

## Review

# Emotional, Behavioral, and Developmental Features Indicative of Neglect or Emotional Abuse in Preschool Children A Systematic Review

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**IMPORTANCE** Early intervention for neglect or emotional abuse in preschoolers may mitigate lifelong consequences, yet practitioners lack confidence in recognizing these children.


**OBJECTIVE** To define the emotional, behavioral, and developmental features of neglect or emotional abuse in preschoolers.

**EVIDENCE REVIEW** A literature search of 18 databases, 6 websites, and supplementary searching performed from January 1, 1960, to February 1, 2011, identified 22 669 abstracts. Standardized critical appraisal of 164 articles was conducted by 2 independent, trained reviewers. Inclusion criteria were children aged 0 to 6 years with confirmed neglect or emotional abuse who had emotional, behavioral, and developmental features recorded or for whom the carer-child interaction was documented.

**FINDINGS** Twenty-eight case-control (matched for socioeconomic, educational level, and ethnicity), 1 cross-sectional, and 13 cohort studies were included. Key features in the child included the following: aggression (11 studies) exhibited as angry, disruptive behavior, conduct problems, oppositional behavior, and low ego control; withdrawal or passivity (12 studies), including negative self-esteem, anxious or avoidant behavior, poor emotional knowledge, and difficulties in interpreting emotional expressions in others; developmental delay (17 studies), particularly delayed language, cognitive function, and overall development quotient; poor peer interaction (5 studies), showing poor social interactions, unlikely to act to relieve distress in others; and transition (6 studies) from ambivalent to avoidant insecure attachment pattern and from passive to increasingly aggressive behavior and negative self-representation. Emotional knowledge, cognitive function, and language deteriorate without intervention. Poor sensitivity, hostility, criticism, or disinterest characterize maternal-child interactions.

**CONCLUSIONS AND RELEVANCE** Preschool children who have been neglected or emotionally abused exhibit a range of serious emotional and behavioral difficulties and adverse mother-child interactions that indicate that these children require prompt evaluation and interventions.

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Neglect is the most common form of maltreatment,<sup>1,2</sup> with devastating lifelong consequences. The neurobiology of the infant brain can be altered in response to early emotional neglect,<sup>3</sup> and brain imaging technology has confirmed the structural effect of neglect on the developing brain.<sup>4</sup> The link between infant neglect and later aggression<sup>5,6</sup> is highlighted by Kotch et al,<sup>7</sup> who identified neglect in the first 2 years of life as a predictor of later aggression. Neglect means many things to many people,<sup>8</sup> contributing to various working definitions and numerous tools to aid assessment and recognition. Social and health care professionals have a crucial role in recognizing and responding to signs of neglect, but when faced with subjective and value-based thresholds describing parental omission of good enough care, they may lack confidence in diagnosing neglect, unless there are clear physical signs (eg, faltering growth). The severe long-term consequences of emotional neglect and emotional abuse in the first 2 years of life<sup>9,10</sup> have been identified, alongside the difficulty in recognition at such a young age.<sup>11,12</sup> Underrecognition has implications for physical, mental health,<sup>13</sup> and mortality.<sup>14</sup> Emotional neglect and emotional abuse are variously defined within child abuse categories. In the United Kingdom and the World Health Organization definition, *emotional neglect* is included within the category of neglect with a separate category of emotional abuse, whereas the 2 aspects are encompassed in the broader term *psychological maltreatment* by the American Professional Society on the Abuse of Children (eAppendix 1 in Supplement), which describes patterns of damaging interactions between the parent-carer and child through acts of omission or commission, acknowledging that emotional neglect and abuse have equally damaging effects on the child. Elements of psychological maltreatment are present in most categories of abuse, but when psychological maltreatment occurs discretely, there is often delay in both recognition and intervention.<sup>15</sup> To optimize outcomes, early recognition is paramount. This systematic review aims to identify the scientific evidence behind the emotional, behavioral, and developmental features of the child and characteristics of primary carer-child interactions associated with neglect and/or emotional abuse of preschool children.

## Methods

A literature search across 18 bibliographic databases (eAppendix 2 in Supplement) was conducted to identify original articles published from January 1, 1960, to February 1, 2011. The search strategy (eAppendix 3 in Supplement) was developed across the OVID MEDLINE databases using keywords and Medical Subject Headings and modified for the remaining bibliographic databases. Studies were included if the population resided in an Organisation for Economic Co-operation and Development country.<sup>16</sup> These countries are likely to have a similar economy and, therefore, the studies would be of equal relevance. The search sensitivity was augmented by supplementary searching,<sup>17</sup> including consultation with subject experts and relevant organizations, hand-searching websites, nonindexed journals, and the references of all full-text articles. Once duplicate articles were eliminated, articles were transferred to a purpose-built database to coordinate the review and collate critical appraisal data. Studies were scanned by the lead researcher (S.A.M.) for relevance. Two independent reviews of each article were

completed by a panel of pediatricians, psychologists, psychiatrists, information specialists, and social workers trained in critical appraisal (eAppendix 4 in Supplement), using standardized critical appraisal forms (eAppendix 5 in Supplement) based on criteria defined by the National Health Service's Centre for Reviews and Dissemination,<sup>18</sup> supplemented by systematic review advisory articles.<sup>19-23</sup> A third review was undertaken to resolve disagreements (eAppendix 4 in Supplement). Inclusion criteria were all studies of children (ages 0-6 years) experiencing neglect, emotional abuse, or emotional neglect for which the authors explicitly recorded emotional, behavioral, and developmental features in the child or addressed the characteristics of the primary carer-child interactions (eAppendix 6 in Supplement). We defined neglect according to the World Health Organization definition.<sup>24</sup>

The optimal study design was deemed to be a prospective case-control study matched for socioeconomic and other demographic features, in which the assessment of the child features was conducted by independent observation and interpreted in a standardized manner. To minimize the risk of circularity, we used a quality ranking of confirmation of neglect for the studies based on a format used in our previous systematic reviews,<sup>25</sup> including studies ranked C2 or above (eAppendix 6 in Supplement). In reporting the findings, we adhered to the explicit terms used by the authors to account for the variability of the terms used among studies. The quality standards achieved by the individual studies are detailed in eAppendix 7 in Supplement.

## Results

Forty-two studies were included (28 case-control,<sup>26-53</sup> 13 cohort [12 of which were prospective],<sup>10,54-65</sup> and 1 cross-sectional study<sup>66</sup>) (eAppendix 7 and eAppendix 8 in Supplement). The case-control studies were matched for demographic features, including the child age, maternal age, child sex, parental educational level, household income, child ethnicity, and neighborhood characteristics, and represented varying populations. Neglect and emotional abuse ranking was high. Thirty-nine studies used direct observational assessment tools (eg, Bayley's or the Strange Situation), and the remaining 3 reported assessments using standardized rating scales (eAppendix 9 in Supplement). A total of 76 assessment tools were used throughout the 42 studies (eAppendix 9 in Supplement). Almost all authors modified these tools in some way, precluding a meta-analysis. The results are presented according to the age bands (using mean age).

### Child Features

Emotional, behavioral, and developmental features in the child associated with neglect or emotional abuse were described in 22 case-control studies, 1 cross-sectional study, and 12 cohort studies\* (Table 1).

#### Children Aged 0 to 20 Months

Using the Strange Situation, 3 studies measured the attachment status (eAppendix 9 in Supplement) of 1-year-old children to their primary carer, comparing neglected or emotionally abused children with

\*References 10, 26, 27, 29-31, 33-35, 37-44, 47, 49-61, 63-66

Table 1. Emotional, Behavioral, and Developmental Features in the Neglected or Emotionally Abused Child

Months		Years		
0-20	20-30	3-4	4-5	5-6
Insecure-avoidant attachment <sup>30,41</sup>	Negativity in play <sup>34</sup>	Negativity in play <sup>39</sup>	Poor peer relationships-poor social interaction, more aggressive, conduct problems <sup>38,49</sup>	Insecure-avoidant attachment <sup>52</sup>
Insecure-disorganized attachment <sup>29</sup>				
Cognitive skills developmental delay <sup>44,51,66</sup>	Reduced social interactions <sup>31</sup>	Delays in complex language <sup>26,55</sup>	Delays in complex language <sup>35</sup>	Poor peer relationships; rate self as angry, oppositional, others as sad/hurt <sup>42,53</sup>
Passive withdrawn behavior <sup>33</sup>	Deficits in memory performance <sup>27</sup>	Difficulties with emotion discrimination <sup>37</sup>	Difficulties with discrimination of emotion expressions-bias for sad faces <sup>47</sup> Dysregulation emotion patterns <sup>45</sup> Helpless outlook; view others not as source of help <sup>43</sup>	Low self-esteem <sup>50</sup> Less moral; inclination to cheat and break rules <sup>40</sup>

abused or control children variably.<sup>29,30,41</sup> The neglected infants frequently demonstrate insecure-avoidant attachment, with all of the neglected and emotionally abused children in the study by Cicchetti et al<sup>29</sup> having insecure-disorganized attachment. Neglected infants had a passive and withdrawn behavior pattern with their mothers,<sup>30,33</sup> with early developmental delay.<sup>30</sup> One study<sup>44</sup> of infants with a mean age of 14.2 months noted that neglect combined with failure to thrive was associated with lower cognitive performance than either neglect or failure to thrive alone. Neglected infants (mean age, 16.7 months) of depressed mothers were more likely to demonstrate language delay.<sup>66</sup> One study<sup>51</sup> investigating the effect of the maltreating family environment on an infant's social interaction noted that neglected or emotionally abused infants aged 12 months did not differ from nonmaltreated controls on complexity of play style or cognitive play abilities. The authors attributed their lack of findings to the difficulty of identifying child neglect or emotional abuse in an impoverished sample at this age.

#### Children Aged 20 to 30 Months

While directly observing the free play of neglected toddlers (mean age, 26 months) with their primary caregiver and family, child negativity was strongly associated with caregiver hostility.<sup>34</sup> These children had significantly less positive social interaction compared with controls. In a separate study<sup>31</sup> of such toddlers at home, the toddlers spent the least time with adults, avoidant even of their mothers. In a case-control study that assessed memory in a step sequence of increasingly difficult tests, Cheatham et al<sup>27</sup> showed deficits among neglected children (mean age, 21.01 months).

#### Children Aged 3 to 4 Years

Specific delays in receptive and language abilities (complexity of language and auditory comprehension) became apparent from the age of 3 years.<sup>26,55</sup> In assessing toddlers and their parents during free play and play initiated by a parent, neglected children demonstrated significantly more negative affect (anger) than either physically abused or control children,<sup>39</sup> hypothesized as being due to a lack of attention and fulfillment of their needs by their caregivers. In children younger than 4 years, their ability to discriminate among emotions did not differ between groups of abused, emotionally neglected, and physically neglected children when IQ was entered as a covariate.<sup>37</sup>

#### Children Aged 4 to 5 Years

In a study of the effect of neglect on language complexity, 19 maltreated children had a 16-month delay in syntactic development of language vs a 13-month delay for controls<sup>35</sup>; the 9 girls in the study by Eigsti and Cicchetti<sup>35</sup> had the greater delay. Three studies<sup>38,43,49</sup> describe the increasing social difficulties exhibited by children with their peers. In the series of Hoffman-Plotkin and Twentyman,<sup>38</sup> 14 neglected children engaged in the least number of interactions with other children, had lower scores on cognitive functioning, and exhibited disruptive behavior that correlated with aggression and the need for teacher discipline. Rohrbeck and Twentyman<sup>49</sup> found conduct problems in neglected 4-year-olds on parental report, with both parental and teacher ratings in the direction of greater dysfunction than abused cases or controls. Macfie et al<sup>43</sup> used the MacArthur Story Stem Battery and found that the 21 neglected children perceived other children as responding less often to relieve their distress. Polak et al<sup>47</sup> noted that the neglected children had difficulty recognizing angry faces, had a bias for selecting sad faces, and had more difficulty in discriminating among emotional expressions compared with physically abused children. Neglected children were significantly more likely to demonstrate an undercontrolled or ambivalent emotional response to simulated interadult aggression ( $P < .001$ ).<sup>45</sup>

#### Children Aged 5 to 6 Years

Studies have reported low self-esteem in neglected children. Children with a mean age of 5 years had the lowest scores on positive self-representation.<sup>50</sup> Using an age-appropriate attachment measure, Venet et al<sup>52</sup> demonstrated an insecure-avoidant pattern of attachment with more markers for disorganization (specifically, frightening markers and mother depicted as being absent or unavailable). Waldinger et al<sup>53</sup> noted neglected 5-year-olds rated themselves as angry and oppositional and tended to rate others as sad, hurt, or anxious. Poor peer relationships were also affected by the increased rates of dissociation found in neglected children<sup>42</sup> and their engagement in less rule-compatible behavior ( $P < .01$ ) as demonstrated in one study.<sup>40</sup>

#### Transition Through Development

Cohorts of neglected or emotionally abused children were followed up through their early childhood in 11 studies<sup>10,54,56-61,63-65</sup> (1626 cases). As these children aged from 12 to 18 months, those with

**Table 2. Carer-Child Interactions Among Neglected and Emotionally Abused Preschoolers**

0-12 mo	Years	
	1-3	3-6
Low maternal sensitivity <sup>29</sup>	Low attunement Lack competence <sup>36</sup>	Less affectionate <sup>48,50</sup>
Infants viewed as irritating and demanding <sup>29</sup>	Withdrawn and uninvolved with their children <sup>32-34,62</sup>	Least number of utterances with their child <sup>35</sup>
Use fewer commands and give less positive feedback to their infants <sup>28</sup>	Critical and/or ignore the child's cues for help <sup>39,46,61</sup>	Least likely to relieve distress in their child <sup>43</sup>

ambivalent-insecure attachment changed to an exclusively avoidant pattern.<sup>59</sup> Egeland et al<sup>60</sup> found a marked increase in maladaptive patterns of functioning from infancy through 3 years, with emotionally neglected children becoming angry and avoidant of their mothers. Crittenden et al<sup>54</sup> reported how neglected infants were passive initially but from 12 months onward had aggressive and resistant behavior toward their carers, particularly up to 2.25 years. Within the Longitudinal Studies of Child Abuse and Neglect, Dubowitz et al<sup>56</sup> examined different subtypes of neglect, comparing outcomes at different ages. Neglect at 3 years did not predict behavior changes at 5 years. In a related study,<sup>57</sup> mothers reported that neglected 5-year-olds with behavior problems had more difficult peer relationships at 6 years. Neglect predicted cognitive delay in a study following up children from 18 months to 3 years.<sup>63</sup> A retrospective study<sup>61</sup> of 212 neglected children found that, at 4 years, impairment in receptive and expressive language, socially aggressive behavior, withdrawn behavior, and attention problems were significantly associated with several markers for neglect. Neglected children appeared to have early deficits in emotional knowledge, which persisted over time without intervention, from 4 to 5 years.<sup>64</sup> Toth et al<sup>65</sup> demonstrated that from 3 to 4 years neglected children increased their negative self-representation. The Minnesota Study evaluated high-risk parents and children, using multiple methods of assessment, including extensive observation, to examine the range of caregiving, with a major focus on the antecedents of abuse and neglect and the long-term consequences of maltreatment on children's development: the emotionally abused group had the greatest decrease in their cognitive functioning score from 9 to 12 months,<sup>58</sup> whereas at 24 months the pure neglect group had the greatest anger when performing problem-solving tasks.<sup>58</sup> At 54 months the neglect group was uninvolved with tasks and less creative with the curiosity box,<sup>10</sup> whereas by 64 months they had lower scores on the Wechsler Preschool and Primary Scale of Intelligence.<sup>10</sup>

### Carer-Child Interaction

Fourteen studies<sup>†</sup> addressed characteristics of the carer-child interaction (Table 2) that were marked by hostility (6 studies<sup>29,34,39,48,50,61</sup>), although more often the interaction was one of lack of interest, activity, or involvement by the mother (9 studies<sup>‡</sup>).

#### Children Aged 0 to 12 Months

The mothers of 137 one-year-old infants (neglected and emotionally abused) reported that they found their infants less reinforcing

<sup>†</sup>References 28, 29, 32-36, 39, 43, 46, 48, 50, 61, 62

<sup>‡</sup>References 28, 29, 32, 33, 36, 43, 46, 48, 62

and more demanding and irritating.<sup>29</sup> On direct observation, these mothers were rated as substantially lower in maternal sensitivity compared with controls.<sup>29</sup> Another study<sup>28</sup> compared 10 neglected infant-mother pairs with 10 abuse and control pairs. Neglectful mothers spoke significantly less often to their children (4 neglectful mothers failed to talk to their child at all during the experiment), used restrictive patterns of speech with significantly fewer commands or questions, gave less positive feedback, and gave less praise than controls. A total of 61% of all utterances made by neglectful mothers were commands, a much higher relative incidence than the control groups.

#### Children Aged 1 to 3 Years

Observations of neglectful mothers found them unresponsive,<sup>33</sup> withdrawn, uninvolved, expressing little affection,<sup>32</sup> and showing the least positive social interaction when compared with physically abusing and adequate-care mothers.<sup>34</sup> Among children with a mean age of 27.5 months, the mothers were less attuned and less competent in understanding their child in developmentally appropriate ways.<sup>36</sup> Two studies<sup>39,62</sup> linked maternal mood (depression) with an increased probability of neglect, with a lower level of maternal affect being linked to child depression. As part of the Minnesota Study, Pianta et al<sup>46</sup> found that emotionally abusive mothers persistently found fault with their children, ignored their child's cues for assistance in problem-solving tasks, offered no encouragement if the child failed, and even looked comfortable if the child began to look frustrated. This hostile approach was also noted by English et al,<sup>61</sup> where verbal aggression and verbally aggressive discipline was associated with child anxiety, depression, attention problems, and aggressive behavior based on parental report.

#### Children Aged 3 to 6 Years

Consistent with the reduced complexity of language in neglected or emotionally abused preschoolers,<sup>35</sup> mothers produced significantly fewer utterances than controls. Macfie et al<sup>43</sup> used the Story Stem Vignettes and found that neglected children portrayed their parents as responding less often to relieve distress. Similarly, Toth et al<sup>50</sup> reported that 14 neglected children with extremely low self-esteem had more negative maternal representations compared with controls, although less so than the physical abuse group. Mothers of neglected children with failure to thrive in the study by Pollitt et al<sup>48</sup> were less likely to relate to their children and were less affectionate than the control mothers, who used more positive verbal instruction, praise, and positive contact.

## Discussion

This review identifies emotional, behavioral, and developmental features in preschool children who were neglected or emotionally abused and characteristics of the negative maternal-child interactions (Tables 1 and 2). These features should alert social and health care professionals to children who warrant detailed evaluation and family intervention because the effect of early neglect and emotional abuse is profound. Lifelong consequences include physical and mental health problems; impairments in language, social, and communication skills; and severe effects on brain development and hormonal functioning.<sup>13</sup> At its worst, children develop symptoms simi-

lar to autism, such as stereotypical rocking and self-soothing,<sup>67</sup> as seen in institutionalized Romanian orphans,<sup>68</sup> many of whom showed serious attachment issues by the age of 6 years.

Early intervention has the potential to change children's lives.<sup>69,70</sup> A meta-analysis identified appropriate interventions and confirmed that behavioral programs that focused on maternal sensitivity were the most effective.<sup>71</sup> However, effective interventions are dependent on early recognition. It is especially important to identify negative aspects of caregiver interactions in the very young infant as the earliest signs of neglect and emotional abuse. Emotional and behavioral signs in infants were ill defined in the current scientific literature because the studies that looked at child features in infancy concentrated on older infants.

Practitioners working in this field need to have an understanding of attachment theory (eAppendix 10 in Supplement). The original concept was developed by Bowlby in the 1950s, extended by Ainsworth to develop the ABC model of attachment described in terms of security in the face of fear or normal separation, based on the child having developed internal working models of his or her relationship with the primary attachment figure.<sup>72</sup> This was expanded to include the concept of disorganized attachment (ABCD), where the parent was simultaneously the source of fear and comfort, leaving the child in a conflicted position.<sup>73</sup> Crittenden,<sup>74</sup> however, replaced the internal working models with the Dynamic Maturational Model of attachment, where strategies are seen in the context of processing both cognitive and emotional information received by the brain at a time of stress. There has been criticism of the explosion in the diagnosis of attachment disorder in recent years,<sup>75</sup> without using the international classifications from the *Diagnostic and Statistical Manual of Mental Disorders* (Fourth Edition, Text Revision). Many children who experience serious maltreatment may exhibit features related to transformations of the earlier disorganized attachment (oppositional or aggressive behavior toward adults) or sequels to their earlier maltreatment (lying, lack of remorse, or stealing). These behaviors are not aspects of attachment disorders.<sup>76</sup> This complexity highlights the need for young children with suspected neglect or emotional abuse to undergo a formal specialist assessment of their social and emotional needs. Children with deficits in speech and language development may over-

lap with autistic spectrum disorder.<sup>77</sup> However, unlike organic variants, the autistic traits seen in severe deprivation improved when children were adopted into caring families, particularly before age 2 years.<sup>78</sup> The capacity to empathize can increase through interaction with sensitive and attuned minds.<sup>79</sup> The hypervigilance, poor attention control, impulsivity, and problematic emotion regulation observed in other children may be a posttraumatic constellation; thus, neglect and family violence must be considered in the differential diagnosis of attention-deficit/hyperactivity disorder.

Although one would wish to describe the chronologic evolution of the features of neglect or emotional abuse from 0 to 6 years, studies<sup>34</sup> addressed different age bands and time points. For certain features, only single studies<sup>27,40</sup> could be included. Given the important role of fathers,<sup>80</sup> it was disappointing that all the included studies examined the mother-child relationship. Flourie<sup>81</sup> reported that children with highly involved fathers had fewer behavioral problems, higher educational achievement, and higher self-esteem and life satisfaction. We did not review the risk factors for neglect or emotional abuse (eg, domestic abuse, maternal substance misuse, and poverty); however, they featured in many included studies. A strength of this review is the number of large, high-quality case-control studies,<sup>29,39,42,44,52</sup> which were closely matched for relevant demographic features, potentially confounding neglect (eg, maternal educational level and socioeconomic deprivation).

Definitions of neglect vary, and emotional neglect and emotional abuse can be considered as part of a spectrum from the lack of attunement to persistent harmful carer-child interactions.<sup>82</sup> Although categories of abuse and neglect have their place and inform our understanding of the mechanisms of child maltreatment, social and health care professionals should be mindful that many children will be subjected to multiple forms of abuse and neglect simultaneously. We would caution against rigid categorization in practice and advocate that all suspected cases of maltreatment should have a developmental assessment, recording and observing behavioral and emotional difficulties, observing interactions between the child and their primary carer, exploring the parents' views of the child, and seeking information from others about solitary play, aggression, hostility, dependency on adults, and the child's popularity with his or her peers.

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