

## Chapter 6

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# Life stage: Early years

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### Key statistics

- Around 12.5% of toddlers are obese<sup>1</sup> and, although the number of obese children entering school has fallen, the percentage is still high at around 9–10%.<sup>2</sup>
- Around 90% of toddlers consume energy-dense snacks daily and 70% consume sugar-sweetened beverages.<sup>3</sup>
- One in eight toddlers are anaemic, with around 35% among minority ethnic children and white children from impoverished inner-city areas.<sup>4</sup>
- Vitamin D deficiency has a prevalence of around 12% with as many as 40% of young children having levels below the accepted optimal threshold despite early interventions such as Healthy Start.<sup>5</sup>
- Around one in four children have missed all or part of their MMR vaccination and are not therefore protected against measles, mumps and rubella.<sup>6</sup>
- Only two-thirds of young children are securely attached to at least one caregiver,<sup>7</sup> and around 80% of children who are abused have a 'disorganised' attachment.<sup>8</sup>
- By 3 years of age, children from poor families have heard 200,000 discouragements and 75,000 encouragements, while children from professional families have heard 80,000 discouragements and 500,000 encouragements.<sup>9</sup>
- Over half of the nursery-age children living in areas of disadvantage have language delay,<sup>10</sup> with evidence of as many as 70% of children experiencing such problems in some cities.<sup>11</sup>
- For every £1 spent on early years education, £7 has to be spent to have the same impact in adolescence.<sup>12</sup>
- The benefits of early intervention are significantly higher than the costs, with rates of return on investment significantly higher than those obtained from many other sources of public and private investment.<sup>13</sup>
- Just under half (42%) of children with a Child Protection Plan are under 4 years of age.<sup>14</sup>
- Over two-thirds of children killed at the hands of another person in England and Wales are aged under 5 years, with the parent being the principal cause of death in two-thirds of these cases.<sup>15</sup>
- Under-5 mortality in the UK is higher than other comparable Western countries with many of these deaths being in infants, and many also being preventable.<sup>16</sup>

## Overview

The preschool years, including both infancy (birth through to age 1 year) and toddlerhood (1 to 3 years), involve children undertaking a number of important developmental tasks relating to their physical development (e.g. establishing healthy patterns of eating and activity), social and emotional development (e.g. establishing a capacity for self-regulation via their attachment relationship to the primary caregiver) and language and cognitive development (e.g. early acquisition of both expressive and receptive language skills, and wider learning). *Fair Society, Healthy Lives*<sup>17</sup> suggested that in order to reduce future social and health inequalities we need to give every child the best start in life, and this reflects the view that **the origins of much adult disease lie in the 'developmental and biological disruptions occurring during the early years of life'**<sup>18</sup> and more specifically what has recently been referred to as **'the biological embedding of adversities during sensitive developmental periods'**.<sup>17</sup>

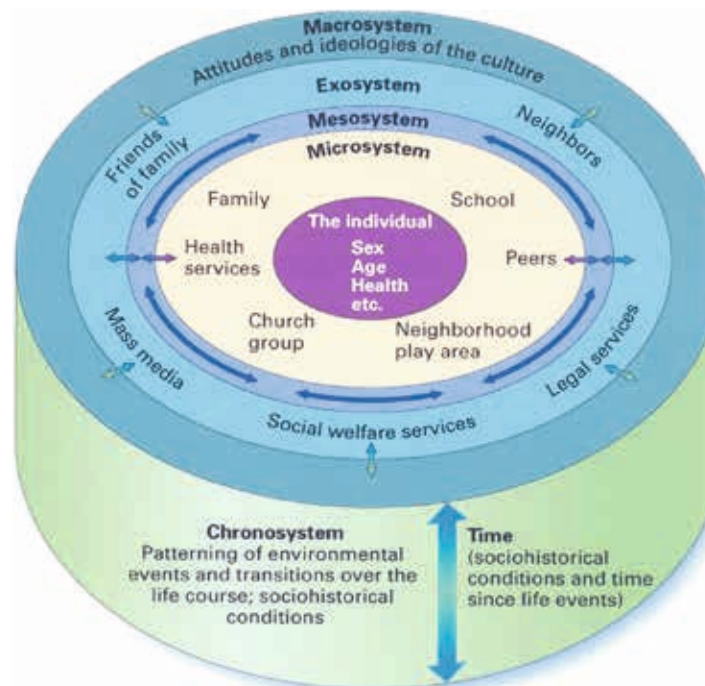
This chapter examines the evidence about the key aspects of development during the early years alongside the nature and prevalence of problems that can arise at this time, and the association between these problems and later child outcomes. The chapter also examines the key drivers of outcomes across the above three developmental domains, focusing in particular on factors at the level of the child, parent and wider ecological context, and what works to build resilience during the preschool years. Bronfenbrenner's Ecological Model<sup>19</sup> is a particularly useful frame of reference for this age group.

Bronfenbrenner's Ecological Model indicates the many aspects of the environment that can have an impact on the child, ranging from his/her immediate family, siblings, peers and school (Micro/Mesosystems) through to the wider environment including the neighbourhood, parents' work environment, extended family and mass media (Exosystem), and the wider environment beyond that including the socio-economic and political, cultural and legal contexts (Macrosystem). These factors can interact with each other (see Figure 6.1) and are also influenced by the Chronosystem which includes a range of sociohistorical patternings and conditions.

## Physical development

The early years are important in terms of building children's physical resilience. **Optimal nutritional intake (e.g. in terms of iron and vitamin D) alongside the development of healthy eating and activity patterns have been identified as key to building resilience and protecting against later chronic diseases.** Breastfeeding, for example, protects children from a range of later problems including reducing the risk of ear (otitis media) and lung infections, asthma, obesity and diabetes, sudden infant death syndrome (SIDS), dermatitis, gastrointestinal disorders (coeliac and inflammatory bowel disease) and leukaemia,<sup>20</sup> and may also have an impact on neurodevelopmental outcomes including intelligence.<sup>21</sup>

Figure 6.1 Bronfenbrenner's Ecological Model



However, iron deficiency anaemia may be one of the consequences of prolonged breastfeeding alongside an excessive intake of cow's milk and limited diet; around 30–40% of preschool children have iron deficiency anaemia.<sup>22</sup> In infancy and the early years, this is associated with a range of later problems including impaired psychomotor and/or mental development<sup>23</sup> and social emotional development.<sup>24</sup> Vitamin D deficiency may be another consequence in addition to the reduced levels of exposure to sunlight that many children experience as a result of the increased time spent indoors; it has a prevalence of around 12% with as many as 40% of young children having levels below the accepted optimal threshold.<sup>25</sup> Vitamin D deficiency impacts on children's physical development, and is associated with adverse outcomes such as rickets, hypocalcaemic convulsions and motor delay.<sup>26</sup> This has occurred despite the implementation of a targeted approach to supplementation (e.g. Healthy Start vitamins), and suggests the need for a universal approach.<sup>27</sup>



**Food Queue: A section from a sculpture by a young person representing her journey from the streets to Kids Company.**

Source Kids Company

Recent research also shows that many children consume inappropriate foods during the preschool years, many of which are introduced during infancy, and which are in excess of their energy requirements.<sup>28</sup> While the number of overweight children entering Reception classes at age 4 years appears to be levelling off,<sup>2</sup> the overall prevalence remains high at around one in ten children.

It is also of concern that children are less physically active than previously at a time when there is excessive energy intake. Scottish children as young as 3 years, for example, have been found to display a predominantly sedentary lifestyle<sup>29</sup> which is well below the recommended level.<sup>30</sup> A recent study of Dutch families showed that one in ten 2–4 year olds had a television in their bedrooms, and one-fifth of parents reported having little time to go out with their child.<sup>31</sup>

The neighbourhood environment in terms of safe play areas and traffic control as well as provision of appropriate sports and leisure facilities are examples of the exosystem influences on physical development. At the macrosystem level, there is also a growing recognition that marketing of foods high in sugar, fat and salt to very small children needs to be appropriately monitored and controlled.<sup>32</sup>

### Injury

Unintentional injuries are one of the major causes of both morbidity and mortality during the early years, with a significant proportion (around 14.5%) of attendance at Accident and Emergency departments being children under 10 years of age,<sup>33</sup> with a 6% increase between 2007/08 and 2009/10.<sup>34</sup> Hazard surveillance and home safety schemes have been shown to have a significant impact on injury reduction in young children,<sup>35</sup> and local authorities have an important role to play in ensuring that public housing allocated for families with young children is fitted with appropriate safety equipment, and that injury hazards are minimised.

Intentional injury in the UK has increased over the past 5 years<sup>6</sup> and is linked with levels of violence in society as a whole. When levels of stress are high due to inter-parental conflict, lack of basic resources or unemployment, for example, this lowers the threshold for abuse (see the section on 'toxic stress' below).

### Protection from infectious disease

Immunisation is one of the most effective public health interventions. High rates of immunisation are necessary to protect individuals and the community from the diseases against which vaccination has been developed. Public confidence in the system was undermined in the 1970s, and again in the late 1980s, when concern was raised about the potential harms of whooping cough and MMR immunisations respectively. This led to excessive cases of both pertussis and measles, and a number of deaths.

One of the key issues in terms of increasing protection from infectious disease is to ensure that the most socially vulnerable are fully immunised<sup>36</sup> (e.g. looked-after children

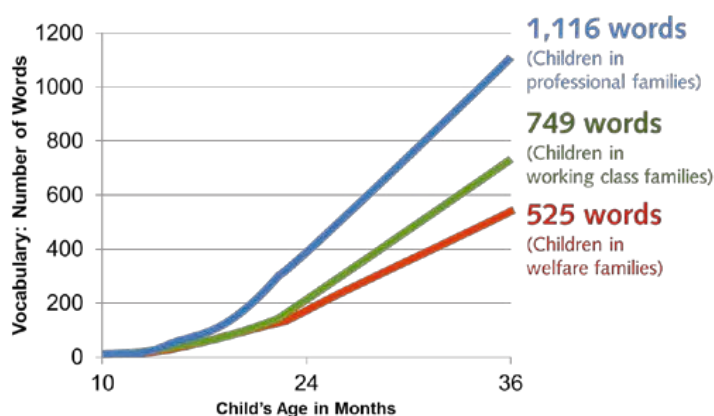
and young people have substantially lower immunisation rates<sup>37</sup>), and public confidence remains high.

### Language and cognitive development

The brain is highly sensitive during the early years in terms of the development of a range of skills including language and cognition. The preschool years are as such an optimal time for the development of early receptive and expressive language skills, and recent research suggests that **the age of functional language acquisition impacts on not only later reading and language behaviour, but also the 'corresponding neurocircuitry that supports linguistic function into the school-age years'**.<sup>38</sup>

Figure 6.2 shows the wide disparity in children's exposure to words across socio-economic groups during the first three years of life that was identified in one study. Early exposure to language-rich environments and reading schemes at home and in early years settings have been shown to enhance language development.<sup>39</sup>

**Figure 6.2 Word exposure at 3 years by socio-economic group (adapted from Hart and Risley)**



A number of longitudinal studies have also shown that early cognitive ability influences later educational outcomes, with evidence to suggest that assessments of ability at 22 and 42 months predict educational outcomes at age 26 years.<sup>40</sup>

### Socio-emotional development

One of the developmental tasks of the early years is the capacity for emotional regulation, and this lays the necessary foundation to enable children to negotiate later developmental tasks. **Attachment is a significant bio-behavioural feedback mechanism that evolves during the first and second years of life in response to early parenting, and plays a key role in the development of emotional regulation both during the early years<sup>41</sup> and across the life span.**<sup>42</sup> Evidence from a number of longitudinal studies has demonstrated that securely attached children function better across a range of domains including emotional, social and behavioural adjustment, as well as peer-rated social status and school achievement,<sup>43</sup> in addition to having better physical outcomes.<sup>44</sup> More recently,



disorganised attachment has been found to be a strong predictor of later psychopathology.<sup>45</sup>

**Toxic stress, which is characterised by the infant or toddler's prolonged exposure to severe stress that is not modulated by the primary caregiver, who may be experiencing a range of problems (e.g. poverty, mental health problems, domestic violence and substance/alcohol dependency), has been identified as having a significant impact on the young child's rapidly developing nervous system, development, health and wellbeing across the life span.**<sup>46</sup>

This form of stress leads to atypical parent–child interaction, which can represent a significant form of early emotional abuse and neglect.<sup>47</sup> **Recent research suggests that decision making in terms of the need for the removal of children is not currently being undertaken in accordance with children's developmental needs.**<sup>48</sup>

The exo and macrosystems are also important in relation to children's social and emotional development. For example, the schools and neighbourhoods in which children grow up have been identified as playing a significant role in children's later development, with evidence to suggest that factors such as chronic noise, poor quality housing, lack of access to natural environments, and traffic density and flow can all have an impact on the wellbeing of young children.<sup>49</sup>

## The caregiving environment

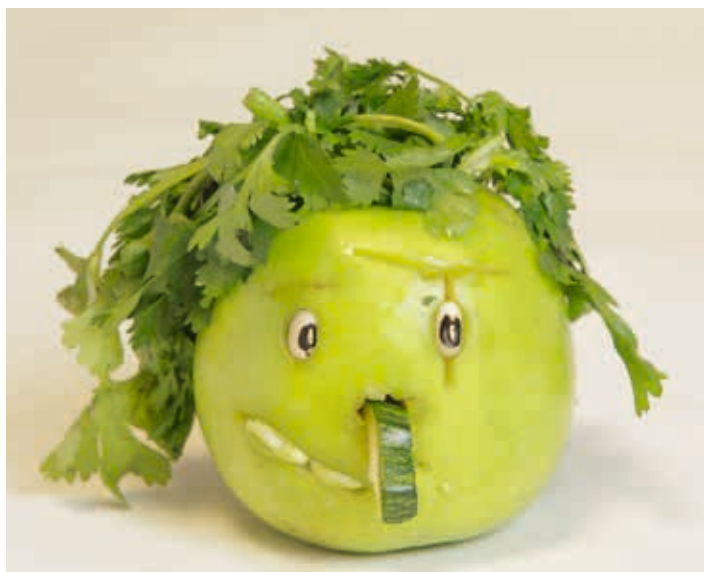
Evidence from diverse disciplines has shown that the early caregiving environment, and in particular parenting, mediates around 50% of the impact of many of the contextual factors (e.g. poverty) that influence children's early development,<sup>50</sup> in addition to having direct effects on children's wellbeing.

In terms of children's physical development, parental feeding practices affect children's food preferences and their

regulation of energy intake,<sup>51</sup> and early dietary patterns that are established during weaning may persist into the second year of life and beyond. Parenting styles and feeding practices such as family eating patterns (shared or separate meals), parental control of overeating (pressure, restriction and monitoring), emotional feeding (excessive feeding to calm a child) and instrumental feeding (use of food as a reward) are all associated with childhood obesity.<sup>52</sup> Likewise, parental activity levels and sedentary behaviours have also been shown to predict activity levels in children.<sup>53</sup>

Parenting is also one of the key factors influencing children's early socio-emotional development. For example, **parental sensitivity<sup>54</sup> and parental mind-mindedness<sup>55</sup> are significant predictors of infant attachment security.** Research has also demonstrated a clear link between later parenting practices (e.g. characterised by harsh, inconsistent discipline, little positive parental involvement with the child, and poor monitoring and supervision) and child antisocial behaviour.<sup>56</sup> **Positive, proactive parenting (e.g. involving praise, encouragement and affection) is strongly associated with high child self-esteem and social and academic competence, and is protective against later disruptive behaviour and substance misuse.**<sup>57,58</sup>

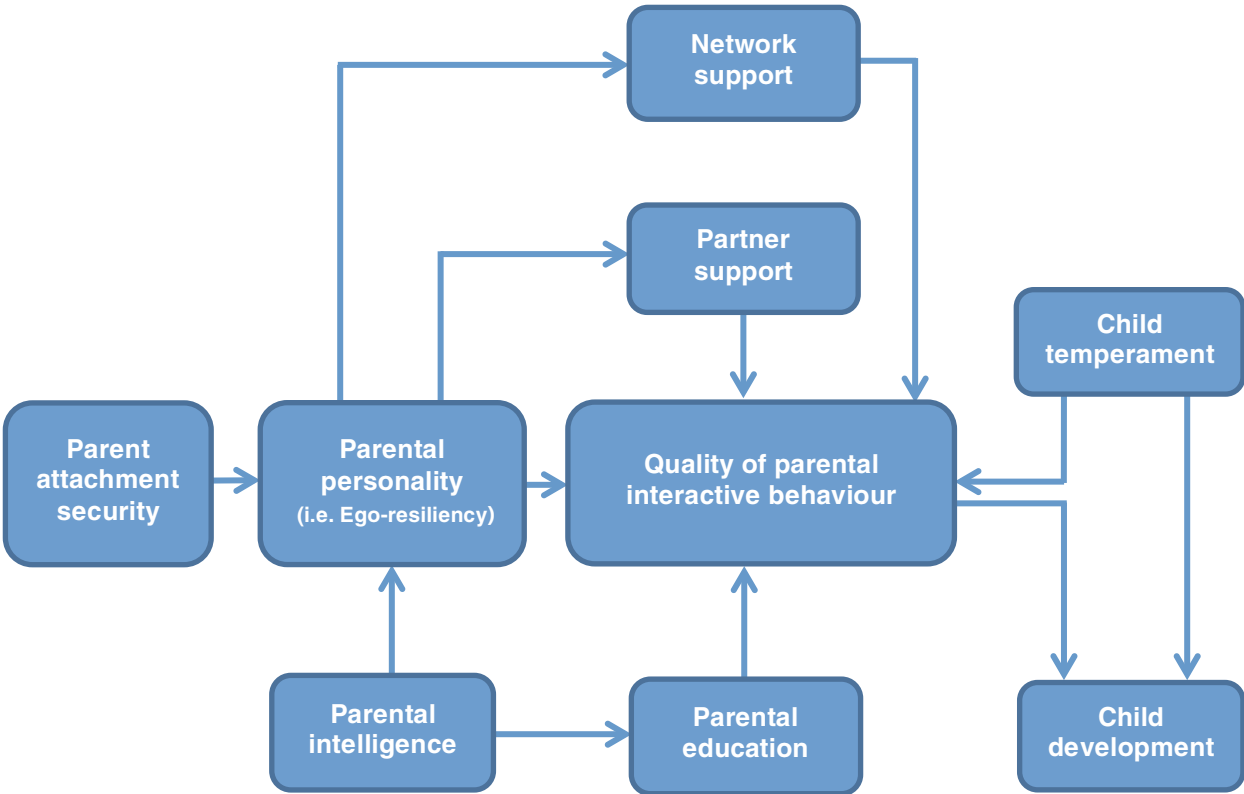
Parental sensitivity, engagement and verbal stimulation in interaction have also been shown to be important in terms of early speech, language and learning, with such sensitivity and engagement being more likely to be compromised in parents who are poor, less educated and know less about parenting.<sup>59</sup> Aspects of early language development such as word learning are also improved where parents engage in joint attention activities with their children,<sup>60</sup> and where the caregiver is responsive in terms of the attention and vocalisation of the child.<sup>61</sup> **Recent research has also found that indicators of household chaos and in particular household disorganisation accounted for significant variance in expressive and receptive language at 36 months** (after controlling for 13 covariates including maternal education and poverty).<sup>62</sup>



***Vegetable Monster: Created by children at a Summer Holiday Healthy Living Workshop to learn about, and conquer fears over, vegetables.***

Source: Kids Company

Figure 6.3 Pattern of relations among parental, contextual and child characteristics; quality of parental behaviour; and child development. Adapted from Hedwig et al 2002<sup>63</sup>



Factors that moderate the impact of parenting

A range of factors have been identified as influencing parents’ capacity to parent. In addition to the cultural and socio-economic factors referred to earlier in this chapter (e.g. poverty and parental education), a number of aspects of the parent’s environment (e.g. social support and partner support) and internal functioning have been identified as also playing a role. These are captured in Figure 6.3 which depicts the pattern of relations among parental, contextual and child characteristics, quality of parental behaviour and child development.

At a socio-political level, poverty is one of a number of factors (including young maternal age, family size and low maternal education) that can have both a direct influence on children’s wellbeing via the physical environment (e.g. housing), but also an indirect impact in terms of its influence on the parenting that children receive. **Poverty has significant consequences in terms of both the physical health of preschool children<sup>64</sup> and their wider functioning (e.g. language development).**<sup>65</sup> One study, for example, showed that by 3 years of age, children from poor families had received 200,000 discouragements and 75,000 encouragements, while children from professional families had received 80,000 discouragements and 500,000 encouragements.<sup>66</sup>

In terms of the internal functioning of the parent, their own attachment status predicts the infant’s likelihood of being securely attached,<sup>67</sup> and the parent’s ability in relation to affect

regulation (i.e. their ability to manage stress, anger, anxiety and depression) also has a significant impact in terms of the development of mental health problems and psychopathology in the early years.<sup>68</sup> More generally, **factors such as severe mental illness,<sup>69</sup> substance dependency<sup>70</sup> and domestic violence<sup>71</sup> have all been identified as having a significant impact on parenting during this period.**

A number of factors at the level of the child have also been identified as moderating the impact of the early caregiving environment, and Figure 6.4 demonstrates the potential interaction of competencies and vulnerabilities at the level of the parent and the child in terms of later outcomes, with the poorest outcomes occurring where vulnerable children are parented by vulnerable adults.

Figure 6.4 Predicted infant/preschool child outcomes without intervention. Adapted from Weatherston and Tableman (2002. p. 5)<sup>72</sup>

Parent	Infant/preschool child	
	Competent	Vulnerable
Competent	Optimal	Poor
Vulnerable	Poor	Very poor

A further area in which there has been considerable interest is children's temperament, with some evidence about the role of early temperamental difficulties (e.g. infants/toddlers who are highly negative and reactive or behaviourally inhibited) in modifying the impact of the environment (e.g. parenting).<sup>73</sup>

However, overall the direction of causality remains inconclusive with some evidence to suggest that infants with more extreme temperamental characteristics (e.g. very low on irritability) may be less affected by the environmental input than infants with more moderate levels of such qualities.<sup>74</sup>

**More recent research has supported the concept of 'differential susceptibility', which suggests that children's genotypes interact with their caregiving environment to influence the impact of the latter.** For example, gene–environment studies show that children with a short 5-HTTLPR allele have very unfavourable outcomes when parenting is compromised, but that these children also have significantly better outcomes than usual when parenting is better than average.<sup>75</sup>

### Effective support for optimising health and development during the early years



**Smiling Table: A mood table to show what children love to do.**

Source: Kids Company

The Healthy Child Programme – Pregnancy and the First Five Years of Life<sup>76</sup> recommends a range of evidence-based interventions that are aimed at building resilience in early childhood across all developmental domains. The delivery of the programme is based on a proportionate universal approach that involves adapting interventions according to risk factors present in the community, with the aim of achieving equitable outcomes for all children.

### Physical

While the evidence concerning the causes of childhood obesity is mixed, there is increasing consensus that primary interventions that address feeding styles and activity levels in early life are important for later weight status and health outcomes, and that parental practices have a central role in reducing children's exposure to obesogenic environments.

**The importance of intervening in infancy and toddlerhood to prevent obesity has been highlighted by recent research,** which suggests the potential benefit of multi-component behavioural interventions in preventing the development of obesity in infants and toddlers.<sup>77</sup> Health visitors and early years education workers have a key role in the delivery of such interventions, particularly in terms of supporting parents to provide the optimal nutritional intake during the preschool years (e.g. highlighting the need for dietary supplements during breastfeeding and early childhood). Enhancing physical activity and maintaining progress on immunisations, as described in other chapters, are also fundamental.

### Language

Evidence about the importance of the quality of the home learning environment and early preschool education,<sup>78</sup> particularly for children living in socio-economically deprived circumstances, has identified the need for intensive early intervention. Possibly one of the most successful early intervention programmes targeting disadvantaged children is the HighScope Perry Preschool Program, which involves 'active participatory learning' aimed at helping children to excel in language and cognitive learning and promoting independence, curiosity, decision making, co-operation, persistence, creativity and problem solving.<sup>79</sup> A longitudinal study found that this way of working with children resulted in them having higher earnings at age 40, and being more likely to keep a job, less likely to commit a crime and more likely to have graduated from high school than adults who did not receive this preschool programme.<sup>80</sup> A range of UK-based programmes aimed at improving the early home learning environment (e.g. Bookstart; Campaign for Learning; Home Start's Listening and Learning with Young Children; I CAN; Newpin's Family Play Programme; One Plus One's Brief Encounters; PAFT; PEAL; PEEP; PICL; SHARE; and Thurrock Community Mothers) were evaluated as part of the Early Learning Partnership Project. These programmes were found to be beneficial in terms of improving the parent's relationship with the child and opportunities for children to learn from day-to-day activities.<sup>81</sup>

### Case study

#### Stoke Speaks Out – Stoke-on-Trent City Council

Speech and language delay has a direct impact on children's development and educational outcomes, health and wellbeing.

Stoke Speaks Out is tackling the high incidence of language delay identified in young children across Stoke-on-Trent through a preventive, multi-agency approach. In 2002 local studies identified that 64% of children were entering nursery with significantly delayed language skills. By 2010 this was reduced to 39% of children.

A multi-agency training framework ensures joined-up messages and thinking, and shared knowledge focusing on early attachment, the role of the carer, child development and strategies to support development. The training has reached over 4,500 practitioners working with children and families. They in turn have adapted their practice to ensure that the needs of families and children are met.

In the long term this will support children to reach their full educational potential and will benefit their mental health, career prospects and their own parenting skills.

### Socio-emotional

A range of methods of working have been identified that promote children's early resilience by helping parents to provide parenting that supports the development of optimal socio-emotional regulation. The Healthy Child Programme recommends the provision of methods of supporting early parenting (e.g. skin-to-skin care and infant carriers)<sup>82</sup> within the context of universal services (e.g. midwifery and health visiting), and the use of such universal-level services to identify families who are in need of additional support, using techniques such as ante and postnatal promotional interviews.<sup>83</sup> It also recommends the use of a range of targeted methods of working to promote early attachment and positive parenting methods more generally. 'Attachment-based' interventions include methods of working that focus directly on changing parental behaviours (e.g. using techniques such as video-interaction guidance),<sup>84</sup> or that operate indirectly in terms of changing parental behaviours by intervening to change parental capacity for affect regulation (e.g. mindfulness-based programmes such as Parents Under Pressure)<sup>85</sup> or parental internal working models (e.g. parent-child psychotherapy).<sup>86</sup> A review of attachment-based interventions showed that they are effective in improving parental sensitivity and infant attachment security.<sup>87</sup> There is also consistently strong evidence to support the use of interventions such as home visiting programmes (e.g. Family Nurse Partnership) during the perinatal period.<sup>88</sup>

Brief, group-based parenting programmes that are focused primarily on enabling parents to support their children's growing independence using positive methods of discipline and good supervision have been shown to be effective in the short term in improving both parental psychosocial functioning<sup>89</sup> and the emotional and behavioural adjustment of young children.<sup>90</sup>

### What we still need to find out

There has been rapid progress in our knowledge about the importance of the preschool years in terms of building early resilience, but there is still more that we need to know about a number of issues:

- Research is needed that involves the application of a Common Practice Elements Framework<sup>91</sup> to identify some of the common elements of the different programmes that are currently used to target a range of outcomes during the early years. For example, many programmes that target both early language and attachment focus on improving parental sensitivity and interaction with the child.
- Although we now recognise the importance of toxic stress<sup>46</sup> for young children and the various components that contribute to such stress, further work is needed in terms of practical ways of monitoring the levels of toxic stress to which children are exposed in the UK.
- Further UK-based research is needed to identify effective methods of preventing obesity in infants and toddlers.
- More research is needed to increase our understanding about the concept of differential susceptibility<sup>75</sup> and what other factors in addition to genotype make some children more resilient to early adversity.
- Our knowledge about 'what works' in preventing abuse during the preschool years is still insufficient,<sup>92</sup> and there is a need for further research about effective methods of working and supporting high-risk pregnant women and vulnerable mothers of babies and toddlers.



## Key messages for policy

- The early years lay the foundations for later resilience in terms of key aspects of children's development, and investment during this period therefore has considerable potential cost benefits.
- Investment should be made in both universal and targeted services as recommended by the Healthy Child Programme, which should be commissioned *in full*. Where targeting has not made an impact (e.g. vitamin D supplementation), universal approaches should be considered if such an approach is also cost-effective.
- Universal services such as midwifery and health visiting provide key opportunities to identify families in need of additional input.
- Improved training and competence of the early years workforce in evidence-based child health and development interventions are needed to increase the life chances of disadvantaged children.
- Early years services should focus on reducing the toxic stress experienced by many disadvantaged children.
- There is a need for an increased focus on improving the attachment security of all children, and improved decision making is required to identify children about whom there are child protection concerns to prevent disorganised attachment.
- The primary prevention of obesity should begin in infancy with the delivery of interventions aimed at improving the eating and activity patterns of young children.
- The early learning and language of disadvantaged children should be targeted using intensive, high-quality home and centre-based interventions.
- Improvement is needed in information sharing across key groups of practitioners (e.g. midwives, health visitors and early years workers) and support should be provided for continued and rapid development of child health information systems.
- Continued integration is needed between the Department for Education and the Department of Health on the Healthy Child Programme and Early Years Foundation Stage across the early life course, combining them at key points, as with two-year assessment.
- Sure Start centres should focus on bringing together as many aspects of early years provision as possible, e.g. antenatal care. Centres should increasingly focus on improving Ofsted scores where these are poor.

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