that therapists need to adopt a trans-theoretical approach in their assessments and therapies, and as noted by Schaeuffele et al. [479], this has implications for the training of therapists.

Table 3. Efficacy of interventions.

Parental Factors	Intervention	Effect Sizes
Attachment based therapy	Parental sensitivity	$r = 0.58$
	Infant's insecurity	$r = 0.17$
	Reduce maltreatment	$r = 0.13$ to 0.23
	Using video feedback	$r = 0.07$ to 0.23
Behavioral parent education	Child's problem behaviors	$d = 0.26$ to 0.88
	Change parenting practices	$d = 0.58$ to 0.83
	Improve children's functioning	$d = 0.47$ to 0.50
	Improve parent satisfaction	$d = 0.52$
	Improve parent's personal adjustment	$d = 0.34$
	Improve couple relationship	$d = 0.22$
PCIT		$d = 1.22$
Emotion focused therapy	Child's emotional competence	$g = 0.44$
	Parenting practices	$d = 0.25$ to 0.74
	Internalizing problems	$d = -0.34$ to -0.25
	Externalizing problems	$d = -0.17$ to -0.31
	Parental mental health	$d = 0.18$ to 0.28
Parent appraisals	Mindfulness	$r = 0.22$ to 0.46
	Reflective functioning	r not significant
	Attributions & antisocial behavior	$d = 0.26$
	Attributions & social emotions	$r = 0.41$
	Attributions & negative social emotions	$r = 0.16$
Childhood factors		
Trauma therapy	Reduce symptoms	$d = 0.48$ to 0.62

Table 3. Cont.

Parental Factors	Intervention	Effect Sizes
Cognitive reappraisal therapy (CRT)	Self-regulation	$g = 0.29$
Psychoeducation		$d = 0.50$
Goal setting		$d = 0.40$
CT, DBT, & CBT		$d = 0.37$
Early & late onset aggression	Conduct problems	$d = -0.53$
	Parenting skills	$d = 0.53$
	Parental mental health	$d = 0.36$
	Reduce harsh parenting practices	$d = 0.77$
Children's emotions	Appraisals & emotions	$r = 0.33$
	Recognize emotions	$d = 0.39$
	Describe 3 levels of intensity	$d = 0.30$
	Forgiveness & anger	$g = 0.29$ to 0.54

13.5. Assessment Screens

The review found that, as children follow different trajectories based on differing combinations of risk factors, a range of interventions is required in programs. This finding indicates there is a need for assessment screens to ensure that appropriate interventions are provided for each family at the right time. It is proposed that two types of screens are required. First, a screen is required to identify families who will benefit from referral to a universal parenting program. Second, additional screens are required to identify families who warrant referral to more targeted interventions that address specific risk profiles that place a child at higher risk of experiencing enduring harm. While many assessment screens have been offered, the review found there is insufficient research about the adequacy of screening instruments to recommend any instruments.

13.6. Areas of Insufficient Research

It is concluded that some theories that focus on interactions between a parent and child appear promising for inclusion in assessment and therapy, but the hypothesized interactions have not yet been adequately researched, as no meta-analysis of research was discovered in the current literature search. These theories include models addressing parenting appraisals of their child's behavior, practical applications of theories about children's emotions, models of temperament, models that bring a developmental perspective to the task of providing effective early intervention for vulnerable children, and research about co-occurring internalizing and externalizing behaviors.

These models are discussed below.

13.6.1. Parental Appraisals of Children's Behavior

The review identified five models that are used to analyze the influence on children of ways parents appraise their behavior. Further research is required on the contribution each model can make to identifying effective therapy interventions. The emerging emphasis on attribution therapy appears promising, as attribution theory has a large evidence base.

13.6.2. Interventions Regarding Children's Emotions

While the topic of children's emotions is generally considered to be important, the review found very little evidence-based information to help parents teach their children to

express strong emotions in socially acceptable ways, including for the primary emotions of sadness, anger, and fear. Research provides little guidance for therapists who aim to provide evidence-informed therapy promoting the expression of primary emotions. One body of research emphasizes children's development of social and emotional skills, but this appears not yet to have been translated into evidence-based interventions.

There is emerging information about which social-emotional skills are important to prevent children from progressing on the trajectory of dual involvement. One approach is to develop a curriculum of social and emotional skills that can be taught to vulnerable children, where the curriculum is made available to therapists, parents, and foster carers of vulnerable children. A curriculum could provide information about parenting practices that both promote and impede a child's development of critical social-emotional skills. As noted by Baruni et al. [480], one topic that appears important but has not attracted much research attention involves the development of children's safety skills, a topic that is relevant for parents who are overprotective.

13.6.3. Role of Temperaments

The topic of parenting children who have differing temperaments is identified as warranting further research, especially as temperaments can be identified at an early age. Progress has been made in recognizing that the five-factor model of traits is relevant to children, and progress has been made in identifying instruments to assess traits in children. It is not clear that the newly developed assessment instruments are widely used by clinicians. The review found limited research on relationships between traits identified in children's normal temperaments and clusters of disturbed behaviors that are identified in instruments that assess internalizing and externalizing behaviors. The topic of children's temperamental traits appears to receive minimal attention in many universal parenting programs, which treat all children as having essentially the same needs.

It is possible that a de-emphasis on children's temperaments is associated with an over-emphasis on children having a disorder. There is a need for further research about associations between children's temperaments and disorders and steps that can be taken to reduce progression from certain temperamental profiles to the development of a disorder.

The topic of why certain children's behaviors cluster together in traits remains unanswered. The construct of reinforcer sensitivity warrants further research as a potential answer to the question of why behaviors that define traits cluster together and the implications for child-rearing and therapy.

13.7. *A Developmental Perspective*

Research has identified the importance of addressing developmental issues that are relevant to the provision of early intervention therapy and the timing of providing interventions. One set of research focuses on the age at which children commence a pattern of persistent aggression. There is a need for further research about interventions that are beneficial for early-onset aggression and late-onset aggression, including how best to deliver effective interventions.

Another set of research focuses on children's transition from being externally motivated to becoming internally motivated, with limited research found about the age when this transition occurs and the processes that facilitate the transition.

13.8. *Co-Occurring Internalizing and Externalizing Behaviors*

While the constructs of children's internalizing and externalizing behaviors are well established and are used by researchers who follow differing theoretical frameworks, the constructs have not yet been explicitly incorporated into universal parent education programs. The review indicates that it is important for programs to address co-occurring

combinations of difficult behaviors to assist parents and carers to manage the complex combination of a child's co-occurring internalizing and externalizing behaviors, without encouraging children to adopt coping styles that are either over-controlling or under-controlling. There is scope to assess a hypothesis that interventions for children with co-occurring internalizing and externalizing behaviors should commence by teaching relaxation and calming skills to children and then progress to limit setting and more disciplinary approaches, and that these interventions should commence when a child is about 3 years old.

It is likely that therapy for children's co-occurring internalizing and externalizing behaviors needs to be addressed in targeted interventions and needs to be provided by skilled clinicians who provide some services in the family home.

14. Overall Summary

It is concluded that there is scope for ongoing research into variables that contribute to children moving along a trajectory towards becoming a dual-involved child, and there is a need for ongoing development of early intervention programs that improve the skills of parents and carers in raising children who are assessed as being vulnerable to progressing along the trajectory towards being a dual-involved child.

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