SMALL TALK

Identifying communication problems in maltreated children: Literature Review

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Australasian Speaking Tour

Transforming Childhood Trauma: A neuroscience approach to healing and recovery

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Small Talk

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Abstract

The Small Talk project was a research project that aimed to ascertain if it was possible to identify which children, already vulnerable due to their experiences of abuse or neglect, would benefit from a speech, language and hearing assessment. In particular, the project aimed to develop a problem-identification tool for use by practitioners in child and family services who were not speech pathologists to identify possible communication problems of children who have experienced maltreatment. This literature review accompanies the Small Talk Report which describes the research project in more detail (Frederico, Jackson, Black, Joffe, McConachy, & Worthington, 2014).

After defining some of the key terms, this review summarises the literature in relation to healthy communication in children including a neurodevelopmental and attachment perspective. There is discussion regarding Australian Aboriginal children and language as important contextual information. Following on, there is a description of some of the common speech, language and hearing problems experienced by children. There is discussion of the prevalence of communication problems, the multiple consequences that can arise and the speech pathology and audiology service system response available.

After a description of the child protection and out-of-home care system, there is a description of a small number of studies on the prevalence of speech, language and hearing problems for children in this system. There is exploration of the research regarding the impact of child maltreatment on communication difficulties and regarding the literature on communication difficulties for Aboriginal children.

This review explores the literature on attempts to identify children with communication difficulties, including a detailed examination of screening tools and some cautions regarding their utility and effectiveness.

Finally, this literature review considers the different assumptions that underlie the Small Talk project and whether they are supported or challenged by the available literature.
## Contents

*Acknowledgements*  
*Abstract*  
*Introduction*  
*Definitions*  
*Healthy communication*  
*Speech, language and hearing problems*  
*Speech, language and hearing problems in children who have experienced abuse and neglect*  
*Timely recognition of children with communication difficulties*  
*The premises underlying the Small Talk project*  
*Conclusion*  
*References*  
*Appendix One: The typical stages of a child’s language development:*
Introduction

This literature review accompanies a report on the findings from the Small Talk project (Frederico, Jackson, Black, Joffe, McConachy, & Worthington, 2014). The Small Talk project aimed to develop a means of identifying which children, who had experienced abuse and neglect, would most benefit from a speech, language and hearing assessment to facilitate timely services and interventions to redress or prevent communication difficulties. In particular the project aimed to develop a problem-identification tool for use by practitioners in child protection, out-of-home care, family services, Indigenous services and therapeutic services to identify concerns about the development of communication in children who have suffered maltreatment.

An initial literature review was undertaken in the early stages of the Small Talk project to assist in scopeing the issues and providing guidance in the development of the pilot tool. The literature review in this document is the culmination of both the literature that informed the project along the way and a more recent review to help interpret the findings from this study, particularly to help consider implications for practice.

This literature review begins with an overview of the development of communication for children in general and what can happen when children experience abuse and neglect. It brings together theory and research from speech pathology, neuroscience, psychology and social work. Given most of the children in the child protection population have experienced trauma and disrupted attachment, trauma and attachment theories were also explored, especially in relation to the development of communication. Due to the over-representation of Aboriginal children in the Australian child protection and care system (Australian Institute of Health and Welfare [AIHW], 2013), this review also considered research regarding speech, language and hearing for Aboriginal children.

Finally, this review examines the available screening tools and other approaches, considered potentially useful in identifying speech and language difficulties in children and the implications of this for the development of the Small Talk problem-identification tool.

Definitions

Normal communication includes all means by which information is transmitted between the sender and the recipient. The means of communication are verbal and non-verbal; oral and written; formal and informal; or intentional and unintentional. Human beings, unlike other animals, mainly communicate using a system of symbolic communication referred to as language, which may be spoken, written, or signed. (Ndung’u & Kinyua, 2009, para. 1)

Communication is the process by which we share thoughts, feelings and ideas through verbal, gestural and written modes. Successful speech and language development is fundamental to enabling individuals to effectively live in society. It is also fundamental to how children grow. Hearing and auditory processing are also important in the process of communication.

There are a number of key terms with particular meaning in the field of speech pathology that are relevant for this project. These include: receptive language (understanding words and sentences within language); expressive language (producing words and formulated sentences to make comments and share thoughts, including oral language or verbal communication); speech (producing and coordinating speech sounds including consonants, vowels and syllables, including the spoken word); pragmatics (rules of talking and communicating with others); discourse and narratives (having conversations, relating or talking about events and telling a story) and phonological awareness (recognising and manipulating different sounds in words; e.g. rhyming and identifying the particular sound that is at the beginning of a word) (Nelson, Nygren, Walker, & Panoscha, 2006; Law, Boyle, Harris, Harkness, & Nye, 1998).

The actual language, such as English, French or Watha Wurrung, is another important element to consider in communication and is particularly relevant for Aboriginal and Torres Strait Islander children and children from culturally and linguistically diverse backgrounds.

Following is a more detailed description of some of the specific terms that are at the centre of understanding speech and language:

Receptive language is the ability to understand what is being said and requires attentiveness, concentration, comprehension and timely processing of information. This is where the child’s ability to hear auditory signals is key. Integral to a child’s ability to understand and respond to communication is his or her ability to hear clearly and to process those sounds so they make sense, referred to as auditory processing.

Expressive language is the ability to convey thoughts, feelings and ideas through spoken or written words. The emphasis in the Small Talk project, especially given the young age of the children, is on oral language.

Speech relates to sounds used to convey language orally, including fluency and voice characteristics (such as pitch and volume) and requires a coordination of breathing, vocal chords and the muscles of the mouth and tongue. Voice adds a unique quality to a person’s speech that can be recognised by family and friends over distance or on the telephone (Angell, 2009). Voice can add an element of emotion to a speaker’s message that sometimes words fail to convey.

Pragmatics relates to the ability to use language appropriately, including the quality and quantity of information provided and how relevant that may be. As such it requires awareness of the context and encompasses appropriate use of non-verbal behaviours such as eye gaze and facial expression, as well as conversational skills such as turn-taking.

Phonological awareness, which begins pre-literacy, encompasses skills at a sentence, word and syllable level such as identifying rhyming words and sound awareness. It includes the ability to discriminate, identify and manipulate sounds in words (Owens, 2012). A typically developing 4-year-old child can discriminate words in sentences, and syllables in words, and be familiar with rhyme. They will usually have an awareness of books and print and have some knowledge of the alphabet (Hulitt, Howard, & Fahey, 2010). Once at school children learn to recognise letter names and the sounds as they progress into middle school, and reading becomes more fluent as word recognition improves.
Healthy communication

Development of communication skills

A child’s budding ability to express a thought through words is a breathtaking feat of the human mind. (Kuhl, 2010, p. 715)

Across different cultures, language acquisition occurs naturally over time, provided the interactions between the child and parent or caregiver are sufficiently frequent, nurturing and responsive. We are all born with the genetic potential for language (Perry, 2002). However, although there is evidence that human infants are born with some innate abilities for language (Chomsky, 2006), the development of language primarily occurs within a social environment involving interactions with family, carers and others from birth (Perry, 2002; Voeller, 1998).

The rate at which children acquire language varies considerably. This adds complexity in defining what is normal and what is of concern. Speech and language development is closely linked with other aspects of child development, such as cognitive, social, emotional and behavioural skills and these in turn have an impact on speech and language development (McKone, Crookes, & Kanwisher, 2009; Carpenter, Pennington, & Rogers, 2002; Clifford & Dissanyake, 2008). Despite the natural variation in acquisition of language, there is clear evidence of the crucial period in early childhood for language development that is consistent with the general development of the brain (Sakai, 2005).

Research has shown that young infants attend to faces, voices and language from birth (McKone, Crookes, & Kanwisher, 2009; Voeller, 1998). There is evidence that newborns show a preference for the language of their mother compared to other languages, suggesting that the child’s brain was being attuned to a particular language in utero (Voeller, 1998). Infants have abilities such as recognising facial expressions and making eye contact which help in their development of joint attention, participation in a shared activity, display of affect and non-verbal communication (Carpenter, Nagell, Tomasello, Butterworth, & Moore, 1998). These pre-verbal factors are part of the infant’s development of language and social skills and are elements of successful communication (Barbaro & Dissanyake, 2009; Carpenter, Pennington, & Rogers, 2002; Clifford & Dissanyake, 2008).

The first attempts at communication by an infant occur through the gestures, facial expressions, sounds, crying, wriggling and other antics that bring food, comfort, attention and the presence of others (Stien & Kendall, 2004). Early on, infants are able to recognise important sounds, such as the voice of their mother or other carers. The baby’s first smile is described as the first developmental milestone in reciprocal communication (Taylor, 1999).

The healthy infant begins to babble approximately between the ages of six to eight months with an increasing number of sounds (Sakai, 2005; Voeller, 1998). From about the age of eight to ten months, the infant is usually able to identify and understand certain words. Word production in terms of single words commonly emerges at 12 to 20 months. At approximately 18 months, the child begins to use two-word phrases. Beginning at around two years of age, the child can use multiple words, albeit in short sentences. Between this age and the age of four years children demonstrate an increasing understanding and usage of grammar. “Within the first 18 to 24 months of life, most children master the rudiments of language and, over the next two years, evolve into expert speakers” (Voeller, 1998, p. 769). ‘True’ speech begins at approximately 12 months of age when a child begins to say words (McLeod & Bleile, 2003).

The early development of communication and social skills in toddlers happens primarily when they play one-on-one with their parents or caregivers (Smiley & Greene, 1995; Vygotsky, 1978). Their contact gradually begins to include play with other children, and these interactions form an important part of early communication and social development (Nicolich, 1977). The capacity for the child to label internal states is a critical stage of development. This is when children learn to put words to physical and emotional feelings. By 28 months of age, the majority of children master verbal labels for perception, physiological states, volition and ability. More than half the children at this stage discuss emotions, moral conformity and obligation (Ciccetti, Toth, & Bush, 1988). The age from 18 to 36 months is when learning syntax (ability to organise words into meaningful sentences according to grammar rules) flourishes (Kuhl, 2010).

At the age of three years and onwards, children are more able to actively use language in order to understand the world around them. They want to know ‘how’, ‘when’, ‘where’, ‘who’, ‘what’ and ‘why’ (Stien & Kendall, 2004). In early childhood, children learn language primarily through informal everyday exposure in an auditory form. Older children continue to learn language informally but at school age are exposed to more formal education and in other formats, such as written language (Voeller, 1998). By school age, individual differences in the number of words a child can use are related to the general intelligence and other linguistic and cognitive abilities, such as reading comprehension (Huttenlocher, Haight, Bryk, Seltzer, & Lyons, 1991). Studies have found that language competence is strongly related to developing literacy skills (Larney, 2002; Snowling, 2005; Sylvestre & Mérette, 2010).

The neurodevelopment of communication

We are in a nascent stage of understanding the brain mechanisms underlying infants' early flexibility with regard to the acquisition of language – their ability to acquire language by eye or by ear, and acquire one or multiple languages – and also the reduction in this initial flexibility that occurs with age, which dramatically decreases our capacity to acquire a new language as adults (Newport, 1990). The infant brain is exquisitely poised to “crack the speech code” in a way that the adult brain cannot. (Kuhl, 2010, p. 714)

The human brain is an incredibly complex structure comprised of 100 billion neurons and trillions of synaptic connections. As children are exposed to new experiences, new synaptic connections between neurons are created (Perry, 2002). All sensory information – such as sounds, sights, tastes, smells, touch, movement and balance, initiate various interactions that alter the neurochemistry and architecture of the developing brain in young children. The more frequently a pattern of these sensory signals occurs with other sensory signals, such as hearing certain words and seeing certain objects (matching the word with the object), the stronger the related synaptic connections become. This creates a template for interpreting new information, such as new words (Perry, Pollard, Blakley, Baker, & Vigilante, 1995).

The infant is typically thrilled with her new abilities to set a goal . . . and carry out the action needed to reach it . . . Over and over again, desire and emotion get transformed into action, stimulating and reinforcing pathways linking the emotional, cognitive, and motor systems. These multiple circles of communication along with expanding sequences of action and reaction, in turn, build neural connections throughout the entire brain. (Stien & Kendall, 2004, p. 50)

Unless there is a particular genetic disorder, we are born with the genetic potential to learn any language. As the child begins to hear words spoken, connections are made between
the sound of that word, the sounds of the voice, the visual representation of the object and its environment, the touch of the object, any associated taste, any associated movement and any associated smell. These associations become integrated and the child recognises the look, sound, smell, touch, taste and movement associated with this object and its context. This enables the child to learn a range of new tasks that require integration of sensory information such as toilet training. The speed in which speech and language development occurs in the healthy young child is unparalleled at any other time in human development, as is the case for many aspects of development occurring whilst the brain is growing in size and complexity as portrayed in Figure 1 from Sakai (2005).


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Note. Human brain weight is presented as a function of age, where 100 in the ordinate corresponds to the mean adult value. Approximate times of milestones in normal speech development are also indicated.

The fundamental building blocks in the brain, such as neurons, glial cells and synaptic connections, are mostly created in utero and in the first couple of years of life. When neurons are first created, they are not specific to any area or function. They gradually migrate to particular areas of the brain and specialise or differentiate to undertake specific functions. If neurons are not used because they do not receive certain stimuli then they will naturally die. This is a healthy part of development and indicates the use-dependent nature of brain development. For example, we do not need to continue the ability to speak every possible language and so consistent with the ‘use it or lose it’ principle, what we do not use, we lose. Similarly, if synaptic connections form through one or two exposures to a particular experience but that experience does not recur with sufficient repetition then those connections will be reabsorbed. This is relevant as much to speech and language as it is to other aspects of development (Perry, 2002).

Different structures in the brain are generally responsible for different functions, although interconnected through a complex web of neural networks. For example: the cortex is primarily involved in abstract and concrete thought, morality, mathematical ability, sense of time, self-awareness, executive functioning, and speech and language; the limbic system is primarily involved in functions related to attachment, other forms of relationships, affect regulation and aspects of emotion; the diencephalon has a role in fine and gross motor skills, sleep, appetite and sensory integration; and the brainstem has a role in heart rate regulation, blood pressure, temperature and arousal states (Perry et al., 1995). These are all interconnected both in function and in neural systems. Yet understanding the areas primarily involved in mediating certain functions such as language and associated tasks, such as abstract and concrete thought, emotions and capacity for relationships can be helpful when considering implications for the child and for intervention.

By four years of age, the average child's brain is 90 percent the size of the adult brain and has become highly organised, albeit with more organisating to do (Perry, 2004). This provides insight into the rapid development that occurs in these early years. In order to develop so quickly, the brain is organised to change or literally ‘learn from experience’ as efficiently as possible. When such day-to-day experiences have been positive and repetitive this has led to massive change and growth in the child's brain and in their abilities. For example, the leap from not being able to move independently to the running, hopping and skipping of a four-year-old is enormous. So also is the transition from ‘googing and gaaging’ of the infant who is living in the moment to the sentences of a four-year-old thinking about the future, such as “Why do I have to go to kinder tomorrow?”. However, as will be discussed later, this gift of learning from experience also sets a child up for substantial harm if that repetitive experience is characterised by chronic neglect or trauma.

In ways not yet understood, activation of neural networks – chains of neurons – allow us to think, feel and act. It is our brain which allows us to laugh, cry, hope and act in humane ways. (Perry, 2002, p. 81)

Although the cortex is the area most implicated in speech and language there are a number of structures and systems in the brain involved in various language functions. It is well documented that language functions are lateralised to one hemisphere of the brain, usually the left hemisphere, especially for those who are right-handed (Voeller, 1998). However, there is growing evidence that many aspects of language relate to both hemispheres (Price, 2010).

Two areas commonly identified as important for language are the Broca’s area in the frontal cortex (e.g. has a role in speech and written expression including generating words to match our internal experience) (Hull, 2002), and Wernicke’s area in the temporal cortex (e.g. has been found to enable comprehension of emotional content) (Kandel, 1991). There is increased recognition of the large number of areas in the brain associated with some aspect of language beyond these two areas (Price, 2010; Sakai, 2005).

In terms of hearing, in addition to the outer ear, middle ear and inner ear anatomy, the auditory nerve takes sensory information from the inner ear (the cochlea) to the brainstem and from there through the thalamus (in the diencephalon) up to the cortex where the auditory information (along with other sensory information) is given meaning (Kelly & Dodd, 1991). Indeed it is this ability to integrate the different sensory experiences such as sound, sight, touch, smell, taste and movement that enables us to function in the world, including but not only to communicate in the world. As such, communication is not just a cortical function but involves all levels of the brain and many of its separate elements.
Attachment, social relationships and language development

A strong association has been noted between the level of parent-child interaction in the early years and later development of social communication (Valentino, Cicchetti, Toth, & Rogosh, 2006). Healthy parent-child interaction is essential for young children to develop a positive internal working model or template as to what to expect from ‘trusted’ others. When they experience predictable, nurturing, available and responsive caregiving they develop a view of themselves as lovable and a view that certain others can be relied upon to keep them safe and secure. This in turn enables children to develop sufficient confidence to explore their environment and learn new skills, including language (Cassidy, 2008; Snow, 2009).

This healthy attachment experience creates a foundation for the child to develop complex emotion processing abilities, including ‘theory of mind’, such as empathy, emotional reciprocity and display of shared affect and an interpretation of these in the self and in others (Snow, 2009). Theory of mind enables us to understand, predict and interpret the thoughts and feelings of others. There is evidence of a positive correlation between the child’s theory of mind ability and their language ability, as they learn to narrate stories in their own mind before being able to share them with others (Snow, Powell, & Sanger, 2012).

Secure attachment requires that the parent/caregiver is available to the child through open communication, physical accessibility and responsiveness (Kobak & Madsen, 2008). Both verbal and non-verbal communication by the parent or caregiver is essential for the child to develop and maintain a sense of safety and security in attachment (Bretherton & Munholland, 2008).

In responding to the infant, parents and caregivers use infant-directed speech (motherese or baby talk), a version of which is found in all languages. It is characterised by high pitched intonation, a particular rhythm, shortened words and sentences and exaggerated vocalisations and expressions. Even at this early stage, this parental form of communication as part of the parent-child interaction helps stimulate cognitive development in the infant (Kuhl, 2010; Voeller, 1998). The quality of the parent-child attachment is associated with enhancing cognitive development (De Ruiter & Van Ijzendoorn, 1993). In particular, studies have shown that children with secure attachment are more able to develop language competence. This is hypothesized as being both a function of their parents being ‘better teachers’ and of the children being more receptive students of language due to their degree of security (van IJzendoorn, Dijkstra, & Bus, 1995).

A number of studies by Huttenlocher and colleagues found that the child’s exposure to language inputs through social relationships, rather than simply an innate ability, is associated with growth in language and other aspects of cognitive development. For example, in a study of 14-to-26-month old children, Huttenlocher and colleagues (1991) found that the breadth of parental vocabulary and amount of speech with the child influenced the rate and extent of the child’s acquisition of vocabulary. In particular, they found that the more words the mother spoke in the presence of the child the more words the child was able to use. They concluded that factors which negatively impacted on the parent-child interaction (such as parental depression) needed to be addressed in order for the child’s language development to thrive. Huttenlocher, Levine, and Vevea (1998) and Huttenlocher, Vasilyeva, Cymerman, and Levine (2002) found a causal link between preschool age children’s exposure to language, such as from parents or teachers, and the increase in vocabulary and complex use of syntax. This confirmed that the results from the previous studies were not explained by the biological links between the parent and child, but through their interaction. Kilbanoff, Levine, Huttenlocher, Vasilyeva, and Hedges (2006) found the amount of mathematical talk by the teachers was associated with the greater growth in the preschool age child’s mathematical knowledge, regardless of the level at which they started at the beginning of the school year. A longitudinal study by Hart and Risley (1995) had similar findings to Huttenlocher and colleagues, such as they found that the level of parents’ talkativeness in the home was indicative of the size of the children’s vocabulary and other measures of the child’s speech.

Tamis-LeMonda, Bornstein, and Baumwell (2001) undertook a prospective longitudinal study to ascertain if maternal responsiveness to the child and shared attention with the child created an optimal environment to achieve language milestones in infancy. They concluded that maternal responsiveness when the child was nine months and at thirteen months predicted the achievement of language milestones separate to the child’s own level of activity.

Children’s attachment relationships influence the development of their social competence. This occurs through their developing expectations of relationships with others and through attuned parenting and communication where the child learns from watching others. The need for social competence increases with age, such as at preschool where children function in groups or in schools where these groups are more organised and have more social rules (Weinfeld, Sroufe, Egeland, & Carlson, 2008). Research also shows that during the preschool years, a child’s speech and language development enables them to manage changes in their attachment relationships as they seek to communicate with their parent or caregiver in more varied ways (Fisher & Kim, 2007).

Direct social interaction is a key element in learning language. For example, a study showed the difference between two groups of American infants exposed to the same Mandarin language lessons which occurred at the same time and at the same frequency. One group had the teacher directly interacting with them in the lessons and the other group only saw the teacher on television. A control group had no exposure to Mandarin at all. The television group showed no difference compared to the control group, whereas the group who had teachers interacting directly with them showed the same level of Mandarin language acquisition as children of the same age who had been exposed to Mandarin their whole life (Kuhl, 2010). This reflects that it is not just exposure to language, but the exposure of language in the context of relationship that is crucial. A child sitting in front of a TV is not a substitute for human interaction.

Aboriginal children and communication

As the development of speech and language is largely influenced by the environment, the cultural context plays a major role, not the least of which is the language/s to which the child is exposed. The child’s culture provides the means for understanding the context, meanings, nuances and subtleties of language. In addition, culture influences how a child learns to listen, including body language, eye contact, mannerisms and the expected responses.

Language problems or disorders are based on the assessment of whether the child’s speech and language differs from the cultural norm (Ndung’u & Kinyua, 2009). As such, it is crucial to understand what the norms are. When exploring what this means for children in the protection and care system within Australia, a group requiring additional consideration is Aboriginal children, given their significant over-representation in that system (AIHW, 2013).
For Aboriginal children, there are three additional aspects to take into consideration in terms of healthy speech and language development. First is the question of which language the child has been exposed to and is expected to learn. In Victoria, there may be an assumption that this will be Standard Australian English, with little thought given to the possibility of the child speaking an Indigenous language. Although many Aboriginal children in Victoria have minimal access to their traditional language which has been lost over recent times, this is not true for all. Also, if a child and family have come from another part of Australia they may have a primary language from their home ‘country.’ Anecdotally, from the experience of the Take Two Aboriginal team, some Aboriginal children who have moved from interstate have had as many as four languages of which Standard Australian English is the least familiar. For example, an Aboriginal child may have the language of their local community along with the neighbouring communities. Australia-wide data found that 22 percent of Australian Aboriginal and Torres Strait Islander children spoke languages other than English in the home, with 125 different languages spoken. The most commonly spoken languages by the Indigenous children other than Standard Australian English were Aboriginal English and Creole/Kriol English (Centre for Community Child Health & Telethon Institute for Child Health Research, 2011). Second is the question of whether the child is exposed to multiple languages and encouraged or discouraged to be bilingual. Third is the question of Aboriginal English itself, which is now classified as a language (Penman, 2006). Aboriginal English differs from Standard Australian English in a number of domains such as phonology, syntax, semantics and pragmatics (Pearce & Williams, 2013).

Many of the 455,000 strong Aboriginal population of Australia speak some form of Australian Aboriginal English (AAE) at least some of the time and it is the first (and only) language of a large number of Aboriginal children. This means their language is somewhere on a continuum ranging from something very close to Standard Australian English (SAE) at one end, through to something very close to Creole at the other. (Butcher, 2008, p. 625).

As seen in Figure 2, there is minimal Indigenous language spoken today in the state of Victoria. However, this data does not include Aboriginal English (Butcher, 2008, p. 626).

Our language is like a pearl inside a shell. The shell is like the people that carry the language. If our language is taken away, then that would be like a pearl that is gone. We would be like an empty oyster shell. Yurranydjil Dhurrhay, Galiwin’ku, North East Arnhem Land. (House of Representatives Standing Committee on Aboriginal and Torres Strait Islander Affairs, 2012, p. 6)

The timing of the Small Talk project was opportune as the Australian House of Representatives’ Aboriginal and Torres Strait Islander Affairs Committee was running an inquiry into language learning in Indigenous communities. This inquiry started in July 2011 and followed a previous inquiry into Indigenous youth in the criminal justice system where “...language was identified as an important component of cultural connection, strengthened intergenerational relationships and community building. Many people referred to language as playing a significant role in the wellbeing of young Indigenous people” (House of Representatives Standing Committee on Aboriginal and Torres Strait Islander Affairs, Background to the Inquiry, 2011, para. 2). Although the terms of reference and consequently most of the submissions focus on Indigenous languages rather than speech and language development, they nevertheless provide insight into the significance of...
understanding the importance of the link between language and culture. The submission from Speech Pathology Australia (2011, p. 2) notes that “Indigenous Australian children speak a variety of language forms: Aboriginal English (which varies from ‘light’ to ‘heavy’); creoles; and Indigenous languages. In some areas, children may speak more than one Indigenous language.”

Many of the submissions to this parliamentary inquiry mostly refer to Aboriginal people in remote communities whose access to their Indigenous language is still intact to some extent. Other submissions focused on reclaiming or recovering ‘lost’ languages.

Australian Aboriginal English “… is the first language or home language of many Aboriginal children throughout Australia. Although many Aboriginal languages are no longer spoken, there are patterns and influences from traditional Aboriginal languages in the way that Aboriginal people speak English” (Victorian Aboriginal Child Care Agency [VACCA], 2005, p. 31). Examples of words commonly applied in Aboriginal English with more complex and sometimes quite different meanings than Standard Australian English include ‘shame’, ‘sorry’, ‘camp’, ‘deadly’, ‘dreaming’, ‘mother’, ‘father’, ‘country’, ‘kill’, ‘flash’, ‘mob’, and ‘true’, just to name a few (Butcher, 2008). Butcher notes that the word ‘hear’ incorporates more of ‘understanding’ than just the auditory sensation of hearing. This is also consistent with some Indigenous languages where the word for hearing is the same word for understanding and reflects the importance within Aboriginal communities of deep listening and respectful two-way interactions (Ryan, 2011).

... Aboriginal English is often denigrated and misunderstood by non-Aboriginal people who assume that Aboriginal people speak ‘bad English’. Standard Australian English can at times be an Aboriginal child’s second language. This may have a major impact on the child’s ability to access school curriculum and the development of literacy skills. (VACCA, 2005, p. 31)

According to the Victorian Aboriginal Corporation for Languages’ (VACL) (2012) submission to the inquiry, there are 38 Aboriginal languages identified in Victoria. Many Aboriginal children living in Victoria come from other parts of Australia and the Torres Strait Islands (Frederico, Jackson, & Black, 2010) and so may have some knowledge of one or more other Indigenous languages. As noted in the Australians for Native Title and Reconciliation (ANTaR) submission to the inquiry (2011) only 18 Indigenous languages remain strong within Australia today with over 100 described as in an advanced stage of being lost. Indigenous languages are being lost in Australia at a faster rate than most other places in the world (Australian Human Rights Commission, 2011; ANTaR, 2011). Much of VACL’s efforts are towards language revival or renewal given so much has been lost in Victoria. They note the link between Aboriginal children having the opportunity to learn their traditional language and validation of culture and strengthening their family relationships and wellbeing.

Most submissions to the inquiry commented on the benefits for children who are bilingual and taught in a bilingual context (Australian Human Rights Commission, 2011; Australian Society for Indigenous Languages, 2011; ANTaR, 2011; VACL, 2012; Victorian Aboriginal Education Association Incorporated [VAEAI], 2011). A concerning piece of evidence has been the drop in the National Assessment Program – Literacy and Numeracy (NAPLAN) scores in relation to reading, writing and numeracy in the Northern Territory a year after the advent of the ‘English only’ policy.

We know that children are ‘sponges’ when it comes to early childhood language acquisition. To not be incorporating bilingual or multilingual language in an early childhood education with bi-lingual and multi-lingual speakers (as is predominantly the case in Australia) is greatly undervaluing the immense potential and capacity of early childhood learners, and their ability to share their knowledge with each other and their early childhood educators (VAEAI, 2011, p. 2).

The VAEAI submission referred to the Victorian Department of Education, Employment and Training report (2000) regarding the benefits of children learning languages other than English, although that report was written regarding migrant languages rather than Indigenous languages. Nevertheless the implications are similar. That report recommended that primary and secondary schools provide opportunities for children to learn languages other than English sequentially throughout their school years. The VAEAI submission reported that in 2012 the first pilot project to teach Aboriginal languages in some Victorian schools would commence.

The report from the inquiry itself has made a number of findings many of which are pertinent to the Small Talk study (House of Representatives Standing Committee on Aboriginal and Torres Strait Islander Affairs, 2012). These findings include:

- At the time of colonisation there were an estimated 250 Australian Indigenous languages being used, whereas today there are approximately 18 languages being used strongly; i.e. by significant numbers of people across different age groups including children.

- “The Committee sees the benefits of greater recognition of Indigenous languages as having a positive impact on slowing the rapid decline of Indigenous languages, improving self-esteem and identity for Indigenous Australians, assisting in all areas of Closing the Gap on Indigenous disadvantage and improving reconciliation outcomes for all Australians.” (p. 2)

- “…the use of languages, including Indigenous languages and Standard Australian English, can assist in improving education, vocational and economic outcomes for Aboriginal and Torres Strait Islander people.” (p. 2)

- Children learn better if taught in their first language. This is true throughout the world. “This leads to a simple axiom: the first language is the language of learning” (p. 113). This has interesting implications if their first language is Aboriginal English or Koorie English.

- Both Indigenous and non-Indigenous submissions to the inquiry argued that Aboriginal children need the opportunity to learn their community language and English. It is not an ‘either/or’ situation.

- Aboriginal children need exposure to their community language prior to school through their family and community and then in partnership with the family and community for this to continue in their school years. This also has implications for providing adults in the community the opportunity to learn their traditional language.

Following are two statements that sum up some of the key conclusions from this federal parliamentary report which have implications for all Australian government and service providers.

Language is inseparable from culture, kinship, land and family and is the foundation upon which the capacity to learn, interact and to shape identity is built. Under the Closing the Gap framework, valuing Indigenous languages can make a substantial impact in areas of education, employment, health, justice and wellbeing. (p. 213)
Indigenous languages will hold different meanings to different Australians. For some it is their first language, and the language of their country. For others it is the language of the area and place in which they reside. For all Australians, Indigenous languages are about who we are as a nation, about the place we call home, the country we live in, and the land we call Australia. (p. 213)

In addition to this parliamentary inquiry, there have been a number of studies which have mentioned Aboriginal language, although that has not been their focus. For example, the Western Australian Aboriginal Child Health Survey (Zubrick et al., 2005) found that Aboriginal children raised by those who spoke some Indigenous language were less likely to have significant emotional and behavioural problems. Similarly, they found that Aboriginal children who were conversant in the carer’s language were less likely to have emotional or behavioural difficulties.

Findings from the Footprints in Time: Longitudinal Study for Indigenous Children show that Indigenous children who spoke Aboriginal English scored lower on the mainstream English vocabulary measures than Aboriginal children who did not speak Aboriginal English. The authors concluded that, “It is important that the effects of language background on English development are understood by early educators so that these children can receive extra assistance as speakers of English as a second language, rather than being categorised as slow learners.” (Bennetts Kneebone, Christelow, Neuendorf, & Skelton, 2012, p. 67). It is imperative that children who are raised with two languages at home are encouraged to continue both of those languages in the school environment, including if one of the languages is Aboriginal English (Penman, 2006).

As there are no known screening tests for speech and language problems for children who are bilingual this is an area requiring attention. “If it is not practical to screen this population it is especially important that all those who work with these communities are well informed as to what to look for in terms of speech and language development.” (Maas, 2000, p. 156)

Another aspect of speech and language that is important to understand for Aboriginal children is the role of the narrative or storytelling, rather than a more linear form of communication. Understanding the importance and prevalence of this style of communication can assist in thinking about effective modes of communication with Aboriginal people.

Storytelling is an integral part of life for Aboriginal and Torres Strait Islander Australians. From an early age, storytelling has played a vital role in educating children. Elders or Aunts and Uncles use the stories as the first part of a child’s education. As children grow into young adults, more of the history and culture is revealed. Adults then take responsibility for passing on the stories to the following generations. (Department of Human Services, n.d., p. 5)

As with storytelling, cultural differences are apparent within the pragmatic domain of speech, as Aboriginal people often use a more indirect approach to seek information than the general population. For example, many, although not all, Aboriginal people commonly use less direct eye-to-eye contact than those from Western cultures. This may be experienced as rude and inattentive by non-Aboriginal people, such as their teachers. Aboriginal people dealing with the steady gaze of others can find that overwhelming and distressing (Howard, 2006).

An overarching theme when considering communication with Aboriginal people is the history of miscommunication born from historical patterns of betrayal, mistrust and misunderstanding (Yeo, 2003). The Small Talk project is predicated on the importance of a partnership approach with the Aboriginal community, through the participation by VACCA in each aspect of the project. The direct role of the Take Two Aboriginal research consultant was also considered an important aspect of the Small Talk project.

The following quote from Butcher summarises some of the important historical and current realities of Aboriginal language in Australia especially as it relates to Aboriginal children.

The European colonization of Australia brought with it the imposition of English as the single national language (which it still is today) and began the eradication of more than 200 distinct indigenous languages. Many Aboriginal people, most of whom were multilingual, were removed from their country and forced into missions and similar institutions, where they were forbidden to speak their own language(s). Children grew up speaking Aboriginal English at home and at play, but at school their language was viewed as an imperfect and inferior form of English that was in need of correction. As this brief sketch has attempted to show, Australian Aboriginal English is a dialect of English with its own phonology, grammatical rules, and lexicon, which is just as efficient a medium of communication as any other (indeed better, when it comes to expressing many of the core concepts of Aboriginal culture). However, the status and value of this dialect is still largely misunderstood in schools. On the one hand all teaching and assessment continues to be through the medium of SAE and yet there is little or no explicit or competent teaching of Standard Australian English as a second dialect. (Butcher, 2008, p. 640)
Speech, language and hearing problems

Types of speech, language and hearing problems in children

Speech and language problems can be classified as primary (also known as specific) or secondary problems. Primary problems refer to when the child’s speech and language appears delayed compared to other aspects of their development and usually in the absence of a clear cause. Secondary problems are when the speech and language delays are associated with other known factors, such as a general learning disability, hearing loss or environmental deprivation. Most of the studies regarding screening tools relate to children with the potential for primary speech and language problems (Law et al., 1998). This Small Talk project relates predominantly to secondary problems, that is where speech, language and hearing problems may be a result of neglect and abuse although there’s recognition that some of these children may also have a primary speech and language problem separate to their experience of maltreatment.

There are a variety of ways in which problems with language and communication can present in children. For example, children with severe expressive language deficits can be mistaken for being shy or quiet. Their utterances will be more simple and/or shorter than other children of the same age. Their use of syntax and morphology (using the right form of a word in the right place) will be immature or absent and their use of appropriate vocabulary will be limited. Although these children may be able to answer ‘wh’ questions appropriately (such as what, where, when, who, why) they may find it difficult to formulate such questions of their own (Bernstein & Lieberman, 1985).

Voice disorders in children are usually related to either structural anomalies or behavioural factors and between 45 and 80 percent are attributed to vocal misuse, such as yelling and talking loudly (Angell, 2009). School aged children who continually misuse their voice over time can develop nodules on the vocal chords which interfere with the quality and pitch of their voice.

Children who have difficulties with language pragmatics use language in an atypical way compared to others in their culture or environment. This can impact on their social relationships, such as with peers at school. They may prefer to be alone and can become easy targets for bullying (Atwood, 2004).

Children with poor phonological awareness skills find it difficult to segment words into sounds and then blend those sounds together in order to read written texts. A deficit in decoding skills impacts on the child’s ability to spell words. Difficulty with reading can have a widespread negative impact on a child’s academic progress in terms of coping with the curriculum and vocabulary development. In the long term it can lead to children leaving school prematurely (Snow & Powell, 2004).

Children with a receptive language disorder have difficulties interpreting spoken instructions and often have the appearance of being ‘lost’ in social situations, including the classroom. This disorder can also lead to difficulty learning new vocabulary, understanding inference and poor language-based problem solving. Problems with hearing or auditory processing can contribute or cause receptive and/or expressive language problems.

Common causes for speech or language problems during infancy and early childhood include intellectual disability or cognitive delay, prematurity, hearing loss, cerebral palsy, neurological problems, acquired brain injury or a combination of factors (Coplan, Gleason, Ryan, Burke, & Williams, 1982; Luinge, Post, Wit, & Goorhuis-Brouwer, 2006; Sylvestre & Mérette, 2010; Voeller, 1998). Other environmental factors, highlighting the importance of the mother in the young child’s life, include: excessive alcohol, illicit drug or nicotine use by the pregnant mother; maternal mental illness; and social isolation of the mother (Sylvestre & Mérette, 2010). Loss is written about the role of fathers in language development but it is a core influence in a child’s development and can play a different role to that of the mother depending on the family structure and situation (Stockall & Dennis, 2013). This, of course, assumes that certain roles are undertaken by fathers but that may in fact be undertaken by other roles in the family and extended family.

There is evidence to show that preschool language delay is correlated with later reading problems. This appears especially the case for children whose earlier speech problems continue until at least the age of five and where the language problems are severe (Eagar et al., 2005; Larney, 2002; Sylvestre & Mérette, 2010).

A range of hearing problems can occur for children and the causes are not always obvious. There are four main types of hearing problem (Todd & Laury, 2012).

1. Conductive hearing problems where there is a problem between the external and the inner ear and so there are problems affecting the transmission of sound impulses before they enter the cochlea (a part of the inner ear)

2. Sensory hearing problems where there is a problem in the cochlea

3. Neural hearing problems where there is a failure of the neural portion of the auditory pathway in the brain

4. A combination of the above.

Causes of hearing problems are classified as either congenital or acquired. Congenital problems are those present at birth or soon after. For example, a child may have a genetic disorder such as if a parent has a dominant gene for hearing loss or the child has a genetic syndrome such as Down syndrome. Other congenital but not hereditary problems can occur due to the impact of prenatal infections, maternal drug use during pregnancy, prematurity, or lack of oxygen (Billings & Kenna, 1999). A number of hearing disorders are associated with foetal alcohol syndrome (Church & Kaltenbach, 1997). Children with major hearing problems or deafness prior to developing oral language commonly have a different manner of speech and often rely on other forms of language, such as sign language or lip reading (Howard, 2007).

Acquired hearing loss can occur at any time post-birth, such as due to a middle ear infection (e.g. otitis media), diseases such as measles, chicken pox, influenza and mumps, physical trauma leading to acquired brain injury or noise exposure (Smith, Bale Jr, & White, 2005; Todd & Laury, 2012).

Prevalence of speech and language problems for children

Speech and language problems for children under the age of five years are relatively common and given time are often resolved without intervention (Eager et al., 2005; Larney, 2002). As there is no commonly accepted measure across studies internationally prevalence estimates for speech and language problems in children range from 0.6 to 33.2 percent in the general population. This variation is influenced by whether the studies focused on specific or general speech and language delays; the extent to which these difficulties were combined; the population studied; and the criteria used to define delay. Very few studies included bilingual
or ethnically diverse populations and even fewer included Indigenous populations. The median prevalence estimate across a number of studies for both speech and language problems was 5.9 percent according to Law and colleagues’ 1998 review; however, they cautioned against relying on this estimate given the high variability across the different studies.

An Australian data set applicable to this project, although not a complete fit, is the 2009 Australian Early Development Index (AEDI) (Centre for Community Child Health and Telethon Institute for Child Health Research, 2011). Information was collected by surveying teachers about 261,147 children, constituting 97.5 percent of the estimated five-year-old population across Australia at the time. In Victoria, this data set was 61,186 children which constituted 94.2 percent of the age group.

The AEDI results showed that for the domain of language and cognitive based skills (primarily regarding numeracy and literacy) across Australia 8.9 percent were developmentally vulnerable (below 10th percentile) and another 14 percent were developmentally at risk (between 10th and 25th percentile). In Victoria, the data showed 6.1 percent of children were developmentally vulnerable and 9.9 percent were developmentally at risk. In other words, 16 percent had some developmental concerns regarding this aspect of language. Children from the lowest socioeconomic status were the most likely to be described as developmentally vulnerable (13.9%) and developmentally at risk (17.3%). Males were proportionately more likely than females to be described as developmentally vulnerable (11.3% cf to 6.4%) and developmentally at risk (16.3% cf to 11.7%). This domain showed the greatest difference between Indigenous and non-Indigenous children, with Indigenous children being more than three times more likely than non-Indigenous children to be developmentally vulnerable in relation to language and cognition (Centre for Community Child Health and Telethon Institute for Child Health Research, 2011).

The AEDI results showed that for the domain of communication and general knowledge across Australia 9.2 percent of the children were developmentally vulnerable and another 15.8 percent were developmentally at risk. Victorian data was close to the national data, showing 8.3 percent of children were developmentally vulnerable and 15 percent of children were developmentally at risk in relation to communication and general knowledge. In other words, 23.3 percent of children showed some concerns in this domain in Victoria. Children from the lowest socioeconomic status were the most likely to be described as developmentally vulnerable (14.1%) and developmentally at risk (18.9%). Males were proportionately more likely than females to be described as developmentally vulnerable (11.7% cf to 6.6%) and developmentally at risk (18.2% cf to 13.3%). Indigenous children were proportionately more likely than non-Indigenous children to be described as developmentally vulnerable (21.3% cf to 8.6%) and developmentally at risk (22.9% cf to 15.5%) in relation to communication and general knowledge (Centre for Community Child Health and Telethon Institute for Child Health Research, 2011).

Other relevant data sets are two longitudinal projects being conducted in Australia. The first of these is the Growing Up in Australia project. It is a longitudinal study of children born in the late 1990s and early 2000s to explore individual, family and broader social and environmental factors. The first wave involved 5000 children aged zero to one year born between March 2003 and February 2004 (known as the B "baby" cohort) and another 5000 children aged four to five years born from March 1999 to February 2000 (known as the K "kindergarten" cohort) (AIFS, 2010). The first statistical report from this study had a focus on language development (Taylor, Maguire, & Zubrick, 2011). As Table 1 shows, there were consistent gender differences (except for the infant group not included in this analysis) and a consistent pattern of greater concerns in expressive language compared to receptive language. In general the four year olds in both cohorts were reported as being more likely to show concerns in both expressive and receptive language measures compared to the younger or older age group. As different speech and language measures are required at different ages a direct comparison across age is not possible.

Table 1 Speech and language concerns reported in the Growing Up in Australia project (Taylor, Maguire, & Zubrick, 2011)

<table>
<thead>
<tr>
<th>Cohorts</th>
<th>B cohort (cohort began under age 1)</th>
<th>K cohort (cohort began aged between 4-5 years)</th>
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<tbody>
<tr>
<td><strong>Age</strong></td>
<td><strong>2 years, 10 months</strong>&lt;br&gt;26% of boys and 17% of girls rated as less or much less competent by teachers in expressive language.&lt;br&gt;21% of parents of boys and 14% of parents of girls had concerns about how their child talked.</td>
<td><strong>4 years, 10 months</strong>&lt;br&gt;32% of parents of boys and 18% of parents of girls had concerns about how their child talked.&lt;br&gt;12% of parents of boys and 7% of parents of girls had concerns about their child’s understanding of language.</td>
</tr>
<tr>
<td><strong>Expressive</strong></td>
<td><strong>2 years, 10 months</strong>&lt;br&gt;26% of boys and 17% of girls rated as less or much less competent by teachers in expressive language.&lt;br&gt;21% of parents of boys and 14% of parents of girls had concerns about how their child talked.</td>
<td><strong>4 years, 9 months</strong>&lt;br&gt;27% of boys and 18% of girls rated by teachers as less or much less competent in expressive language.&lt;br&gt;22% of boys and 13% of girls rated by teachers as less or much less competent in receptive language.</td>
</tr>
<tr>
<td><strong>language</strong></td>
<td><strong>6 years, 10 months</strong>&lt;br&gt;21% of parents of boys and 12% of parents of girls had concerns about how their child talked.</td>
<td><strong>6 years, 10 months</strong>&lt;br&gt;20% of boys and 19% of girls scored below 15% percentile regarding receptive vocabulary (19.6% across gender) (significant difference).</td>
</tr>
<tr>
<td><strong>Receptive</strong></td>
<td><strong>9% of parents of boys and 4% of parents of girls had concerns about their child’s understanding of language.</strong>&lt;br&gt;18% of boys and 14% of girls scored below 15% percentile regarding receptive vocabulary (16% across gender).&lt;br&gt;12% of parents of boys and 7% of parents of girls had concerns about their child’s understanding of language.</td>
<td><strong>9% of parents of boys and 9% of parents of girls had concerns about their child’s understanding of language.</strong>&lt;br&gt;22% of boys and 13% of girls rated by teachers as less or much less competent in receptive language.</td>
</tr>
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<td><strong>4 years, 10 months</strong>&lt;br&gt;21% of parents of boys and 12% of parents of girls had concerns about their child’s understanding of language.</td>
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</tr>
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</table>
A related but separate study is the Footprints in Time: Longitudinal Study of Indigenous Children. The number of parents involved in the first wave were 1671 and in the third wave were 1283 (Bennetts Kneebone et al., 2012). This study cautions that it is not representative of all Indigenous children as it disproportionately includes Indigenous children from remote areas. It also notes that it is not meant to provide comparative data between Indigenous and non-Indigenous children. However, some general patterns can be examined, such as areas of concern from parents regarding the Indigenous children’s speech and understanding of language showing a similar pattern to that found in the AIFS longitudinal study. For example, more concerns were raised by parents about expressive language than receptive language, and the age group with the highest amount of concern was the four year olds.

While concerns about children’s expressive language development were in general more prevalent and more persistent in the Footprints in Time study than concerns about their receptive language, this was strongly related to the age of the child. Most causes for concern became apparent and were resolved by the time the child started school. (Department of Families Housing Community Services and Indigenous Affairs [FaHCSIA], 2012a, p. 15)

As with Law and colleague’s review (1998) of different prevalence data, the AEDI study (Centre for Community Child Health and Telethon Institute for Child Health Research, 2011), the AIFS study (Taylor, Maguire, & Zubrick, 2011), and Footprints in Time study (FaHCSIA, 2012) show different prevalence data relating to some aspects of speech and language. As exemplified in the AIFS study, even within the one study different types of data from different sources (such as parents or teachers) showed different prevalence data.

A fairly frequent finding across the research is the higher prevalence of speech and language delays in males than females (e.g. Centre for Community Child Health & Telethon Institute for Child Health Research, 2011; FaHCSIA, 2012a; Huttenlocher et al., 1991; Law et al., 1998; Taylor, Maguire, & Zubrick, 2011). However, some research indicates that such gender differences dissipate as children get older, particularly when they are older than two years of age (Huttenlocher et al., 1991). Nevertheless, the Australian studies, such as the AEDI study and the AIFS longitudinal study, continued to find gender differences for older children.

There is also a consistent finding that children from lower socioeconomic circumstances are more likely to have speech and language problems (Centre for Community Child Health & Telethon Institute for Child Health Research, 2011; Eager et al., 2005).

In terms of hearing, ear infections are very common for Aboriginal children (National Aboriginal Community Controlled Health Organisation [NACCHO], 2005). One of the most common illnesses is otitis media. In some parts of Australia, up to 95 percent of Aboriginal infants aged six to eight weeks were found to have otitis media compared to 30 percent of the non-Aboriginal population in that area. It is estimated that Aboriginal children experience otitis media and related hearing loss for an average of two and a half years compared to non-Indigenous children in Australia experiencing it for three months. Some of the effects of hearing loss caused by ear infections can be lifelong. Otitis media can also contribute to problems with processing auditory information which means that some neurological abilities may not have developed as the child was not receiving sufficient auditory sensory stimulation due to the hearing loss at a developmentally sensitive time (Howard, 2007).

In the National Aboriginal and Torres Strait Islander Health Survey, 2004–05, rates of hearing loss were higher among Indigenous people than non-Indigenous people in all age groups up to 55 years of age. The prevalence of ear/hearing problems, including total or partial hearing loss and otitis media, was much higher among Indigenous children aged 0–14 years (10%) than non-Indigenous children (3%). Other conditions where the prevalence for Indigenous people was greater than for non-Indigenous people were eye/sight problems (30%), asthma (15%), heart/circulatory diseases (12%) and ear/hearing problems (12%) (Australian Bureau of Statistics, 2006).

The National Aboriginal and Torres Strait Islander Social Survey, 2008 found 10 percent of Indigenous children aged between 4 and 14 years of age experienced an ear or hearing problem (Australian Bureau of Statistics, 2009). In comparison, the Footprints in Time longitudinal study found that 15.4 percent of Indigenous children in the study had an ear or hearing problem in the 12 months prior to the interview. The Footprints in Time team concluded that the difference between their findings and the national survey’s findings was likely to be their younger age group.

Consequences of speech, language and hearing problems on other aspects of development and functioning

Early speech and language difficulties are strongly associated with later adverse outcomes. (Laing et al., 2002, p. 1155)

The most common effect of a speech and language problem is the resulting communication difficulties. This has major implications for relationships beginning with the parent-child relationship. As discussed earlier, a positive attachment relationship is a platform upon which communication skills can develop. However, if a child has language problems for whatever reason this can in turn impact on the parent-child attachment relationship, especially if the parent feels she is not in tune with the child and the child is not in tune with her. Studies have shown that although children who are deaf or have hearing problems are just as likely to develop a secure attachment as children without such difficulties, this is influenced by factors such as the parent’s attitude to the child’s hearing difficulties (Ryan, 2012).

The parent-child relationship is the first template upon which the child learns to relate to others. Communication problems can create a range of difficulties for children in forming relationships with teachers and peers. For example, they may be less inclined to socialise with others, less inclined to play, more likely to have problems with reasoning skills and more likely to be withdrawn (Sylvestre & Mérette, 2010).

Research has found that children with severe language problems, especially expressive language problems, are more likely to receive a diagnosis of depression, Attention Deficit Hyperactivity Disorder (ADHD), anxiety, conduct disorder, and oppositional defiance disorder (Spratt et al., 2012; Sylvestre & Mérette, 2010).

Consistent with the impact on relationships, children with speech and language problems are more likely to demonstrate behavioural problems (Lindsay & Dockrell, 2000; Spratt et al., 2012). “Children who are unable to communicate effectively may not have the necessary skills to negotiate or resolve conflict and may have difficulties understanding and relating to others” (Spratt et al., 2012, p. 179). Similarly, hearing problems have also been found to be associated with behavioural problems both at school and at home (Howard & Hampton, 2006).
A number of learning and educational problems have been linked with communication problems. One of the most commonly found associations is between language delay and literacy problems (Larney, 2002; Oberklaid, Wake, Harris, Hesketh, & Wright, 2002; Poe, Burchinal, & Roberts, 2004; Sylvestre & Merette, 2010). One study found between 41 and 75 percent of eight-year-old children with early expressive language delays had problems with reading. This finding has been confirmed in subsequent follow-up studies of children who received speech and language treatment (Law et al., 1998). Associations have also been found between problems with language and mathematics (Sylvestre & Merette, 2010).

Studies have found that Aboriginal children with conductive hearing problems are more likely to have problems participating and achieving in school. For example, they are less likely to participate in class discussions, less likely to answer questions, more likely to be considered disruptive and less likely to be academically successful. Some of these difficulties can also be seen within the home environment for both Aboriginal and non-Aboriginal children, where arguments can arise through misunderstanding and frustration and where interactions can be minimised in order to avoid disputes. This has been found to lead to reduced positive social interactions between the children and their parents or carers (Howard, 2007; Howard & Hampton, 2006).

Mothers with a child who had experienced chronic middle ear disease were more likely to be depressed and to feel that they were less adequate as parents than other mothers (Forgays, Hasazi & Wasserman, 1992). Some non-Aboriginal Australian mothers also reported that they found it more difficult to feel close to a child with conductive hearing loss (Dorothy Moore, personal communication, 1992). (Howard, 2007, p. 101)

In a large study in Western Australia, Aboriginal children who had ever been diagnosed with otitis media or those reported as having speech difficulties were found to be more likely to have major emotional or behavioural difficulties than Aboriginal children who did not have hearing or speech difficulties. For example, significant emotional or behavioural problems were three times more likely for Aboriginal children who had difficulties saying certain sounds (Zubrick et al., 2005).

If these problems have an impact on the child’s functioning and relationships with others but are undiagnosed or underestimated, then the extent of the problems can be compounded due to falsely attributing the difficulties to other factors, such as the child being defiant, lazy, disinterested, not bright or difficult. For example, some Aboriginal children who appear inattentive due to making less eye contact with others may be assumed to have a hearing problem, when in fact they may be showing culturally appropriate mannerisms. Whereas other Aboriginal children who are making high use of eye contact may be doing so to compensate for hearing problems (Howard, 2006).

Service system in Victoria, Australia for children with speech, language and hearing problems

There are a number of settings where speech pathologists work within Victoria, Australia to provide services to children. These include preschools, primary and secondary schools (via the Department of Education and Early Childhood Development, DEECD), hospitals, child and youth mental health services, community health centres, La Trobe University’s Department of Human Communication Sciences clinic, private clinics and specialist services such as disability services. Referrals can be made directly by the parent or carer or in some situations through a General Practitioner (GP), paediatrician or other specialist (Department of Health, 2013b). Despite this list of options, there is a strong impression in the field that speech pathology services are less available than in the past (Speech Pathology Australia, 2006).

Private clinics charge a fee for service but under some situations rebates are available. For example, children with complex or chronic care needs may be eligible for a Medicare rebate for up to five speech pathology sessions per year, via a referral from a GP. Complex care needs are defined as those children whom the GP considers would benefit from care provided by two or more other health professionals in addition to the GP. Chronic care needs are defined as those conditions which have been or are likely to be present for six months or longer. Additionally children with a diagnosis of Autism are eligible for a funding package from the federal government (FaHCSIA) which can include a speech pathology assessment. They can also be referred by a paediatrician for speech pathology assessment and/or treatment under Medicare where the maximum number of sessions is 20 (Speech Pathology Australia, www.speechpathologyaustralia.org.au/). Some private health insurance includes access to speech and language assessments as part of the ‘extra cover’.

In terms of organising a child’s hearing to be tested, this can occur through a GP, an audiologist, an Ear, Nose and Throat specialist or Australian Hearing or Better Hearing Australia services (Department of Health, 2013a). Some of the treatments available depending on the nature of the problem include medication such as antibiotics for otitis media, removal of foreign objects in the ear, hearing aids, and speech therapy.
Speech, language and hearing problems in children who have experienced abuse and neglect

There is a growing body of research which demonstrates what happens when children are not offered the age-expected developmental opportunities and instead are deprived of necessary experiences or are exposed to trauma or both. Children who are involved in the child protection and out-of-home care system due to abuse and neglect are the primary focus of the Small Talk project.

The child protection and out-of-home care system

In 2009, Australian national, state and territory governments adopted the National Framework for Protecting Australia’s Children and Promoting their Safety and Wellbeing. In addition to the overall target of reducing the incidence of child abuse and neglect, the framework included a number of supporting outcomes. One of the outcomes particularly relevant to the Small Talk project is “Children who have been abused or neglected receive the support and care they need for their safety and wellbeing” (Council of Australian Governments, 2009, p. 11). In the National Framework’s 2012–2015 action plan, one of the priorities is to respond to the children and young people in out-of-home care who have unmet medical and developmental needs (FaHCSIA, 2012b).

Although the Small Talk project does not just focus on children in out-of-home care, they are the majority of the cohort and there are policy and standards implications for this population. For example, in 2011, the National Standards for Out-of-Home Care included a number of overarching principles that are relevant to the Small Talk project such as:

• Children and young people in out-of-home care have their rights respected and are treated in accordance with the United Nations Convention on the Rights of the Child.
• Care provided to the children and young people living in out-of-home care is focused on providing a nurturing environment, promoting their best interests, and maximising their potential.
• Children and young people living in out-of-home care are provided with opportunities for their voice to be heard and respected and have the right to clear and consistent information about the reasons for being in care.
• Children and young people living in out-of-home care are provided with a level of quality care that addresses their particular needs and improves their life outcomes.
• Continuous system improvements are designed to achieve better outcomes for all children and young people living in out-of-home care (FaHCSIA & National Framework Implementation Working Group, 2011).

Although many of these standards are relevant to this project, the most explicitly relevant standard is, “Children and young people have their physical, developmental, psychosocial and mental health needs assessed and attended to in a timely way” (FaHCSIA & National Framework Implementation Working Group, 2011, p. 7).

The Victorian government has instituted a number of initiatives relevant to working towards meeting these standards. In the practice advice to child protection workers, it is noted that all children subject to child protection involvement should have a range of health needs considered including auditory testing and specialist assessments such as speech development (Department of Human Services [DHS], 2012a). In the Program Requirements for Residential Care Services in Victoria, there is an articulated requirement that community service organisations will promote the children’s health needs including medical, auditory and specialist needs (DHS, 2012b).

In Victoria in 2011–2012, 8741 children were substantiated by child protection as having experienced some form of abuse or neglect. Approximately 9 children per 1000 within Victoria who were eight years old or younger were substantiated, compared to 7.1 children per 1000 across all age groups. In other words, younger children were more likely to be substantiated for some type of abuse and neglect than older children and this was consistent throughout Australia (AIHW, 2013).

In this same year, 3526 children entered out-of-home care in Victoria, such as kinship care (placed with extended family or others known to the child), foster care, or residential care. On 30 June 2012, the total number of children and adolescents in out-of-home care in Victoria was 6207. Of these, 54.7 percent were eight years old or younger. The vast majority (91.6%) were in some form of home-based care, such as kinship care or foster care (AIHW, 2013).

Aboriginal children continue to be over-represented in every aspect of child protection involvement. In Victoria 11 percent of the children substantiated by Child Protection in 2011–2012 were Aboriginal (compared to 1.2 percent Aboriginal children in the general population). This equates to 62.5 per 1000 Aboriginal children in the Victorian population compared to 6.4 per 1000 non-Aboriginal children. This is a 9.7 rate of over-representation of Aboriginal children in Victoria compared to the national over-representation rate of 7.8 (AIHW, 2013).

In out-of-home care in Victoria, 16.5 percent of children in care on 30 June 2012 were Aboriginal. In terms of rates per population, 66.4 per 1000 Aboriginal children were in out-of-home care on 30 June 2012 compared to 4.2 per 1000 non-Aboriginal children. This is a 15.8 rate of over-representation of Aboriginal children in Victoria, again higher than the national rate of 10.3 (AIHW, 2013).

Prevalence of speech and language problems in children in the protection and care system

The consistent picture from studies examining the needs of children in the protection and care system is that they are significantly more likely to suffer a range of developmental and health problems compared to the general population. This has been found for general developmental delay as well as language specific delays (Scarborough, Lloyd, & Barth, 2009). Table 2 summarises some of the prevalence data for the Australian child protection and out-of-home care population as they relate to speech, language or hearing problems.
As mentioned earlier, prevalence data varies considerably from study to study in the general population. However, these studies of the child protection population show higher rates than all of the research available on the general population.

**Impact of abuse and neglect on speech, language and hearing**

Needless to say, child abuse and neglect are harmful for children and so it is not surprising that there is evidence of harmful consequences along a variety of developmental domains. Some of these domains directly pertain to communication, such as speech and language development and hearing, and others have secondary implications for communication and vice versa, such as problems with attachment, negative identity, problems regulating emotions, problems in forming or sustaining positive peer relationships, and problems at school (Coster & Cicchetti, 1993).

Substantial research has shown that children who have suffered trauma and other adversities in the form of abuse or neglect are at increased risk of developing speech and language difficulties (Allen & Wasserman, 1985; Allen & Oliver, 1982; Coster & Cicchetti, 1993; Eigsti & Cicchetti, 2004; Grant & Gravestock, 2003; Lynch & Roberts, 1982; Moreno Manso, Garcia-Baamonde Sánchez, & Blázquez Alonso, 2012; Nathanson & Tzioumi, 2007; Spratt et al., 2012; Sylvèstre & Mérette, 2010). However, there are multiple potential causal explanations for how these difficulties arise.

A number of explanations for the impact of abuse and neglect on speech and language are found through understanding neurodevelopment. As mentioned earlier, the brain develops in a use-dependent way. The brain needs exposure to repeated experiences in order for certain synaptic connections to be formed and to strengthen (Perry et al., 1995). As such, if the child is not exposed to sufficient communication opportunities in a positive and nurturing context such synaptic connections will not form or will not be maintained. It is also likely that the consequences of neglect on the brain, in terms of cognitive development, will have implications on other aspects of development including speech and language (Grant & Gravestock, 2003; Perry, 2002; Sylvèstre & Mérette, 2010).

The nature and extent of the traumatic or neglectful experience are likely to affect the type of harms for a child. For example, physical abuse or neglect are different insults to a child’s development and a one-off experience compared to a chronic experience is likely to have variable consequences. Just as the brain is affected if it does not receive the patterns of repetitive sensory information through experience that it needs to develop (such as due to neglect), it is also affected if it receives a harmful type of patterned repetitive sensory information, such as through experiences of physical abuse, sexual abuse and family violence (Perry et al., 1995).

From a developmental perspective, it is important to understand the pattern and chronicity of the experiences and the age of the child when the experiences began (Coster & Cicchetti, 1993; Perry & Pollard, 1997). Knowing which part of the brain was most actively developing at the time of the adverse experiences provides insight into which parts of the brain are likely to be most affected.

Another key variable in understanding the impact of abuse and neglect on children’s language development is recognising the protective or negative role the parent-child relationship can play. For example, some studies have shown when comparing two groups of young children, matched in terms of their experience of maltreatment and socioeconomic status, that the presence of a positive attachment relationship was a significant factor in the children’s language development (Allen & Wasserman, 1985; Coster & Cicchetti, 1993).

Although the term child maltreatment encompasses both child abuse and neglect, it is important to distinguish the different types of maltreatment wherever possible, although many studies do not make that distinction, or only focus on one type of abuse. There is a small amount of research that has considered the effects of multiple abuse types and there is some evidence that children who suffer multiple types of trauma have more symptoms than children who repeatedly suffer the same trauma (e.g. Finkelhor, Ormrod, & Turner, 2007).

Coster and Cicchetti (1993) noted that just because child protection has intervened with children who were maltreated this did not always translate into the children becoming safe and receiving good quality care. They commented that many children remain in their parents’ care and may continue to be exposed to abuse and neglect. Those children removed from their parents care often experienced multiple separations and temporary placements.

**Continuous rearing in non-optimal environments results in maintenance of adverse learning conditions, so that instead of having opportunity for remediation, children continue to fall behind as they attempt each developmental task with inadequate inner resources or social support.** (Coster & Cicchetti, 1993, pp. 33–34)

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<table>
<thead>
<tr>
<th>Authors, date</th>
<th>Type of population</th>
<th>Location</th>
<th>Numbers in study</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nathanson &amp; Tzioumi, 2007</td>
<td>Children in out-of-home care under the age of 12 years</td>
<td>NSW</td>
<td>122</td>
<td>28% had an abnormal hearing test; 45% of those under 5 years and 20% of older children had a language delay. Overall 33% had a speech or language delay</td>
</tr>
<tr>
<td>Frederico, Jackson, &amp; Black, 2006</td>
<td>Children with substantiated abuse and neglect who were clients of the Take Two program. Age range from 3 to 17 years</td>
<td>Victoria</td>
<td>108</td>
<td>Clinicians (not speech pathologists) completed a checklist indicating that 69% of children had two or more speech, language or hearing concerns</td>
</tr>
<tr>
<td>McConachy, Bartlett, &amp; Pethica, 2011</td>
<td>Children entering out-of-home care for the first time</td>
<td>A region of Melbourne, Victoria</td>
<td>34</td>
<td>41% were reported by Take Two clinicians (not speech pathologists) to have speech or language difficulties</td>
</tr>
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</table>
Neglect is the most common form of maltreatment mentioned in the literature in relation to speech and language problems. A simple definition of neglect is when a child’s basic developmental needs are not being met (Frederico, Jackson, & Jones, 2006). It assumes omission of certain parental functions it is likely the child will therefore make insufficient that neglect can lead to problems for the child in terms of speech and language development as well as hearing. For example, Culp and colleagues (1991) found that neglect was the form of maltreatment most strongly associated with both expressive and receptive language delays. In Sylvestre and Méréte’s (2010) literature review, language problems associated with neglect include: problems with articulation, less complex syntax, problems with the pragmatics of language, and less vocabulary. These effects were seen in children from a very early age prior to speech and some lasted into adulthood. Moreno Manso, García-Baamonde Sánchez, and Blázquez Alonso (2012) in their study of children in residential care in Spain found children who had experienced neglect had less complex syntax and less word usage than expected for their age.

One form of neglect is emotional neglect where there is an absence of positive caregiving and relational experiences for the child and so they are less able to form healthy attachments (Wark, Kruczek, & Boley, 2003). In these situations, the child will not receive sufficient exposure to positive social interactions within the home that will help build their competence in communication. Another type of neglect is developmental or education neglect where the child does not receive adequate amounts and frequency of necessary developmental experiences, such as play and stimulation (Frederico, Jackson, & Jones, 2006). The potential consequences of that type of neglect on speech and language are direct. Physical neglect is where the child is not sufficiently cared for in terms of hygiene, nutrition, and safe living conditions. An associated form of neglect is medical neglect, where a child may not receive necessary medical attention when ill (Gaudin, 1993). Physical and medical neglect can have a clear impact on communication, especially in relation to hearing where a child may suffer preventable ear infections and delayed or absent treatment leading to greater problems that have long-lasting implications.

Studies by Crittenden (1988) found that mothers with a pattern of neglecting their children had little expectation they could influence their children’s satisfaction from their interactions with children. In exploring these implications for language, Coster and Cicchetti (1993, p. 30) note that “…the severely neglected child may not be able to make the necessary cause-effect connection between social cues (including language) and environmental responsiveness and may become increasingly passive.” They reported on other studies that found similar results, some of which looked in more detail at the quality of the communication from the mothers. For example, in another study by Crittenden (1981), neglecting mothers were found to use less grammatical utterances and more directives in their speech. Coster and Cicchetti (1993) also reported on studies that found neglected children aged between three and eight years were the most impaired in terms of receptive language skills compared to the control group and children who had experienced abuse.

Spratt and colleagues (2012) found children who had been in the USA child welfare system due to neglect showed impairment with language skills although not to the same extent as children who had experienced global neglect in international orphanages (such as the Romanian orphanages). However, the children from the USA child welfare system showed greater impairment in behavioural and emotional difficulties.

Children with a history of neglect are at risk for impaired language development if they are not provided the complex linguistic input and personal interactions necessary for optimal development of language skills. Studies have shown that the quality of mother-child interactions help predict cognitive and linguistic outcomes in preschool-aged children of high social risk mothers. (Spratt et al., 2012, p. 179)

Abuse is a general term that commonly denotes physical abuse, sexual abuse or emotional abuse. In the child protection context, it can also refer to exposure to family violence as a form of emotional abuse and a potential danger for physical harm. Some of these experiences may lead to similar consequences for the child, such as fear, whereas each abuse type also has some distinctive attributes. For example, physical abuse can lead to hearing and speech and language problems (Coster & Cicchetti, 1993) and Acquired Brain Injury (ABI) (Ewing-Cobbs, Prasad, Kramer, & Landry, 1999).

Allen and Wasserman (1985) studied a small group of infants who experienced physical abuse and who in comparison with a non-maltreatment group exhibited language problems. Although they acknowledged the difficulties in attributing causal explanations, the authors noted that low verbal input from the parents and lack of parental responsiveness were both present in the group who had experienced abuse. Lynch and Roberts (1982) observed two groups of children who had been physically abused. One group showed global delays, including speech. The second group presented as socially competent but with minimal speech. The children’s delay was demonstrated primarily through minimal spontaneity in their speech. The researchers found these speech delays continued over time in both groups and could remain unnoticed through ‘cocktail’ conversations where the children use situational phrases rather than engaging into conversations.

Stahmer and colleagues (2009) study of over 1000 children referred to child welfare services found there was evidence of positive change in language and communication for children who remained at home and had no ongoing child welfare service involvement, and for children who remained at home but received ongoing support services. The children who had similar baseline scores but showed less improvement were children placed in out-of-home care although the difference was not statistically significant. Other variables noted in this study likely to link to positive progress were: having a positive home environment, and being female. Children who had experienced physical neglect or physical abuse were less likely to show positive change.

Studies of maltreated children do not always distinguish or find distinctions between abuse and neglect, yet have interesting findings regarding the impact of maltreatment in general and on children’s communication. For example, Eigsti and Cicchetti (2004) compared 19 maltreated children to 14 non-maltreated children. As the degree of overlapping experiences of abuse and neglect were so common, their data revealed no significant differences from one type of maltreatment experience to another. They reported a significant difference in the children’s vocabulary, syntax structures and less use of complex language for the maltreated group compared to the non-maltreated group. They also found qualitative differences between the two groups in terms of the quality and length of the mothers’ utterances towards the children. They reported that the mothers of maltreated children were less talkative with the children regardless of the mothers’ verbal abilities and these fewer utterances appeared to be associated with the children’s language problems. In another study, maltreating parents were less likely to show engagement or reciprocal interaction or offer verbal stimulation to their children and did not offer much encouragement or comfort in play sessions (Valentino et al., 2006).
A number of studies in addition to Eigtsi and Cicchetti (2004) found that children who have suffered maltreatment are more likely to have poorer vocabulary in comparison with their non-maltreated counterparts (Coster & Cicchetti, 1993; Coster, Gersten, Beeghly, & Cicchetti, 1989; Crittenden, 1981, 1986; Katz, 1992). Coster and colleagues (1989) found that maltreated children showed limited vocabulary and poor expressive language as they mostly used language for instrumental purposes (to achieve a specific task, such as asking for something), rather than for social communication. They also found that toddlers from maltreated backgrounds used less descriptive speech (particularly about their own activities and feelings), or to make reference to events outside their immediate context. These children were more likely to use shorter sentences and utterances than other children.

These findings suggest that the maltreated toddlers, along with their mothers, had developed a style in which language serves to get tasks accomplished but was used less frequently as a medium for social or affective exchanges. This interpretation is consistent with the mother-child interaction studies that suggested that maltreating mothers, compared with matched comparison mothers, focused more on controlling the child’s behaviour rather than understanding the child’s thoughts, opinions, or feelings. (Coster & Cicchetti, 1993, p. 31)

Coster and Cicchetti (1993) noted that if these patterns persist throughout the preschool age then the children will have further communication difficulties. These could include difficulty in using language to articulate needs and feelings, which is seen as an important step in developing cognitive capacity to manage behaviour. They may also have difficulty in using language to communicate about abstract thoughts, which is important in developing literacy skills. A further problem resulting from these patterns of communication could be difficulty in sustaining a coherent narrative conversation with others, which is seen as important in developing social competence with peers and adults.

Cicchetti and Beeghly (1987) found that maltreated and non-maltreated children did not significantly differ in receptive vocabulary, but they did find significant differences in productive and internal-state language variables. They posited that maltreated children may use fewer internal-state words due to parental disapproval of expressing certain affects or emotions. They may therefore present as over-controlled in order to meet their parents’ expectations. Alternatively, their parents may not be able to decode their emotional signals and may mislabel certain behaviours. This would also reflect complications and create complications for the children’s theory of mind in terms of their learning to reflect on thoughts and feelings.

Children from maltreated backgrounds are more likely to struggle coping in complex social situations, resulting in difficult behaviours and low empathy toward others (Perry, 2006). Further, their difficulties in communication can increase their vulnerability to misunderstanding by others, and lead to increased risk of further abuse and neglect or violence. Children living in violent and chaotic home environments may have been explicitly or implicitly discouraged or even forbidden to speak (Frederico, Jackson, & Black, 2008). Growing up in this type of situation, the child is likely to be more focused on possible threats, rather than paying attention to what someone else is saying. These problems can lead to further challenges when the children attend therapy due to their inability to communicate their thoughts and feelings to themselves, let alone others (Frederico, Jackson, & Black, 2006).

Snow, Powell, and Sanger (2012) comment on the need for many young people in the child protection system to have sufficient language skills to be able to communicate about very distressing situations, such as disclosures of abuse and neglect and speaking in a court context as a victim, witness or suspected offender. Children who find it difficult to use appropriate vocabulary or sentence structures will find making disclosures of their experiences even more difficult than it already is (Knutson & Sullivan, 1993).

Although direct links between maltreatment and voice disorders have not been identified, studies have suggested that children who experience home situations where there is expressive family conflict or who have felt bullied or aggressiveness are more likely to experience vocal abuse where they speak overly loudly and can hurt their vocal chords (Aronson & Bless, 2009).

Stuttering is defined as an “abnormally high frequency and/or duration of stoppages in the forward flow of speech” (Guitar, 2013, p. 5). The onset of stuttering usually occurs between the ages of two and six years of age although approximately 70 percent of these children recover without treatment. Research directly linking fluency disorders and maltreatment was not found; however, for those children who are predisposed to stuttering, stressful life events can lead to the onset of stuttering or increase the severity of a stutter (Guitar, 2013).

Some children’s communication problems may predate their experience of maltreatment. Indeed, a child’s communication problems can potentially exacerbate a parent’s level of frustration and other difficulties that could in turn contribute to situations leading to abuse. This is another indication of the importance of early identification and intervention as it may not only prevent further communication problems but may reduce a risk factor for abuse (Snow, 2009).

In addition to the maltreatment literature, the trauma-related literature provides insights into the consequences of abuse and neglect on children’s speech and language. Van der Kolk and others have highlighted the difficulties for traumatised people to speak about their experiences. They often seem either too aroused or insufficiently aroused to be able to process and communicate their experiences (Hull, 2002; van der Kolk, Hopper, & Osterman, 2001). A study of adults with PTSD found that when they were exposed to reminders of their trauma experience there was a decrease in oxygen usage in the Broca’s area, which is implicated in the ability to generate words to attach to feelings. “These findings may account for the observation that trauma may lead to ‘speechless terror,’ which in some individuals interferes with the ability to put feelings into words” (van der Kolk, 1996, p. 193).

Broca’s area is necessary for the labelling of emotions, therefore its deactivation under symptom provocation would explain why patients with PTSD can experience intense emotions without being able to label and understand them. This marries clinically with survivors often describing an inability to put their experience into words — it is, in effect, ‘unspeakable’ (Hull, 2002, p. 107).

The fight, flight and freeze responses commonly associated with psychological trauma can have a range of disruptive consequences on children who have felt terrorised by their abuse experience. Research has shown a range of harmful consequences such as affect dysregulation, physical dysregulation, and poor attention and concentration (van der Kolk, 1996). Each of these can have implications on the child’s capacity to learn new skills, such as language skills, as well as implications for their communication with others in general. As noted by van der Kolk (1996, p. 195), these children (and adults) may be “prone to action and deficient in words”.

18
Communication difficulties in Aboriginal children in child protection

Aboriginal children have a triple jeopardy in the context of child maltreatment and communication problems. They are markedly disproportionately represented in the numbers of children involved in the child protection and out-of-home care system (AIHW, 2013); they appear to have more risk factors relating to communication problems, such as more risk of hearing problems (FaHCSIA, 2012a); and they live in a broader society that does not sufficiently recognise aspects of their language (Butcher, 2008).

Despite the emphasis in the media, the data does not show that Aboriginal children are more likely to be subject to sexual abuse. The one form of maltreatment for which Aboriginal children are more likely to be reported to child protection than non-Aboriginal children is neglect. Despite their overall over-representation in the system, Aboriginal children are less likely to have substantiated sexual abuse, emotional abuse and physical abuse compared to non-Aboriginal children (AIHW, 2013). However, given the findings of the impact of neglect on children’s speech and language development, this remains a concern for Aboriginal children.

Culture plays an important role in developing a child’s identity, sense of belonging, linguistic and social development. As mentioned earlier, this was recently emphasised in the Federal Parliamentary inquiry into Indigenous language. “A key understanding emerging and profoundly informing this report is that Indigenous language is inseparable from culture, and is the foundation upon which the capacity to learn and interact productively with other people is built.” (House of Representatives Standing Committee on Aboriginal and Torres Strait Islander Affairs, 2012, p. 1)

Culture is found to increase resilience in the event of trauma and other adverse incidences (Bamblett, Frederico, Harrison, Jackson, & Lewis, 2012). Unfortunately many Aboriginal children who have been in out-of-home care are separated from or denied this secure base of cultural identity and connection. Some of the authors of this Small Talk project in partnership with others conducted a study on different perspectives of social and emotional wellbeing of Aboriginal children in the child protection system (Bamblett et al., 2012). That report’s findings found a dearth of research on the mental health and social and emotional wellbeing of Aboriginal children, especially in the protection and care system. According to Bamblett et al. (2012), Aboriginal children were more likely to have experienced stressful life events and been exposed to trauma, including intergenerational and community trauma, compared to non-Aboriginal children. If Aboriginal children are then removed not only from their immediate family but from their broader family and community and even from their culture, this exacerbates the harmful consequences of such trauma.

As summarised in the literature review by Bamblett and colleagues (2012), Aboriginal children are more likely than non-Aboriginal children to experience the following:

- Parent/carer not available due to poor mental or physical health
- Poor physical health
- Multiple family stressful events
- High residential mobility and dislocation
- Poor family functioning
- Exposure to racism
- Parental substance abuse
- Sole parent or non-biological carer
- Family violence
- Community violence
- Primary caregiver had been forcibly removed from their family when they were a child, such as due to past government policy of forced removal of Aboriginal children from their family and community (Stolen Generations).

Any of these elements can add to a child’s vulnerability whilst at the same time removing from them potential sources of protection and resilience, such as connection to cultural identity and community.
Timely recognition of children with communication difficulties

Given the subtle and often emerging nature of children’s [speech and language] problems, under-detection is understandable. (Glascoe, 2000, p. 138)

It is beyond doubt or argument that children who are at risk of developmental delay or difficulties should receive services as quickly and effectively as possible. However, this appears elusive even with, or especially with, a group of children so clearly in the high risk category for developmental and other compounding problems, such as those in the protection and care system and for Aboriginal children.

Children with reduced speech and language ability are doubly disadvantaged as their communication problems can result in diminished opportunities for recovery through positive relationships with family, friends and in a therapeutic context and can also be a barrier for effective learning experiences (Frederico, Jackson, & Black, 2006).

There is evidence that speech and language problems are not readily recognised alongside other developmental problems, especially for children in the child protection and out-of-home care system (Centre for Community Child Health, Clinical Advisory Group, 2012; Kaltnner & Rissel, 2011; Nathanson & Tzioumi, 2007; Royal Australasian College of Physicians, 2006; Zimmer & Panko, 2006). For example, a Clinical Advisory Group established by the Department of Health and led by the Royal Children’s Hospital to advise the Victorian government about health assessments for children in care concluded:

There is … international and Australian evidence that the carers and child protection workers do not identify these health issues well. Much higher rates of health problems, in particular mental health and developmental problems, were identified when children and young people were routinely comprehensively assessed, compared with a group left to ‘routine care’, which relied upon the judgement of carers and child protection workers to identify problems and initiate assessment. It has also been suggested that under-recognition of developmental problems contributed to an under-use of and child protection workers to identify problems and initiate ‘routine care’, which relied upon the judgement of carers comprehensively assessed, compared with a group left to identified when children and young people were routinely particular mental health and developmental problems, were readily recognised alongside other developmental problems, especially for children in the child protection and out-of-home care system (Centre for Community Child Health, Clinical Advisory Group, 2012, p. 2).

Children who experience child abuse and neglect are often exposed to a myriad of other environmental factors, such as parental alcohol and other drug problems, parental mental illness, financial pressures, parental illiteracy, and family violence (Bromfield, Sutherland, & Parker, 2012). Parents who are dealing with issues such as these may have difficulty attending to, noticing or interpreting their children’s communication difficulties and have reduced capacity to then seek help for their children. They may actively try to conceal developmental problems, fearing they will be blamed for such difficulties.

Findings from a study in France showed that children who were identified at the age of three as having some level of concern regarding their speech and language development and who then did not receive some form of intervention did worse than those who did receive intervention. For some who did not receive intervention, this resulted in school failure (Maeder & Roy, 2000). This highlights not only the need for early identification but for the required treatment or other interventions to occur as a result of this recognition of a problem. Early identification if accompanying early intervention takes advantage of the sensitive period of neurodevelopment for children (Bruce, Komfalt, Radeborg, Hansson, & Nettelbladt, 2003).

Screening tools

A major means, discussed in the literature, regarding the early identification of children with speech and language problems, is through the use of screening tools. However, the term ‘screening tool’ is used in different ways ranging from those targeting particular populations to tools with a universal population focus. This makes analysis of these tools, the accompanying research, and assessing their effectiveness problematic. Glascoe (2000) contends that it is the absence of an earlier identification tool that increases the likelihood that at-risk populations are not identified until they are at school.

The purpose of a universal screen is to identify children who are at risk of an identified problem so they can receive extra support through early intervention (Compton et al., 2010). A universal screening tool within a medical model as described by the World Health Organisation is required to meet a number of criteria, namely (i) the condition is an important health problem; (ii) the natural history of the condition is known (i.e. what happens if there is no treatment); (iii) the condition has a pre-symptomatic stage that can be recognised through one or more means; (iv) there is an acceptable and effective treatment at the pre-symptomatic stage; (v) there is an agreed policy of who to treat; (vi) there are facilities for investigation and diagnosis; and (vii) there is a screening tool or test that is available (Wilson & Jungner, 1968). In other words, universal screening is based on the assumption that a significant problem can be identified before it becomes symptomatic and therefore can be prevented or reduced through effective interventions.

According to Law and colleagues (1998) screening tools for speech and language problems may not meet these criteria. For example, speech and language development is multidimensional and so screening and intervention needs to operate on subsets of symptoms rather than a single problem. The dynamic and adaptive nature of children’s development makes it difficult to judge at a single point of time if there are problems. Similarly, the changing developmental picture for a child and the multiple factors that can be associated with speech and language problems, such as behavioural problems, makes it difficult to draw linear associations between the child’s speech and language difficulties and subsequent outcomes.

There is a question as to whether it is possible to identify a pre-symptomatic stage of a developmental condition. One of the more challenging aspects of any assessment or screening process is whether there is a way of determining a cut-off point or a means of informing the judgement process of which children require intervention. Law and colleagues (2002) concluded that population-based or universal screening for speech and language problems was not supported at this stage.

These criteria highlight the difference between a universal screening tool and the Small Talk project. For example, this study is not about identifying a pre-symptomatic stage but rather identifying symptoms that may otherwise be missed given the child’s situation. The Small Talk project aims to learn from the universal screening literature but not to develop a universal screen. Instead, this study aims to provide a means of better recognising when there are signals or evidence of problems. In particular, it is a means of supplementing the normal observation and assessment processes within the child protection and care system predicated on the understanding
that it is not uncommon for health and development issues to be missed in this population. An assumption underlying this project is that unlike children who are living within their family environment where there is not abuse, neglect and chaos, children in the child protection system need additional opportunities to have their needs recognised and addressed.

Interestingly, there is debate about whether speech therapy should be provided to children under the age of four as many of their problems correct themselves through the course of natural history over time. However, this is in relation to primary problems, not secondary problems where the risk factors and the resulting consequences may continue or worsen if not addressed (Larney, 2002).

Although the Small Talk project is not developing a universal screening tool, Cochrane and Holland’s (1971) classification system for acceptability of screening tools is still informative. They classified screening tests as either:
1. scientifically and financially acceptable;
2. not having sufficient evidence to justify the test being routinely used, especially in the context of a universal screen, or
3. providing some benefit, at considerable cost, for a relatively small group of people.

In this project the Small Talk tool may be in the first or third category. It is not suggested that the Small Talk tool be used routinely within the general population but within the specific child protection population or potentially children at risk of being in the child protection population, such as through family services.

The validation of a screening tool or test can be assessed according to the following criteria:
• Simplicity – Is it easy to administer and capable of use by non-specialist staff?
• Acceptability – Do those using the tools find them acceptable?
• Accuracy – Is it a true measure of what it aims to measure?
• Cost – is the cost-benefit ratio reasonable?
• Precision, repeatability or reliability – What is the ability of the tool to give consistent results over repeated trials?
• Sensitivity – What is the ability of the tool to give a positive finding when the person has the identified condition or problem?
• Specificity – What is the ability of the tool to give a negative finding when the person does not have the identified condition or problem? (Cochrane & Holland, 1971)

If a screening tool has high sensitivity it is accurately able to identify children who have a problem. If a screening tool has high specificity it is accurately able to exclude children who do not have a problem. Sensitivity and specificity are inversely proportional. As sensitivity increases, the specificity usually decreases (and vice versa). If the cut-off point is raised or lowered, then either sensitivity or specificity will be reduced.

According to Brothers, Glascoe, and Robertshaw (2008), in order to be an accurate indicator of a child’s developmental abilities a brief milestones checklist should include (1) items of proven predictive value for each developmental domain; (2) clear criteria for passing or failing performance; (3) high levels of specificity and sensitivity; and (4) clear guidance on what interventions can occur following the results.

There is a difference between a screening tool and a screening program. A screening program involves a system where tests are performed on a population that do not have signs or symptoms to see if they can be identified before such signs or symptoms become readily apparent (Oberklaid et al., 2002). The Small Talk project is not aiming to establish a screening program. However, as stated in the National Out-of-Home Care Standards, it is important for children to have their developmental needs assessed and attended to in a timely way, including speech and language development (FaHCSIA & National Framework Implementation Working Group, 2011). As each jurisdiction, including Victoria, develops a program to implement this standard, tools such as the Small Talk tool in its current or evolved version may contribute to this process.

In addition to screening tools, there are more extensive speech, language and hearing tests. These are conducted by particular professionals, such as audiologists and speech pathologists. Their focus is to determine the specific nature of any difficulties, possible causes and potential recommendations for therapy (Luinge et al., 2006).

Figure 3 outlines the types of assessments possible, ranging from screening tools through to more formal assessments. The Small Talk project is an example of the second level, of a brief assessment.

Figure 3 Types of speech and language assessments and their purpose

<table>
<thead>
<tr>
<th>Universal screens</th>
<th>At risk population receiving brief assessment</th>
<th>Formal assessments by speech pathologists &amp; audiologists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose - to identify children who would otherwise not be timely referred for assessment and intervention</td>
<td>Purpose - to identify children who would otherwise not be timely referred, where there are additional barriers to detection; improve functioning even if not a major problem due to other vulnerabilities</td>
<td>Purpose - to assess speech and language problems and plan intervention to redress problems</td>
</tr>
</tbody>
</table>
Five meta-analyses or reviews of studies regarding speech and language therapy or screening tools are summarised in Table 3. Reviews by Law and colleagues (1998) and Nelson, Ngren, Walker, and Panoscha (2006) focused on the efficacy of screening or early identification tools for speech and language problems. Both of these reviews concluded that there was insufficient evidence for universal screening for such problems, although this did not mean that attention should not be given to identifying problems as soon as possible. “The fact that there is not sufficient evidence to merit the introduction of universal screening does not imply that speech and language delay should not be identified; for example, by less formal method” (Law et al., 1998, p. viii).

Oberklaid and colleagues (2002) explored a number of different health screens on a range of domains including speech and language. For their speech and language domain they largely drew on the Law and colleagues (1998) review. Pickstone and colleagues’ (2002) review was an exploration of different screening tools but did not claim to be evidence-based.

The more recent Cochrane Review (Law, Garrett, & Nye, 2003) focused on the efficacy of speech and language therapy with children and adolescents who have a diagnosed speech or language delay or disorder.

In terms of screening or assessment tools, there is evidence to suggest the value in incorporating the parent’s perspective, rather than only observing the children (Bruce et al., 2003; Glascoe, 2000; Glascoe & Dworkin, 1995; Law & Roy, 2008; McGinty, 2000; Rigby & Chesham, 1981). Advantages of including the parents’ perspectives include: information is usually easier to elicit from parents than young children; it capitalises on the parents’ extensive knowledge of their children’s use of language in a variety of settings; it is quicker; it does not require a highly trained clinician; it eliminates the challenges of trying to directly engage the children, which is especially difficult for young children; it is consistent with a family-focused and collaborative approach; it capitalises on questions commonly asked during visits with the parents; and it facilitates a range of decisions such as when to provide parental education (Glascoe, 2000; Law & Roy, 2008). A related advantage is that the parents are often going to be integral to the treatment plan and so the earlier they are engaged in the process the more likely they are to be engaged in the treatment. Despite these advantages, Glascoe concluded that professional judgement was also needed in conjunction with parental concerns so as to avoid potentially missing some children with problems.

Research has found that parents were reasonably accurate in predicting whether their children had some type of delay or developmental problem (e.g. Glascoe, 2000). Glascoe (2000) also found that this accuracy was regardless of their experience as a parent or their educational attainment. Other studies found that parents were not reliably accurate regarding whether their children had a language delay, except for expressive language problems (e.g. Wake, Gerner, & Gallagher, 2005; Westerlund & Sundelin, 2000). Law and Roy (2008) noted that parents may lack an accurate frame of reference or comparison or be prone to bias. In some settings they may have a vested interest, such as trying to access or avoid services. Dale, Bates, Reznick, and Morisset (1989) noted that parents’ reports were more valid and reliable when the information sought was current not retrospective, the language skills are emergent, and when the skills could be identified by recognition rather than by recall.

Table 3: Reviews of screening tools and speech and language therapy

<table>
<thead>
<tr>
<th>Authors</th>
<th>Focus</th>
<th>Population</th>
<th>Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Law et al. (for National Health Service, UK) (1998)</td>
<td>Screening tools for speech and language problems</td>
<td>Children ≤ 7 years</td>
<td>Insufficient evidence for universal screening for speech and language problems, but still need for early identification. A number of tools perform adequately in relation to productivity but few studies compared screening tools with each other or across different populations. It is easier to determine who is not a case (specificity) than who is (sensitivity). Parent-report measures are as useful as tests of child behaviour. There is evidence of positive results from speech therapy interventions.</td>
</tr>
<tr>
<td>Oberklaid et al. (NHMRC, Australia) (2002)</td>
<td>Health and development screening, not specific to but inclusive of speech and language</td>
<td>Children of all ages</td>
<td>Multidimensional conditions on a continuum from normality to abnormality, such as speech and language, do not lend themselves to a pass or fail criteria. Currently available screening tests not sufficient, imbalance between specificity (false negatives) and sensitivity (false positives). Not appropriate to think of a single time point in a child’s development to screen but evidence of periodic screening not available</td>
</tr>
<tr>
<td>Pickstone, Hannon, &amp; Fox (UK) (2002)</td>
<td>Screening tools for speech and language problems for use by paraprofessionals</td>
<td>Children aged between 0 and 4 years</td>
<td>This was not a review based on evidence-based research but on fit for purpose. The First Words and First Sentences Test had the closest fit for their purposes to be used by paraprofessionals in community-focused preschool programs. It combined a parent-report with picture tests for children. Appropriate for disadvantaged populations.</td>
</tr>
<tr>
<td>Nelson et al. (2006)</td>
<td>Screening tools for speech and language problems</td>
<td>Children ≤5 years</td>
<td>Use of risk factors to guide selective screening is not supported by studies. Studies did not address whether screening was effective. Evidence of positive results from speech therapy interventions</td>
</tr>
<tr>
<td>Law, Garrett, &amp; Nye (2003) (Cochrane Review)</td>
<td>Speech and language therapies</td>
<td>Children of all ages with diagnosis of speech and language problem</td>
<td>Positive effects for speech and language interventions for children with phonological and expressive vocabulary problems. Mixed results for other language problems</td>
</tr>
</tbody>
</table>
These factors become even more difficult in the context of the protection and care population. For example, Glascoe (2000) found that some parents who were unable to complete the screening tool despite the children having obvious communication problems did not have the same language as the worker, were not the primary caregivers of the child or had their own substantial mental health or language difficulties. Some of these factors may reflect the population of those in a parental or caregiving role in the protection and care system.

Glascoe and MacLean (1990) found that when parents gave a positive or adverse appraisal of their child’s development they relied on direct observations, comparisons with other children and provided some explanations based on the child’s history, the family history or other knowledge about the child and the child’s environment.

The issue of parental involvement in this project was an important one. It was considered unlikely that the biological parent would usually be the person to bring the child to the assessment and that the carer may not have continuous knowledge of the child’s developmental history. Laing and colleagues (2002) noted that parental involvement is not always useful but that there was little consensus of alternative approaches.

### Constraints or cautions regarding the use of screening or assessment tools

As mentioned in the previous section, meta-analyses have not supported the use of universal screening for speech and language problems in general populations. However, there are indicators that identifying children who are likely to have problems within an at-risk population, such as child protection, will have value. Nevertheless, there remain some cautions regarding screening tools in general.

Gardner, Froud, McClelland, and van der Lely (2006) contend that no brief screen can hope to identify all the different elements of speech, language and hearing difficulties and so need to be used with caution. Glascoe (2000) noted a number of barriers to using screens such as excessively long tools, problems with managing the child’s behaviour during the process, minimal training available in how to apply the screen, concerns regarding the accuracy of the screen, lack of confidence in the results and “reduced availability of at-risk children who are less likely to attend well-child visits . . .” (Glascoe, 2000, p. 138). This latter group is the focus of the Small Talk project. Butcher (2008) noted that informal checklists can be problematic if they lack criteria for determining problematic versus typical performance; overestimate likelihood of normal development; include items that are too easy relative to the developmental expectations at each age; or fail to include tasks that are strong predictors of delays, disability or problems with school.

According to Bruce and colleagues (2003) children may be stigmatised and labelled erroneously through the results of a screening test. Klee, Pearce, and Carson (2000) contend that children referred to a speech pathologist when they do not have a speech or language problem can lead to undue pressure on caseloads of services, increased size of waiting lists, and unnecessary anxiety in parents. In the protection and care context, this is added to by the number of meetings many carers and parents already need to attend and the number of assessments the child often has to attend (Glascoe, 2001).

An alternative to using a screening tool is a primary prevention approach that provides information to parents, carers and workers. This can support parents, carers and others to provide greater stimulation for the child to acquire speech and language skills. They can also increase the sensitivity of ‘eyes and ears’ of parents and others to identify signals of possible or actual problems. “In that way they become important for the early detection of both monolingual and bilingual children with delayed language development” (Maas, 2000, p. 158). In contrast, however, Camilleri and Law (2001) and Glascoe (2001) found that those children who were recorded as false positives (screened as having a problem that wasn’t evident in the fuller assessment) were often in the lower limits of the normal range, and therefore warranted at least greater monitoring. “In the light of these findings, the health visitors’ indications to refer or review these children can hardly be considered to have been altogether mistaken” (Camilleri & Law, 2001, p. 497).

Law and colleagues (2010) noted that the most important outcome of speech therapy for some children may not be that the child improves in his or her communication abilities, but that those around the child improve their communication with the child. Indirect treatment by others, such as teachers and parents, can be as effective as direct treatment by a health professional (Eagar et al., 2005). As such, early identification of potential problems can be advantageous even if speech pathology services or other specialist intervention are not required. It is also likely that interventions can be used to change the environment, such as acoustics in the classroom, amplification of the teacher’s voice, and minimising background noise (Howard, 2007).

Such an early identification of a hearing problem may also indicate a broader sensory processing or integration problem. In turn, recognition of a child’s hearing problems or auditory processing problems may suggest or result from a sensory processing assessment, such as that which may be done by an occupational therapist through a tool such as a sensory profile (e.g. Dunn, 1999). This may indicate the need for a formal hearing test but may also lead to other strategies, for example changing the child’s environment to help them process auditory information more clearly.

Another concern noted regarding the use of health screening tools is that the available tools for speech and language problems are not responsive or sensitive to Indigenous children or their needs despite the prevalence of these issues in Indigenous communities (Bromfield, Higgins, Osborn, Panuzzo, & Richardson, 2005). Language must be understood in the context of cultural norms or it will be misunderstood (Dixon, Kot, & Law, 1988). Identification of potential or actual problems is dependent on the perceptions of the observer. If observers are not from the same cultural or language group as the child, this can affect their ability to interpret the results. Most standardised tests have an under-representation of ‘non-white’ populations (Schaeder, Quinn, Stockman, & Miller, 1999) and a particular absence of use with Indigenous populations. This was explored in the literature relating to the Clinical Evaluation of Language Fundamentals (CELF) measures, which was one of the standardised tools used in the Small Talk project. The CELF 4 Australian edition includes discussion of the importance of cultural sensitivity from the content of the assessment and the process of assessment (Semel, Wiig, & Secord, 2006). However, a study of Aboriginal
and Torres Strait Islander children in North Queensland found that children who use Aboriginal English may be disadvantaged on the CELF measure, especially in relation to expressive language which illustrated the need for caution (Pearce & Williams, 2013). Such differences may be more profound for children in remote areas than in urban areas.

There is some evidence to suggest that children from different cultural backgrounds relate differently in adult-child interactions particularly in the preschool years and this may impact on how both a screening tool and a full speech and language assessment is conducted (Schaeder et al., 1999). Assessment of children who are bilingual poses particular challenges in terms of assessment tools and access to speech pathologists as the knowledge and experience to work with them is limited (Eagar et al., 2005).

Most tests that aim to be applied to children from different cultures involve minority cultural groups after the tests have been developed. An exception to this is Wyatt’s study (1997) where a tool was developed to encompass commonalities between speakers of Standard English, African-American English, monolingual Spanish, or bilingual Spanish-English. The Small Talk study was informed through consultation with the Victorian Aboriginal Child Care Agency and by Take Two Aboriginal staff. It considered the use of Standard English and Aboriginal English, although more could be done in this area.
The Premises underlying the Small Talk project

The Small Talk project was based on a set of assumptions or premises, such as that a high risk population for speech and language problems, namely children in the protection and care system, are not sufficiently identified with problems and treated as required. As such, the aim of developing a pilot tool was to inform case managers, therapists, carers, parents and others about when children should be referred for speech, language and hearing assessment.

A related premise underlying the Small Talk project is that the earlier children can be identified as having or being at risk of having a speech, language or hearing problem, the more likely those difficulties and other potential consequences can be resolved or avoided.

Following is a set of more detailed questions that the literature explored for the purposes of the Small Talk project:

1. Is there evidence to suggest that children who have experienced abuse and neglect are more likely to have speech and language problems?

The answer is a straightforward ‘yes’. Research shows that children who have suffered abuse or neglect are at increased risk of developing speech and language difficulties. Although there is evidence of both abuse and neglect having negative consequences for children’s speech, language and hearing, neglect is particularly prominent in the research (Allen & Wasserman, 1985; Allen & Oliver, 1982; Coster & Cicchetti, 1993; Crittenden, 1981; Eistgi & Cicchetti, 2004; Grant & Gravestock, 2003; Lynch & Roberts, 1982; Moreno Manso, Garcia-Baamonde Sánchez, & Blázquez Alonso, 2012; Nathanson & Tzioumi, 2007; Spratt et al., 2012; Sylvestre & Mérette, 2010).

Despite being removed from home, children in care are not necessarily safe from further harm. Nor can it be assumed that children who have been returned to their parents’ care or who have never been removed are no longer at risk (Coster & Cicchetti, 1993).

2. What are the explanations for this association between child maltreatment and communication problems?

This is not a straightforward answer as there are multiple possible explanations, a number of which may be applicable in any situation. It is also possible that some of the associations are multi-directional. In other words, child abuse and neglect may increase the likelihood of speech and language problems; speech and language problems may increase the level of risk and susceptibility for the child; and other factors may lead to both child abuse and neglect and speech and language problems.

Neuroscience has shown that the brain develops in a use-dependent or experience-dependent way. As such, it follows that a lack of positive nurturing and appropriately stimulating experiences (such as neglect) or the presence of negative, fearful and overwhelming experiences (such as abuse) will have developmental consequences, including on speech and language, depending on the age of the child at the time and the extent of the experiences (Coster & Cicchetti, 1993; Grant & Gravestock, 2003; Perry, 2002; Perry & Pollard, 1997; Sylvestre & Mérette, 2010). There is also substantial evidence of the importance of positive parent-child interactions as part of healthy speech and language development (Allen & Wasserman, 1985; Coster & Cicchetti, 1993).

3. What are some of the consequences of these communication problems for children?

In addition to the problems directly associated with poor or delayed communication, speech, language or hearing difficulties can cause a number of other problems for the child especially in terms of their relationships with others such as family members and friends, their literacy and other aspects of cognitive development, mental health problems, behavioural problems, and their self-esteem (Coster & Cicchetti, 1993; Howard, 2007; Howard & Hampton, 2006; Laing et al., 2002; Lamey, 2002; Oberklaid et al., 2002; Poe, Burchinal, & Roberts, 2004; Sylvestre & Mérette, 2010).

4. Is there evidence to suggest that children in the protection and care system (as a result of abuse and neglect) may not have their developmental functioning adequately assessed, including speech and language development, and so although they are at greater risk there may be greater obstacles to receiving the necessary services?

Sadly this is another straightforward answer and the answer is yes. Studies have repeatedly shown that children in the protection and care system are not routinely assessed in terms of their health and development, despite the acknowledgement of their higher risk for health and developmental problems (Centre for Community Child Health, Clinical Advisory Group, 2012; Kaltner & Rissel, 2011; Nathanson & Tzioumi, 2007; Royal Australasian College of Physicians, 2006; Zimmer & Panko, 2006). Although there are now national and state policies that identify this as a priority area, there is a long way to go before this population have ready access to these types of assessments and the requisite treatment.

5. Is there evidence to suggest that if children with speech and language problems were identified as early as possible there are appropriate interventions to improve their speech and language development?

This is a more hopeful answer. A number of studies have concluded that early detection of problems, followed by early intervention, can offer substantial benefits to children with speech, language and hearing problems which may in turn prevent or reduce some of the associated problems (Glascoe, 2000). Studies have also found that if children are identified as having speech and language problems and do not receive sufficient treatment, their communication problems will continue or worsen (Maeder & Roy, 2000).

Coster and Cicchetti (1993) argue for a thorough language evaluation as part of the educational or psychological assessment of children with a history of maltreatment and as part of a broader multidisciplinary assessment of the whole family.

6. Is there evidence regarding the appropriate age group to explore for this tool?

This study was predicated on the premise of the importance of early identification especially given the developmental window for language acquisition in the early years. A number of studies indicated that most speech and language problems self-corrected through the process of natural history between the ages of two and three years, on the assumption of an appropriate nurturing environment (Eagar et al., 2005; Oberklaid et al., 2002). There was also consideration given to the importance of speech, language and hearing on the child’s preparation for and participation in school (Rigby & Chesham, 1981).
7. Are there currently tools or processes available to assist children in the protection and care system being identified in a more timely and accurate manner?

Although a number of screening tools for speech and language were identified, most of these were devised as attempts at universal screening tools. Most also assumed that parents, who knew the child well, would be involved in completing the tool. There was no tool found that was specific to this population of children in the child protection and out-of-home care system and who may not have adults in their lives who know their developmental history. There was also no tool found that was intentionally developed for Aboriginal children in partnership with an Aboriginal organisation.

8. Are there additional considerations required for Aboriginal children?

The answer to this is a resounding ‘yes’. Studies have shown that language is inherently a cultural phenomenon as well as an individual developmental phenomenon (Dixon et al., 1988). If the person doing the assessment is from a different language or cultural group than the child, this can affect the interpretation of results. Most standardised tests have not been developed for ‘non-white’ populations (Schraeder et al., 1999).

9. Is there a value of having a speech and language assessment and therefore a consultation by a speech pathologist for children in the protection and care system, even if the result is the child does not have a speech or language delay?

There are some costs such as financial burden, time wasting and increased waiting lists if children are assessed unnecessarily (Glascoe, 2001; Klee et al., 2000). However, there is a strong argument that children who are assessed as a ‘false positive’, in other words the tool indicates they need further assessment but the subsequent assessment finds they had no delays, may still have some benefits from this process (Camilleri & Law, 2001; Glascoe, 2001). This would need to be balanced with the number of other appointments, assessments and interventions occurring in the child’s life and the scarcity of resources.

Conclusion

The findings of the literature review were used to inform the rationale of the Small Talk study, to reinforce the importance of the research questions, to clarify the focus and to assist the analysis of the findings. It was an iterative and circular process with the literature being reviewed throughout the course of the study.

It is evident that children who had experienced abuse and/or neglect are more likely than the general population to have problems with speech, language and hearing and therefore attention to this population is warranted. Similarly, the consequences of speech, language and hearing difficulties on a range of other areas of the children’s development can be profound. The evidence of obstacles that make it difficult for children to receive assessment and treatment is also apparent. Such treatment may constitute a developmental opportunity that if missed could have long-lasting implications.

There is a concerning threefold set of problems related to communication for Aboriginal children, namely their over-representation in the child protection and care system; their greater likelihood of having hearing loss; and the lack of awareness in the broader community of Aboriginal English and Indigenous languages. Each of these areas requires greater attention and the third one requires more education to the broader community as well as consideration of bilingual education being available as discussed in the National Inquiry by the House of Representatives.

Fortunately, the literature also points to the value and importance of multidisciplinary approaches to vulnerable populations, proactive use of cultural consultants when working with cultures other than our own and the potential for change that can occur for many children if they receive timely and tailored clinical services, such as speech pathology, to redress communication difficulties.
References


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### Appendix One: The typical stages of a child’s language development:

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>Typically acquired skills</th>
</tr>
</thead>
</table>
| **One**     | • Respond to familiar sounds  
              • Understand simple commands such as “no”  
              • Understand the names of familiar objects or people  
              • Recognise their own name  
              • Says “mum” and “dad” plus a few other words |
| **Two**     | • Say the names of simple body parts  
              • Listen to stories and say the names of pictures  
              • Understand a simple sentence such as “where’s your shoe?”  
              • Use more than 50 words such as “no”, “gone”, “mine”  
              • Talk to themselves or toys during play  
              • Use some pronouns such as “he”, “it”  
              • Try simple sentences such as “milk all gone” |
| **Three**   | • Understand how objects are used  
              • Recognise their own needs such as hunger  
              • Follow directions  
              • Use 3-4 word sentences  
              • Begin to use basic grammar  
              • Enjoy telling stories and asking questions  
              • Be understood by familiar adults  
              • Have favourite books and television programs |
| **Four**    | • Understand colour names and shapes  
              • Understand some ‘time’ words such as lunch time, today, winter  
              • Ask who, what and why questions  
              • Use lots of words, about 900, in 4-5 word sentences  
              • Use correct grammar with occasional mistakes  
              • Speak clearly enough to be understood by most people  
              • Use language when playing with other children  
              • Maintain a topic of conversation for 1-2 turns |
| **Five**    | • Understand opposites such as high and low  
              • Use approx 1500 words in sentences of about 6 words with correct grammar  
              • Talk about events in the past, present and future  
              • Explain why something has happened, such as “Mum’s car stopped because the petrol ran out”  
              • Follow up to 3 directions, for example “Stand up, get your shoes on and wait by the door”  
              • Be understood by anyone  
              • Tell a story with an identifiable theme and include info on feelings  
              • Segment words in sentences, show some rhyme awareness and be interested in writing, numbers and reading |
| **Six**     | • Understand all ‘wh’ question forms; e.g. what, where, when, why  
              • Understand temporal terms including ‘before’ and ‘after’  
              • Use a vocabulary of approximately 2200 words and join sentences together using ‘because’, ‘when’ and ‘so’  
              • Articulate correctly all speech sounds with the exception of ‘th’  
              • Maintain a topic of conversation for an average of 5 turns  
              • Use language to manipulate others  
              • Adjust their speech style to suit listener  
              • Recognise and produce rhyme  
              • Identify sounds in words and demonstrate letter/sound knowledge |
| **Eight**   | • Understand words have multiple meanings  
              • Understand upwards of 24,000 words  
              • Use terms such as ‘left’ and ‘right’  
              • Articulate all speech sounds correctly  
              • Use indirect requests; for example “Gee those cookies smell nice”  
              • Understand and use jokes and riddles  
              • Include dialogue in narratives and demonstrate a beginning, end, problem and resolution in their stories  
              • Blend 3-5 sounds together  
              • Recognise words by sight as spelling patterns become more familiar  
              • Move into chapter books with an emphasis on comprehension |

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Note Developed from Hulit, Howard, & Fahey (2010) and Owens (2012).
Reading Materials

Bruce D. Perry, M.D., PH.D.

Australasian Speaking Tour

Transforming Childhood Trauma:
A neuroscience approach to healing and recovery

Melbourne    Hobart    Perth    Adelaide    Canberra    Sydney    Brisbane

Auckland    Wellington    Christchurch