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Behavioural problems in children with specific language impairments

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*Behavioural Problems in Children with
Specific Language Impairments*

F.W. Coster

**Behavioural Problems in Children with
Specific Language Impairments**

F.W. Coster

Stellingen
behorend bij het proefschrift

Behavioural problems in children with specific language impairments

F.W. Coster

1. Het specifieke van kinderen met een specifieke taalstoornis is niet alleen gelegen in de taalstoornis zelf, maar ook in de aard van de gedragsproblematiek.
2. Dat 51% van de kinderen met een specifieke taalstoornis geen gedragsproblemen vertoont is wellicht te danken aan de positieve invloed die er uitgaat van scholen voor slechthorende kinderen en kinderen met spraak- en/of taalmoeilijkheden.
3. Als een kind een specifieke taalstoornis door een toegesneden behandeling overwint, dan betekent dit niet dat de diagnose 'specifieke taalstoornis' ten onrechte werd gesteld.
4. De medische, audiologische en psychologische status van een kind bepalen de specificiteit van een taalstoornis, de taalkarakteristieken bepalen de ernst ervan.
5. De veronderstelling dat mensen met een beperking een negatief zelfbeeld hebben, berust op een onderschatting van hun mogelijkheden.
6. Als scholen voor slechthorende kinderen en kinderen met spraak- en/of taalmoeilijkheden ook kinderen met PDD/NOS toelaten, dan moet dit gaan vanuit een besef dat de gedragsproblemen van deze kinderen een andere achtergrond hebben dan de gedragsproblemen van kinderen met een specifieke taalstoornis.
7. Er is geen enkele aanleiding om te denken dat jonge dove kinderen met een cochleair implantaat niet net zo goed tweetalig kunnen worden opgevoed als jonge goedhorende kinderen.
8. Een peuterspeelzaal voor kinderen met taalstoornissen is voor de opvoeders misschien nog wel belangrijker dan voor het kind zelf.
9. De invulling van kinderfeestjes is een nieuw statussymbool geworden.

10. Eén van de genoegens van het bezoeken van moderne dansvoorstellingen is dat je bijna nooit in de rij hoeft te staan voor de toegangskarten.

11. Tijdens de eerste eskimoteerlessen tekent het zich weer haarscherp af dat emoties de ratio overstijgen.

RIJKSUNIVERSITEIT GRONINGEN

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Specific Language Impairments**

Proefschrift

ter verkrijging van het doctoraat in de medische wetenschappen
aan de Rijksuniversiteit Groningen
op gezag van de
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Aan mijn ouders

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1. INTRODUCTION

1.1 Problem Analysis and Subject Matter

This study concerns the relation between specific language impairments (SLI) and behavioural problems in children, explored here in the perspective of special education. Historically, language impairments and the relation between behavioural problems and language impairments are under research in the fields of linguistics and psychiatry. Often, these studies focus on the nature and classification of the language impairment itself, or on the co-morbidity of language impairments and behavioural problems. In our study, the language impairment was presumed to induce behavioural problems, however our premise was that language impairments are not the only determinant of behavioural problems in children with SLI; child and educator related variables might also play a role.

The study was inspired by the practice of special education for children with language impairments in the Netherlands, where such children often attend special schools for children with hearing problems and speech and language impairments. These schools were founded for children with hearing problems, and in time, those with language impairments were also admitted to this category of schools for special education. Children with language impairments were thought to benefit from the adaptive education, including the attention given to language development. Today, pupils with language impairments form the majority of the school population: In the 1999 annual report of the schools for children with hearing problems and speech and language impairments in the Netherlands, the number of pupils with language impairments

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attending the elementary schools was 3,785, whereas those with hearing problems did not surpass 889 (VeBOSS, 1999).

It became apparent, however, that the problems of children with language impairments were more complex than those of children with hearing problems. The behaviour of the children especially raised questions. Teachers wanted to know more about the relation between language impairments and behaviour in order to handle their pupils appropriately. Objective data on the amount and types of behavioural problems were not available, and ideas about processes linking language and behaviour were speculative.

1.2 Reflections on the Relation Between Language Development and Behavioural Development

The relation between language development and behavioural development has been studied within different fields of research, e.g. philosophy, linguistics and speech pathology. Language can be perceived as the basis for social behaviour, whereas other theories assume that social behaviour precedes language development. Following is a discussion of the interrelation between language and social behaviour.

1.2.1 The Philosophy of Education

In literature on the philosophy of education, the verbal communication between parents and child is mentioned as the basis in child-rearing practice of becoming a 'Person' (Litt, 1965; Kohnstamm, 1967; Langeveld, 1969; Strasser, 1970; Bollnow, 1979; Spiecker, 1982; Imelman, 1982; Meijer, 1995). A 'Person' is seen as a human being able to take care of his or her own life and take responsibility for his or her own decisions and moral judgements. Children are thought to learn about

society, ethical norms and moral judgements, first in communication with their parents and later in communication with their peers. Discussions and explanations of 'why' and 'how' are central in this process of socialization. Children learn to judge their own functioning according to the parental norms they internalize. In this sense, language development is seen as the basis for socialization. Differentiation is made between *education* and *preparatory education*. The prelingual period was seen as the period of preparatory education: loving the child, handling the child in the right manner and organizing surroundings in order to facilitate motor development and social interaction. Education can start no earlier than the moment the child begins to speak. As a consequence, the child-rearing process and resulting socialization are believed to be impossible without oral communication.

When we extend these ideas to children with language impairments, problems in child-rearing and socialization must occur, resulting from problems in the oral communication between parents and children. The inadequate communication between parents and child may lead to a lack of socialization and, as a consequence, behavioural problems.

In the past, the ideas formulated by philosophers of education about the essence of oral communication for socialization negatively affected the education of deaf children and severely disabled children. Only oral communication in education was accepted. Non-verbal education and sign language were felt to be of minor importance. Through non-verbal communication the child could not discuss ethical questions. Acceptation of total communication (TC) in the education of the deaf started no earlier than the Hamburg conference (International Congress on Education of the Deaf, 1980). Around the same time, augmentative and

1. Introduction

alternative communication was introduced in services for disabled children with severely impaired oral communication (Shane, 1980). Today, augmentative and alternative communication has come to be accepted when oral communication is extremely problematic (Loncke, 1993; Alm & Parnes, 1995).

For our research, it is noteworthy that the philosophy of education stresses the importance of oral communication between parents and child in the process of socialization. It does not, however offer an explanatory theory on the influence of a language impairment on the process of socialization.

1.2.2 Linguistics

Within linguistics, different views on the origin of language development can be found (Smolac, 1986). In the cognitive view, for instance, it is postulated that language development is rooted in more general cognitive structures, whereas the nativist view presumes that a child is born with a specific linguistic mental structure. Both views underscore that the development of language depends on an adequate language input, which is intertwined with the interactions between the child and his or her educators. Bruner (1983) therefore suggested a social interactional view on language development, which postulates that language acquisition starts from birth; interactional patterns between mother and child provide the child information about communication. The child's first utterances are seen as the result of these interactional patterns.

Researchers, supporting this social interactional view, were interested in how language development and interaction between parents and child began. They studied the earliest patterns of communication that could be observed: the communication before the child utters his first

words, called the period of preparatory education and prelinguistic communication. They found that parents treat their children as if the children already spoke to them. All movements and utterances of the child are interpreted by the parents as meaningful messages and are translated by the parents in utterances and words (Papousek & Papousek, 1975; Bruner, 1977; Bullowa, 1979; Trevarthen, 1979). These interactions initiated by the parents and followed by the child are seen as the basis for language development. The opinion was formulated that language development and social and emotional development are entwined. It was hypothesized that lack of social interactions can lead to language disorders, and conversely, language disorders can lead to problems in social interactions, causing social and emotional problems. However, the question how of language impairments may lead to behavioural problems is unanswered from the linguistic point of view.

1.2.3 Speech and Language Pathology

In recent years, language impairments in children have become one of the topics in research on developmental problems (Bloom & Lahey, 1978; Beitchman, 1985; Beitchman, Nair, Clegg et al., 1986; Bishop & Rosenbloom, 1987; Haynes & Naidoo, 1991; Bishop, 1992; Fletcher & Hall, 1992; Bishop, 1997; Leonard, 1998). The relation between language disorders and behavioural problems is part of this research.

On the basis of the research on language pathology, especially when etiology is concerned, the discussion about the relation between language development and social and emotional development is renewed. Specific language impairments (SLI) are differentiated from developmental language impairments (LI) in children, as a condition in which language fails to follow a normal developmental course for no

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apparent reason. In the history of research on language problems, different terminology has been used to refer to this condition. Whereas Ingram (1961) tried to define 'specific developmental language disorders' as difficulties in language learning which cannot be explained by mental retardation, hearing impairment, environmental factors, structural and neuromotor causes or autistic behaviour, Zangwill (1978) defined 'developmental dysphasia' as a slow, limited or otherwise faulty development of language in children who do not otherwise show evidence of gross neurological or psychiatric disability, and where the language difficulty is not secondary to deafness. Specific language impairment is the most recently introduced term to refer to unexplained difficulties in language acquisition. Stark and Tallal (1981) formulated the following criteria:

- a language age at least 12 months lower than the chronological age
- normal hearing on pure tone screening
- no known history of recurrent otitis media
- no emotional or behavioural problems
- performance IQ of 85 or above
- normal neurological status
- no peripheral oral motor or sensory deficits

These criteria are still used to define a specific language impairment, although it is under discussion as to whether the language age of the child should be one year below its chronological age or its mental age (Bishop, 1997; Leonard, 1998).

Several studies indicate that children with language impairment are at risk for developing behavioural problems (Beitchman, Nair, Clegg et al., 1986a; Cantwell & Baker, 1987; Baker & Cantwell, 1987a; Baker

& Cantwell, 1987b; Tallal & Curtiss, 1989; Benasich, Curtiss & Tallal, 1993; Goorhuis-Brouwer, Nakken & Van den Berg, 1996; Beitchman, Wilson, Brownlie et al., 1996; Beitchman, Brownlie, Inglis et al., 1996). When comparing the outcomes of these studies, we see a broad range in the percentage of language-impaired children with behavioural problems, from 11% (Tallal et al., 1989) to 60% (Baker et al., 1987a). This is likely due to differences in the items such as measurement of behavioural problems and differences in the ages and language problems of the children in the samples.

The behavioural problems of the children are assessed with different standardized questionnaires, for instance the Child Behavior Checklist (CBCL, Achenbach), the Conners' Parents Questionnaire, the Rutter Parent and Teacher Scales. Occasionally a DSM classification is used on the basis of interviews and examination. More importantly different informants on the behaviour of the child are used- parents, teachers and sometimes parents and/or teachers. In studies that use the DSM classification system, information from parents, teachers, and the psychiatric interview is combined. The child is considered behaviourally disturbed if, on the basis of this information, a DSM diagnosis has been given by a psychiatrist. The different studies show that inferences made by parents, teachers and psychiatrists on the behavioural problems of the children can differ. Linking the data from more than one informant seems to increase the percentage of children with behavioural problems that is found.

Another difference that becomes apparent is the age of the children in the samples. The subjects in the various studies have an age range from 2 to 21 years. In younger children some language problems can be persistent, whereas other language problems can be treated and, as

1. Introduction

a consequence, are transient. Studies by Baker and Cantwell (1987a; 1987b) and Beitchman, Hood, Rochon et al. (1989) indicate that speech articulation deficits are less persistent than language disorders and have less impact on behavioural development than do language disorders. A study of Bishop and Edmundson (1987) shows that children with language disorders can overcome their language problems as well. They found that 44% of the children who were diagnosed as SLI at age four had resolved their language problems by the age of five and a half. To date, a language problem still present at the age of seven is believed to be lasting (Goorhuis-Brouwer & Schaerlaekens, 2000). Therefore, older subjects in a sample will mostly have a persistent language impairment, whereas in younger subjects the language problem can be transient with fewer implications for behaviour development.

Some studies have composed a sample of children with language impairments (LI), including those with autism/pervasive developmental disorder, low intelligence quotient, neurological hard signs, or motor handicaps (Beitchman et al., 1986; Cantwell et al., 1987; Baker et al., 1987; Beitchman et al., 1996). Other studies included only children with SLI, excluding those who combine their language problems with others (Tallal et al., 1989; Benasich et al., 1993; Goorhuis-Brouwer et al., 1996).

The differentiation of SLI from LI seems to be of importance when the coherence of language impairments and behavioural problems is discussed. In children with LI, the language problem is due to or co-occurs with other developmental problems such as hearing loss, mental retardation, neurological problems, social deprivation or child psychiatric problems (e.g. Attention Deficit Hyperactivity Disorder (ADHD), Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS).

In children with SLI, the language problem is the only developmental problem of the child (Table 1).

Table 1. Descriptions of LI and SLI

LI	SLI
Language impairment due to or combined with:	Language impairment
	Other development normal:
hearing loss	normal hearing
mental retardation	non-verbal IQ > 85
PDD-NOS/ ADHD	no psychiatric disorders
neurological problems	in medical sense "healthy"
social deprivation	no social deprivation

In studies on the relation between language impairments and behavioural problems, interesting differences can be found when comparing the studies on children with LI with those on children with SLI (Table 2). In children with LI, behavioural problems are found at a relatively young age, whereas in children with SLI the behavioural problems seem to become more apparent with increasing age. According to the study of Tallal et al. (1989), the percentage of five-year-old children with SLI and behavioural problems is within a normal range. They found 11% to be behaviourally disturbed, which corresponds with the 10% of children with behavioural problems within the norm group of the Child Behavior Checklist. In a follow-up study, when the children had reached the age of eight, an increase of behavioural problems was found (Benasich et al., 1993). It seems that in children with SLI, no behavioural problems are present at a young age, but as the children grow older, behavioural problems can occur. It seems that language problems induce these problems.

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Table 2. The relation between language disorders and behavioural problems according to parents, teachers, parents and/or teachers.

Author	SLI/LI	Method	Beh. prob. according to			Age	n
			parents	teachers	and/or		
Beitchman et al., 1986	LI	CBCL, Conners' TRS	32%	34%	55%	5	142
Cantwell & Baker, 1987	LI	DSM			44%	2-16	600
Baker & Cantwell, 1987	LI	DSM			60%	7-21	300
Silva et al., 1987	LI	Rutter-scales	28%	29%	46%	7	71
			56%	30%	49%	9	69
			21%	23%	33%	11	65
Tallal et al., 1989	SLI	CBCL	11%			5	81
Benasich et al., 1993	SLI	CBCL, Conners' PQ	32%			9	56
Goorhuis-Brouwer et al., 1996	SLI	CBCL	19%			3-6	21

In children with LI, behavioural problems are probably not due to the language problem itself, but to a combination of problems. It is also possible that the co-occurring problems by themselves induce the behavioural problems. Whereas the age of onset of behavioural problems differs, the percentages of LI and SLI children with behavioural problems seem similar at the age of eight. However, the number of studies on behavioural problems of older children with SLI is relatively small. More data on children with SLI are needed to examine whether the percentage of older children with SLI suffering from behavioural problems will be as extensive as within a sample of children with LI.

As children with LI combine their language problems with other problems, it can be hypothesized that children with SLI and LI will suffer from different types of behavioural problems. However, when looking at the type of behavioural problems found in various studies, this distinction can not be made. Due to the many dissimilarities in the samples and methods used, a comparison of children with SLI and LI on this respect can hardly be made. In general, the behaviours most closely associated with language impairments in the studies on children with LI as well as SLI are hyperactivity and attention problems, often combined in the clinical syndrome ADHD (Attention Deficit Hyperactivity Disorder) (Baker et al., 1987a, 1987b; Beitchman et al., 1989; Beitchman et al., 1990; Benasich et al., 1993; Beitchman et al., 1996). Besides ADHD, a number of emotional disorders were found, for instance affective disorders (Cantwell et al., 1987), anxiety disorders (Baker et al., 1987a, 1987b), adjustment and avoidant disorders (Beitchman, Hood & Inglis, 1990), social withdrawal (Tallal et al., 1989; Benasich et al., 1993) and immaturity (Beitchman et al., 1989). Attention problems and hyperactivity seem most pronounced among boys, whereas emotional problems are

1. Introduction

more common in girls. According to the mentioned studies, the nature of the behavioural problems in children with LI and SLI does not show any clear-cut differences.

Although language development and social and emotional development are thought to be entwined, research on children with language impairments indicates that different paths can lead to behavioural problems, depending on whether the language impairment is specific. The genesis of behavioural problems in children with SLI seems to take place at an older age, whereas in children with LI the problems are present from an early age. As other explanations for behavioural problems are ruled out, for children with SLI it can be hypothesized that limitations in expressing and comprehending language may result in behavioural problems (Redmond & Rice, 1998; Coster, Goorhuis-Brouwer, Nakken et al., 1999). As children grow older, increasingly more will be required of their communicative skills and the communicative skills of their environment. Behavioural problems are thought to be generated by the communicative demands of the situation, the child's verbal limitations, and the biases and behaviours of people within the child's environment.

Research on speech and language pathology makes clear that differentiation of SLI from LI is essential when discussing the effects of language impairments on other developmental areas, e.g. behavioural problems. In children with SLI, the language problem is the main or even basic problem of the child, whereas in children with LI it is often part of a wider range of problems.

1.3 Subject of Research

The study of children with SLI offers an opportunity to determine whether language impairments in themselves can cause behavioural problems. The relationship between language impairments and behavioural problems, however, is a complex one as not all children with language impairments suffer from behavioural problems. Besides the language impairments, other variables must play a role. The fact that not all language-impaired children suffer from behavioural problems, as well as the different outcomes according to parents and teachers, has led to the presumption that the genesis and manifestation of behavioural problems in children with SLI depend on situational and interactional factors. In this study, we wished to explore how behaviour problems in children with SLI can develop. To do so, we posed the following questions:

- What is the extent of the behavioural problems in children with SLI aged 8 to 12?
- What is the nature of the behavioural problems in children with SLI?
- Which factors besides the language impairment interfere with the development of behavioural problems in children with SLI?

1. Introduction

1.4 Outline of the Thesis

In order to investigate our research questions, this thesis contains the following chapters.

Chapter 2 introduces a model on the relation of specific language impairments and behavioural problems. The model is based on the effects a language impairment is assumed to have on the child and his or her educators. First, the nature of language impairments is described, and then the influence of language impairments on the child's interactions with peers and parents is discussed. The self-concept of children with SLI is also considered. These aspects are integrated in a model describing possible relations with the behavioural problems of children with SLI.

An empirical study was conducted to examine our model. *Chapter 3* presents the procedures used to select the subjects and materials. The questionnaires used for assessing behavioural problems, self-concept, and educational problems are explicated and the statistical procedure applied to test our model is introduced.

Chapter 4 describes the results of the data analysis. First, the outcomes are described for each questionnaire separately. Subsequently, the value of our model is tested with these outcomes.

In *Chapter 5* the results are discussed in the context of data from national and international literature.

In *Chapter 6* the implications of the results are discussed with reference to future research and our model.

Appendix 1 and *2* present an adapted version of the 'Vragenlijst problematische opvoedingsstijlen', originally published by Van der Kooij, Calkhoven & Lutje Spelberg (1995).

2. A MODEL ON BEHAVIOURAL PROBLEMS IN CHILDREN WITH SPECIFIC LANGUAGE IMPAIRMENTS

2.1 Introduction

Applicable literature indicates that language impairments increase the risk of behavioural problems. It also becomes apparent that the relationship between language impairments and behavioural problems is a complex one; other variables might play a part in the genesis of behavioural problems in children with SLI. An explanation, therefore, can not be based solely on the language impairment of the child. The reactions and influence of the environment should be considered as well. Samaroff and Fiese (1990) describe a transactional model of development that offers a useful starting point to hypothesize on the interaction between language-impaired children and their environment. In this model, 'behaviour at any particular point in time is not viewed as the result of a specific event or influence, but rather as the result of the ongoing interactions between child, care giver, and environment' (Fujiki & Brinton, 1994: p. 126). When the interactional processes of children with SLI are analysed, the actors that should be involved are the child, his educators, his immediate environment (siblings, neighbourhood children, classmates) and the community (Nakken, 1994). Children with SLI may have problems expressing their wishes, thoughts and feelings due to their limited linguistic abilities. On the other hand, educators or others in the child's immediate environment may misunderstand the child and provide a response that is inadequate or unpleasant for the child. Educators' and others' own communicative abilities and their unfulfilled expectations also affect their ability to understand and respond adequately. This may lead to disrupted interactions that may be accompanied by feelings of

2. Model

incompetence and negative self-esteem in the child. These social and emotional problems may be expressed through behaviour, which can in turn be interpreted as 'difficult' by educators.

Studies on children with SLI and their parents will be discussed, in order to verify these ideas on factors and processes that lead to behavioural problems. First, the problems of the child are considered. As language has many aspects, this section examines ideas about the nature of the language problems in children with SLI and describes whether a particular set of features of language can be regarded as characteristic for these children. Since the main function of language is communication, the interactions of children with SLI with others are also looked at. Since interaction as well as education is a two-way process, not only the child with SLI is regarded. Additionally, the reactions of parents to their child with SLI are described. It is discussed whether the language impairment of the child influences the way parents interact and communicate with their child, and whether language impairments can result in educational problems as experienced by the parents. The interactional processes between children with SLI, their parents and peers may in the end influence the self-concept of the child. As no data on the self-concept of children with SLI are available, some ideas on the determinants of self-concept are discussed.

2.2 The Child with Specific Language Impairments

The first actor in the model on behavioural problems stemming from language impairments, the child with SLI, has problems acquiring language. Language can be looked at from different points of view. Our approach is in terms of language development and language impairments. Bloom and Lahey (1978: p.4) define language related to language

development and language impairments as follows: 'Language is a code whereby ideas about the world are represented through a conventional system of arbitrary signals for communication'. They distinguished three components in language; that is, form, content, and use. The form of language refers to the set of rules concerning the use of sounds (phonology), words and sentences (syntax) within a given language. Content (semantics) can be described as knowledge about objects, events and relations represented through language. It refers to vocabulary as well as to relations between objects and events. The use of language (pragmatics) refers to the skills a person applies to take the social context into account when using language in relation to others.

This distinction of form, content, and use of language is rather broad. When language is looked at in a more detailed way, it can also be regarded as a range of linguistic subsystems, in general phonology, syntax, semantics and pragmatics, using two modalities; that is, language expression and language reception. Table 3 shows how these subsystems and modalities can be combined to describe the different aspects of language (Goorhuis & Schaerlaekens, 2000) Studies comparing children with SLI with normal children have demonstrated differences on a wide variety of tasks including these aspects of language (Korkman, 1999).

In practice as well as in research, SLI is not considered as a uniform condition. In terms of the definition of language by Bloom and Lahey, children with SLI have problems acquiring the 'conventional system'; that is, learning the rules of expressing sounds, words, sentences, and use of language. They can also have problems with language being a 'representation'- they do have ideas about the world, but have problems finding the words and sentences to express them or in recognizing ideas in words and sentences produced by others.

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Table 3. Subsystems and modalities of language (Goorhuis & Schaerlaekens, 2000).

Subsystems	Modalities	
	Language reception	Language expression
Phonology	Discrimination of speech sounds	Forming speech sounds Using and combining speech sounds in words
Syntax	Understanding of morphological structures Understanding of grammatical structures	Forming of sentences Applying morphological and grammatical rules
Semantics	Word comprehension Comprehension of sentences Comprehension of narratives	Word finding Connecting meaningful parts of sentences Coherence in narratives
Pragmatics	Understanding communicative functions	Using language socially, for communication

A heterogeneity of language profiles can be found in children with SLI. Several attempts have been made to formulate subtypes of language impairments. Rapin and Allen (1987), for instance, formulated descriptive, clinically based subtypes. The syndromes they distinguished were verbal auditory agnosia, verbal dyspraxia, phonologic programming deficit syndrome, phonologic-syntactic deficit syndrome, lexical-syntactic deficit syndrome, and semantic-pragmatic deficit syndrome. Another approach used for classifying language impairments is based on a concept that Bloom and Lahey (1978) characterized as ‘describing the child in terms of the relative strengths and weaknesses of certain processes or abilities that are necessary for the learning and use of language’. Bishop (1992) offers an overview of several underlying cognitive processes and abilities of language impairments, discussing hypothesis on failure of programming speech, failure of the auditory perception, impairments in mastering

grammatical relations and developing concepts, failure to apply hypothesis-testing procedures, and limited information-processing. In research on SLI, different subtypes of language impairments are found, either by using descriptive clinically based accounts or by using statistical methods like cluster analysis to look for patterns of association between different language deficits in children (Bishop, 1997). None of the subtyping approaches, however, has gained general acceptance or widespread use (Watkins, 1992; Bishop, 1997).

It is broadly accepted that language problems can occur in different aspects of language (form, content, use), on different levels of language functioning, (phonology, syntax, semantics, pragmatics), and may be attributed to several underlying cognitive processes related to language acquisition and use. The description of the manifestation of language impairments, however, does not give insight to the genesis of behavioural problems. Furthermore, it is not yet clear if different language problems lead to different behavioural problems. Only certain aspects of the interaction and communication of children with SLI have been explored.

2.3 Interactions with Peers

Rice and her colleagues conducted a number of studies on the interactions between children with language impairments and their environment. In an initial study (Rice, Sell & Hadley, 1991), conversational turns of four groups of preschool children attending a Language Acquisition Preschool were compared. The children were classified according their language ability: normal developing language (NL), specific language impairment (SLI), speech impairment (SI), and second language acquisition (SL). The conversational turns were scored on function, i.e. initiations or responses,

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and on the addressee. It was found that children with NL had a higher number of initiations towards their peers compared to those with limited language skills, and were also the preferred addressees in peer interactions. Children with SLI and SI directed more of their initiations to adults. The SL children directed the lowest proportion of initiations and were the least likely to be the addressees of the other children. It was concluded that preschool children, to some extent, appear to be aware of their own language skills and are sensitive to the language skills of others. The data suggest that they adjust their patterns of interaction accordingly.

A following study was conducted on the conversational responsiveness of speech and language-impaired children (Hadley & Rice, 1991). The responsiveness of four groups of preschool children attending a Language Acquisition Preschool was observed and scored. The four distinguished groups included children with language impairments (LI), children with speech impairments (SI), children who previously had language impairments (PLI) and children with normal language (NL). The results showed that initiations of children with LI or SI were more likely to be ignored by their peers. Additionally, children with LI and SI responded less often to the interaction attempts of peers and adults. It can be concluded that language abilities influence preschool children's participation in social interactions. Language impairments can lead to fewer peer interactions and to less responsiveness to initiations on the part of peers, as well as on the part of children with LI and SI.

Craig and Washington (1993) examined the verbal and nonverbal behaviours used to gain access into an ongoing play of five children with SLI and eight children with normally developing language. All the children with normal language succeeded in accessing the play, using an orderly and sequential set of indirect verbal as well as nonverbal

behaviours. Three of the children with SLI failed to gain access. Their failure was already observable in the initial stage. They did not try to approach other children. If partners invited them to join the play, the children with SLI did not respond, or refused. The two children with SLI that succeeded in gaining access did so without speaking. Although the sample size was small, these findings indicate that children with SLI do not access the same way their peers do.

These studies imply that the amount of peer interactions of children with language impairments may be limited, and are also reduced in quality. Craig and Washington (1993) remark that it is unclear whether these differences in interactions with peers 'reflect a primary deficit in social knowledge' or are the 'secondary consequence of poor language skills'. In children with SLI, the most plausible explanation would be that the language impairment is the primary problem, causing the child to withdraw in interactions. This withdrawal probably diminishes opportunities to learn and practice age-appropriate social skills.

To conclude, when compared to age-adequate speaking children, the problems of children with SLI do not confine themselves to language alone; the language impairments may interfere with interactions with peers as well. Children with SLI are less successful in initiating conversations and play. They also run a higher risk of being ignored by peers, and if not, children with SLI can have problems responding adequately to initiations of other children.

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2.4 Parents of the Child with Specific Language Impairments

The interactions between parents and their child with SLI is discussed from the parental language input and educational practice.

2.4.1 Parental Language Input

Studies on interactions of children with SLI and their parents indicate that parental communication can differ from that of parents towards adequately speaking children. Leonard (1998) conducted a survey of literature on language input that parents themselves provide their children with SLI. He posed that in the early clinical literature it was speculated that a linguistically inadequate environment might contribute to the language impairment of the child. To this issue it was added that the difference in language input might also reflect an effect of the child's language impairment. In the different studies comparing the language input of parents of children with SLI to controls, besides many similarities, various differences in language input were found. During structured tasks, for instance, mothers of children with SLI were more directive and more likely to interrupt their children with a command. During free play they asked fewer questions. In some studies parents of children with SLI used fewer total words, expansions, models, verbal routines, intelligible utterances, and grammatically complete sentences. In interactions, fewer recasts were used. 'Recasts are responses to the child utterances that not only render the utterance grammatical but also convert it to a particular morpho-syntactic construction' (Leonard, 1998: p. 168). As for the content of the language input, mothers of children with SLI appeared to stay on the same conceptual footing as their child.

Leonard concluded that in some aspects the speech of parents towards their children with SLI seems to be altered, although the data from several studies are somewhat contradictory as to which specific aspects. He stated that a great deal of the parental linguistic adjustments should be considered as the natural consequence of the language impairment of the child. Some of these parental linguistic adjustments seem to be inadequate. The lower frequency of recasts, for instance, was found to be the least attributable to the language development of the child with SLI. An increase of the frequency of recasts appeared to facilitate the grammatical learning of children with SLI.

Conti-Ramsden and Friel-Patti (1983) found the parental language address to children with language impairments of almost similar structure when compared to language address to non-language-impaired children. However, mothers of children with language impairment showed a higher number of dialogue initiations. As children with SLI themselves were found to initiate dialogue less often than the controls, it was argued that the increased number of initiations of the mothers of children with language impairments might constitute an effort to maintain the interaction. The adjustments in discourse found in mothers of children with language impairments were conceived as assisting the children to maintain the dialogue.

Van Balkom (1991) not only focussed on language input but also looked at the interactions of preschool-aged children with SLI and their parents in a broader sense. He examined verbal as well as non-verbal acts and their reciprocity when studying discourse coherence in conversations of children with SLI and their primary caregivers. He found a number of adjustments in the acts of parents towards their children with SLI, such as the reinitiating of themes and the use of self-repetitions by parents. He

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labelled these as 'strategies to help the SLI children to become more verbally and actively involved in discourse' (p.149), and 'the creation of a facilitive framework for the children to learn to create coherent discourse and to compensate for the SLI child's verbal and linguistic deficiencies' (p.151). Besides the 'natural consequences of the language impairments of the child' and the 'efforts to maintain interaction', a number of adjustments were found that seem to be less favourable for the child with SLI. Parents of these children more often disrupted a smooth information exchange; they caused communication breakdowns by using more clarification requests, more corrections, showing more faulty responses, and faulty initiations than did parents of age-adequate speaking children.

The findings of the mentioned studies suggest a high similarity in language input of parents of specific language impaired and age-adequately speaking children. Although parents of children with SLI do make adjustments in their language and in discourse with their children, the majority of these adjustments are thought to serve a communicational purpose. A number of adjustments are believed to be less useful for language development and interactions, for instance the use of recasts. As this was found to contribute to the language development of children with SLI, the lower frequency of recasts that was actually recognized in parents of children with SLI can be regarded as a less beneficial adjustment. Parents of children with SLI were also found to disrupt a smooth information exchange more often, causing communication breakdowns. These breakdowns might be unpleasant for the child, might lead to misunderstanding and feelings of uncertainty in parents as well as the child.

2.4.2 Changes in the Child-rearing Process

The altered language input and communication breakdowns are but one aspect of the interaction between parents and child. A number of studies report on the parental experience in the child-rearing process of their children with SLI.

Goorhuis-Brouwer conducted a number of studies on children with SLI, examining the problems and feelings experienced by their parents (Goorhuis-Brouwer, 1988; Goorhuis-Brouwer, 1990; Goorhuis-Brouwer et al., 1996). In a study on 46 children with SLI of ages of two and three, some interesting basic patterns in child-rearing practice were found. Parents of young children with SLI felt powerless and discouraged, uncertain and disappointed. Furthermore, they feared that the language problem had a negative effect on their children's social and emotional development. Significantly more parents of children with SLI experienced child-rearing practice as 'often difficult', whereas parents of age-adequate speaking children had these feelings 'sometimes'. Even more interesting, the way parents described the behaviour of children with SLI differed from descriptions by parents of age-adequate speaking children. According to their parents, age-adequate speaking children were significantly more cheerful and enterprising, whereas parents of language-impaired children saw them as significantly more withdrawn. However, when the behaviour of the children was analysed with the questionnaire 'Behaviour and Language Development in two and three year old's (Swets & Kohnstamm, 1986), the 'moods' of children with SLI were found to be similar to those of normal speaking children (feelings of pleasure, tempers, sleeping rhythms). The only difference in behaviour was found for 'adaptation'. This discrepancy between behaviour of the child as experienced by parents and the objectivated behaviour was also found in a

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study on 21 children with SLI aged three to six years (Goorhuis-Brouwer et al., 1996). The majority of parents experienced difficult behaviour, whereas the objective measures of behaviour using the Child Behavior Checklist (CBCL) (Verhulst, Koot, Akkerhuis et al., 1990) showed that the percentage of children with SLI with a clinical score indicating behavioural problems did not significantly differ from the norm group of the CBCL. The discrepancy between observed and experienced 'difficult' behaviour by parents indicates that the language impairment influences the way parents experience the behaviour of their children. The parental emotions about the language problem of the child can lead to the perception that the behaviour of their child is more difficult. These studies indicate that parents of children with SLI have an emotion-provoking perception of the language disorder of their child. It would be of interest to know if these perceptions actually alter the interactions between the parents and the child and influence the educational style.

Drenthen and Riksen-Walraven (1997) asked ten mothers about their feelings concerning raising a child with language problems. Compared to a norm group, mothers of children with language problems perceived their children as more difficult and a burden. They also mentioned problems with accepting and handling their child. These results correspond with the findings of Goorhuis-Brouwer. Drenthen and Riksen-Walraven also examined the cohesion of feelings of the mothers and interactions with their child. They found a correlation between mothers' negative feelings and their actual interactional behaviour. Problems accepting a child with language impairments and the wish for a different situation correlated negatively with emotional support, a structured environment, and clear instructions offered by the mother. These findings

suggest that negative feelings about the language impairment can alter the support a mother offers her child.

2.5 Self-concept of Children with Specific Language Impairments

Language impairments can have an effect on the feelings of parents towards their child. It could also be hypothesized that the language impairment may have an effect on the feelings of the child towards himself as well. The language impairment may influence the way children with SLI perceive themselves as a person, that is their self-concept.

Generally, two views can be found when discussing the structure of self-concept (Harter, 1986; Van der Ploeg, 1990; Van der Meulen, 1993). It can be conceived as an unidimensional construct, integrating a person's judgements and feelings about himself. Self-concept can also be conceived as a multidimensional construct assuming that a person can judge himself on different domains, and values each domain differently. Most studies indicate that the self-concept is multidimensional and that different domains can be combined with a global sense of self-concept. Whether the global self-concept is an additive combination of the different domains or an entity of itself is still under discussion. The content of self-descriptions of children is known to undergo developmental change. In early childhood, children focus on behavioural characteristics when describing themselves, as during adolescence self-descriptions shift to more abstract, psychological constructs. During middle childhood the descriptions are more trait-like. The dimensions of the self-concept in children from the age of seven and above often include scholastic competence, athletic competence, social acceptance, physical appearance, and behaviour.

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Assumptions on the origins of a sense of self can be found along two lines. On the one hand, self-concept is seen as the result of the success the child experiences in activities. The self-concept is conceived as the result of a congruence or discrepancy between the child's achievements and ambitions (Van der Meulen, 1993; Kunnen, 1993). Self-concept, then, can be comprehended as competence as perceived by the child himself/herself. This notion of self-concept is often seen in studies on children's motivations when engaging in scholastic tasks. On the other hand, the emphasis is put on the support and opinions of significant others surrounding the person (Veerman, 1989; Van der Ploeg, 1990). This idea is based on the notion that the self-concept is a social construct and develops in interactions with the environment. The family is seen as the first and most important environment in the development of the child's self-concept (Van der Ploeg, 1990). Parents are expected to be alert to their children's signals and behaviour and provide a positive reaction. The appraisal of the parents will be internalized by the child and modulate the way the child evaluates himself/herself (Veerman, 1989). In school-aged children, peers can also play an important role. Not only the actual reaction of parents and peers, but also the child's reading of others' opinions, is conceived as an important determinant of the self-concept (Van der Ploeg, 1990). It is also postulated that the two explanations on the development of self-concept do not necessarily preclude each other. Harter (1986) presents a model on the coherence of self-concept and other variables. In a study on the magnitude of the impact of the two self-concept determinants mentioned earlier, she found the competence/ambition discrepancy and the social support/positive regard to have identical high path coefficients to self-concept. This strongly supports the idea that both sources of self-concept are important and,

moreover, comparable in magnitude. We hypothesized that children with SLI may think negatively about themselves. The survey of theories on the determinants of self-concept showed that experienced competence of the child as well as social support of the environment are associated with the forming and enhancement of the sense of self. Children with SLI are obviously less competent in exerting linguistic skills. They also appeared to be less competent in interactions with others.

As for the social support, the studies of Rice et al. (1991) showed that children with SLI tend to be neglected by their peers. The findings of the studies of Goorhuis-Brouwer (1988, 1990, 1996) and Drenthen and Riksen-Walraven (1997) indicate that the support that parents provide their children with SLI may be altered as a consequence of the feelings they have towards themselves as educators and towards the language impairment of the child. The competence as well as the social support children with SLI experience may influence their self-concept in a negative way. However, it is as yet unknown if the self-concept of children with SLI is affected. Besides, the question can be raised as to whether the self-concept of children is related to their behaviour.

Within the same model used for examining the determinants of self-concept, Harter (1986) looked for the impact self-worth had on affect (happy vs. sad) of the children and on their motivation. She defined motivation as the energy or desire to engage in age-appropriate activities. Self-judgements were found to elicit an affective reaction and influence the motivation of the children. Although the behaviour of the children was not directly assessed, Harter presumed that affective reactions following self-judgements may mediate the behaviour of children. Veerman and Straathof (1993) stated that studies on the coherence of (low) self-concept and social- and emotional (dys) functioning often do not show evident

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proof of a relationship. Their explanation was that, in most studies, both concepts were too broadly defined. When self-concept and social and emotional functioning are defined more specifically, the outcomes appear to indicate a relation. Veerman and Straathof found support for their explanation in a study on children with learning disabilities. Not all children had a lower self-concept. When the children combined their learning disabilities with behavioural problems, they had lower scores on self-concept concerning social functioning. These outcomes seem to argue for a refinement of the models on the relation between a negative self-concept and behavioural problems. In children with SLI, it is not known if they have a negative self-concept. Furthermore, it is unknown if it concerns the global self-concept, the self-concept on particular domains, or both.

2.6 A Model on Behavioural Problems in Children with Specific Language Impairments

In our study, it is hypothesized that the language impairment of the child, altered interactions with others, experienced competence of the child, parental interactions, parental feelings and child-rearing practice, and the self-concept of the child all play a part in the genesis and maintenance of behavioural problems of children with SLI. The relation between these factors, as presumed in our study, is shown in Figure 1.

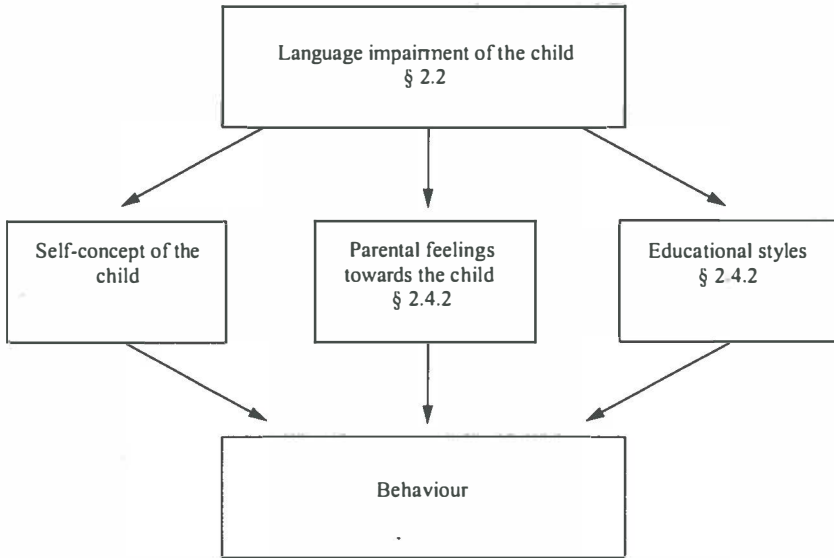


Figure 1. Model on the relation between Specific Language Impairments and behavioural problems.

3. METHODS

3.1 Introduction

Behavioural problems in children with SLI seem to become more apparent as they grow older. Under the age of six, behavioural problems in children with SLI are about the same percentage as in other children (Tallal et al., 1989; Goorhuis-Brouwer et al., 1996). In older children with SLI, significantly more behavioural problems seem to occur (Benasich et al., 1993). Our hypothesis is that behavioural problems in children with SLI are associated with the language problem itself, the self-concept of the child, and the emotions of parents and their educational views. To examine our model on behavioural problems in children with SLI, we selected children aged of 8, 10 and 12. The children were assessed on behaviour, self-concept and educational styles, and their parents on parental feelings and educational problems. The various questionnaires used are introduced in this chapter; the statistical procedure is described as well.

3.2 Sampling Procedure

Children aged 8, 10 and 12 with SLI were selected from schools for children with language and hearing impairments. As children with language impairments not attending these special schools were not included, the circumstances of the children in the sample were similar with reference to the diagnosis of the problem and the facilities enlisted. The language problems of the children were recognized by both professionals and parents, and all children received adjusted education and therapy.

The Netherlands contain a total of 41 schools for children with hearing and language impairments. Eight of these schools specialize in children who combine their language problems with a below average

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nonverbal IQ, often along with other problems. These schools were excluded from our study because none of their pupils would meet our criteria for SLI. One school had pupils only between the ages of 3 to 7; this school was also excluded. The 14 schools that took part in our study, 11 primary and 3 secondary, were randomly selected from the remaining 32 schools. Primary schools accommodate pupils aged 3 to 12 years, and secondary schools pupils aged 12 years and older. The schools were distributed throughout the Netherlands. The collection of the data started in March 1996 and ended in June 1998.

The selection of the subjects was based on a number of criteria. The children had to be 8, 10 or 12 years of age by the time they were selected, and had to be referred to the school on the basis of their language problems. The inclusion criteria for the research program was the level of language performance. Language production or language comprehension had to be at least one year below the chronological age of the child at the time of admission to the school. Children who combined their language problems with speech deficits were also included. Besides the language problem, the children had to meet the following criteria to be diagnosed as SLI (Bishop et al., 1987; Tallal et al., 1989; Fletcher et al., 1992; Goorhuis-Brouwer & Schaerlaekens, 2000): a nonverbal performance IQ of 85 or higher, normal hearing, no autistic/pervasive developmental disorder or attention deficit disorder, no classical neurological hard signs such as seizure disorder or hemiparesis, no motor handicaps, no syndromes such as Landau-Kleffner, no severe social deprivation. At least one of the parents had to be a native Dutch speaker. The last inclusion criterion is additional because it has no reference to the definition of SLI. It is evident that children who do not speak Dutch, or do not have parents who speak Dutch as a native language, can have SLI. The reason to

exclude these children and their parents from the study was that the language barrier interfered with the collection of reliable information through the standardized questionnaires.

When children are admitted to a school for language and hearing-impaired children, a multidisciplinary diagnostic procedure (MDD) is administered by the organizations that refer the children and by the schools themselves. All children were at least assessed by a speech therapist, a psychologist, an ENT specialist, an audiologist and a social worker. The children with SLI were selected on basis of the data given by this MDD procedure, which was administered in the school dossiers.

3.3 Data Collection Procedure

3.3.1 Behavioural Problems

A behavioural problem is not a fixed condition. Judgements of behavioural problems are influenced by characteristics of the child such as age, the context of the situation, interaction partners, and by the judges' personal standards (Achenbach, 1997). For instance, behaviour that is negatively labeled as 'being shy' by one person could be positively labeled as 'being modest' by someone else. Appreciation of behaviour depends on a person's frame of reference and is presumably also influenced by a person's social and cultural background.

The differentiation between normal and problematic behaviour is an issue of dispute. During their development, all children show some degree of behaviour that is undesirable. Whether this is considered to be within the limits of normal development or must be regarded a behavioural problem, depends largely on the frequency and duration of the undesirable behaviour (Van der Ploeg, 1990). The age of the child should be taken into account as well. As some behaviour is considered

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appropriate for a three-year-old, for instance temper tantrums, the same behaviour shown by a ten-year-old may be a cause for concern. Another complication in the assessment of behavioural problems is that the manifestation of behavioural problems, unlike for instance language problems or motor problems, can differ depending on the context (home versus school), and the interaction partners (peers versus parents or teachers). All these variables should be taken into account when assessing behavioural problems.

Children under the age of 12 are generally not able to formulate their own behavioural problems and their need for special attention (Achenbach, 1997). Data on the behavioural problems of these children, therefore, depend on the opinions or judgements of others. The matter of subjectivity of these judgements can be partly objectivated by a standardized collection of the data. The comparison of the reported behaviour with the behaviour of normally developing children of the same age also adds to the reduction of subjectivity. As behaviour can differ in the various contexts and in the interaction with different partners, data on behaviour should be collected in multiple contexts or using multiple informants.

Different methods can be used to collect data on the behaviour and behavioural problems of children. Observation by a trained observer is one procedure that can be pursued, resulting in more descriptive and qualitative data on behaviour. However observations are limited to one particular situation or point in time, the observer's presence can influence the behaviour of the child, and some behaviours are unlikely to occur when the child is being watched by adults. On the basis of descriptive data, no clear distinction can be made between behaviour within the normal range and behavioural problems.

Another method for collecting data on behaviour is using questionnaires filled in by parents and teachers. The data are more quantitative and can usually be compared to a norm group. The judgement of whether a child has behavioural problems can be based on a score. Furthermore, the informants provide data on the child's behaviour in different situations, that is established over a longer period of time. The behavioural problems in the various studies on children with language impairments are defined either by a threshold value on a questionnaire on problem behaviour such as the Child Behavior Checklist (Beitchman et al., 1986; Tallal et al., 1989; Benasich et al., 1993), the Conners' Parents Questionnaire (Cantwell et al., 1987; Benasich et al., 1993), the Conners' Teachers Rating Scale (Beitchman et al., 1986), the Rutter Parent and Teacher Scales (Silva, Williams & McGee, 1987; Rutter & Mawhood, 1991; Rutter, Mawhood & Howlin, 1992) or by a DSM diagnosis (Beitchman et al., 1986; Cantwell et al., 1987). In this study, the Child Behavior Checklist (CBCL) was used to assess the behavioural problems of children with SLI. The CBCL is a commonly used questionnaire and is standardized for the Dutch population (Verhulst, Van der Ende & Koot 1996; Verhulst, Van der Ende & Koot, 1997). Parents as well as teachers can fill in a questionnaire. The checklist for the parents will be referred to as CBCL, and the checklist for the teachers as TRF (Teachers Report Form). The CBCL/TRF allows for the assessment of behavioural problems in children between 4 and 18 years of age¹. The list contains 118

¹ In theory as well as practice, different terms are used to refer to problems children can have in the interaction with others, as well as problems concerning their psychological well-being. Terms such as social problems, emotional problems, behavioural problems, social-emotional problems, psycho-social problems, or emotional and behavioural problems can be found. Although different expressions are used, it is fairly recognized that the interpersonal (social) and intrapersonal (emotional) aspects of development are intertwined. In our study, social and emotional problems are thought to manifest themselves through behaviour. Therefore, behavioural problems were used as an operational definition of social and emotional problems. The term behavioural problems, then, refers to both the interpersonal and intrapersonal problems a child may experience, and consequently, to both emotional and behavioural problems as mentioned in the manual of the CBCL.

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behavioural items (Table 4). Scores can be calculated on global broad-band ratings of behaviour on a Total Behaviour scale, an Internalizing Behaviour scale, and an Externalizing Behaviour scale. In addition, the items can be scored on the eight narrow-band profiles of withdrawal, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, delinquent behaviour, and aggressive behaviour. The score on the Total Behaviour scale refers to all 118 items and, therefore, all eight profiles. The score on the Internalizing Behaviour scale consists of the items falling under the narrow-band profiles social withdrawal, anxious/depressed, and somatic complaints. The Externalizing Behaviour scale is scored on the narrow-band profiles of delinquent behaviour and aggressive behaviour. The three broad-band scales of the Dutch version of the CBCL and TRF were considered sufficiently reliable and valid (Evers, Van Vliet-Mulder & De Groot, 2000).

Table 4. Broad and narrow band scales of the Child Behavior Checklist/Teacher Report Form

<p><i>Total Problem Scale</i></p> <p>118 items</p>	<p><i>Internalizing Problem Scale</i></p> <ul style="list-style-type: none"> - withdrawal - somatic complaints - anxious/depressed
	<p><i>Externalizing Problem Scale</i></p> <ul style="list-style-type: none"> - delinquent behaviour - aggressive behaviour
	<p><i>Items not included in Internalizing or Externalizing Problem scales</i></p> <ul style="list-style-type: none"> - social problems - thought problems - attention problems

Once the list has been scored, a T-score based on the normal population can be assigned to each behavioural scale for each subject. For the broad-

band ratings of behaviour, T-scores of 64 and higher have been designated by Achenbach to be within the clinically abnormal range.

3.3.2 *Self-concept*

Self-concept refers to the way one describes and evaluates oneself as a person. This psychological construct refers to a person's own experience. The data on self-concept, therefore, should be provided by the subjects themselves.

One method of collecting data on the self-concept is by self-reports. A person is asked to describe himself in his own words. Free descriptions as well as open-ended questions can be used. Another method is to present a number of fixed statements from which a person must choose. The age of the subjects should be taken into account when assessing self-concept since developmental differences are found in the self-descriptions of children (Harter, 1986 ; Van der Meulen, 1993). These descriptions show predictable developmental shifts. Preschool children use simple behavioural descriptions when evaluating themselves, whereas school-aged children shift to more trait-like descriptions, and to higher order abstractions during adolescence. The pattern of the self-concept also becomes more differentiated with increasing age. Self-descriptions of children can refer to different domains. As children grow older, they evaluate themselves on more domains (Harter, 1986). A questionnaire on the self-concept of children, therefore, should link on to their developmental stage, containing domains that are age-appropriate, and the items should meet the children's level of self-evaluation.

In our study, a method with fixed statements was given preference over self-reports, since children with SLI have problems expressing themselves through language. The self-concept of children with SLI was

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assessed by using a perceived-competence scale for children, the ‘competentiebelevingsschaal voor kinderen (CBSK)’ (Veerman, Straathof, Treffers, et al., 1997). The CBSK is a Dutch version of the ‘Self-Perception Profile for Children’ developed by Harter (1985). The CBSK is a questionnaire on self-esteem, which is conceived as the evaluative element of the self-concept. The questionnaire can be used for children aged 8 to 12 years. The CBSK contains six subscales, five of which concern specific domains of perceived competence that is defined as the evaluation of one’s own success. The domains that children are asked to evaluate in the CBSK are scholastic competence, social acceptance, athletic competence, physical appearance, and behavioural conduct. The sixth subscale refers to the global sense of self-worth, a more general evaluation of how children like themselves as a person. Although global and domain specific self-worth are related, the first is not conceived as an addition of the latter (Table 5).

Table 5. Subscales of the CBSK

CBSK	
Perceived Competence (specific)	Sense of self-worth (global)
- scholastic competence	
- social acceptance	
- athletic competence	- global self-worth
- physical appearance	
- behavioural conduct	

Each subscale of the CBSK contains 6 items, which makes a total number of 36 items. An item consists of a statement such as ‘Some children feel that they are smart, but other children wonder just how smart they are’. The children are asked to identify with one of the two types of children.

The next question is whether the statement they prefer is 'just sort of true' for them or 'really true'. The children with SLI in our study were assessed individually with the CBSK. A statement was read to the child while the child could read it at the same time for himself/herself. The preferred statement was repeated by the researcher before asking the child whether it was 'just sort of true' or 'really true'.

The question format of the CBSK results in a 4-point scale for each item; the value 1 indicates the lowest perceived competence, the value 4 the highest. A raw score for each subscale can be calculated by adding the item scores, with a minimum of 6 and a maximum of 24. Scores across the discrete subscales provide a profile of the competence of a child. A child can combine average and low scores on the different domains.

According to the criteria drawn up by Nunnally and Bernstein (1994), the reliability of the Dutch version of the CBSK is sufficient to good when used for research purposes. For studies at a group level, a reliability lower than .60 is considered insufficient, a reliability from .60 to .70 sufficient, and .70 or higher good. Following these criteria, the interitem reliability of the subscales scholastic competence, social acceptance, athletic competence, physical appearance, and global self-worth was good ($\alpha \geq .70$), and was sufficient for the behavioural conduct subscale ($.60 \leq \alpha < .70$). The test-retest reliability was good for all subscales with the exception of social acceptance, with a reliability that was sufficient (Veerman et al., 1997).

Research did not yet offer a decisive answer on the construct validity of the CBSK. Factor analysis showed a similarity in structure of the Dutch version and other versions. However, the hypothesis that children with developmental problems have lower self-esteem than do

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children without developmental problems could not be confirmed in all studies. In our study, however, the CBSK was applied as an operational definition of self-esteem. It was used to investigate the difference between SLI children with and without behavioural problems. Veerman and Straathof (1993) stated that the coherence between developmental problems and negative self-esteem improves when differentiating within a group of children with problems. This may contribute to the construct validity of the CBSK. The study on the self-esteem of children with SLI can be characterized as explorative.

The studies on the self-esteem of children with developmental problems using the CBSK mainly concerned children that had been referred to psychiatric settings. The patterns of self-esteem of children with SLI, therefore, can be compared to the self-esteem of normally developing children as well as to those with psychiatric problems.

Perhaps in our group of children with SLI, different patterns of self-esteem can be found in children with and without behavioural problems. It can be hypothesized that in the children with behavioural problems mean scores will be lower on social acceptance, behavioural conduct, and global self-worth. The mean scores on scholastic competence for the whole group of children with SLI may also be lower, as it is known that a language impairment can lead to learning disabilities (Catts, 1993; Beitchman, Wilson, Brownlie et al., 1996; Stothard, Snowling, Bishop et al., 1998; Naucler & Magnusson, 1998). The mean scores of children with SLI on athletic competence and physical appearance should be average, as language does not influence these aspects.

3.3.3 Parental Feelings and Educational Problems According to Parents

The research on children with SLI aged two to six years indicates that the language impairment of the child may influence feelings of the parents, as well as the way they support their children. In our study, the feelings of parents and their educational views were assessed in a sample in which the children with SLI were aged 8 to 12 years.

The questionnaire used for assessing the emotions and educational views of the parents was based on that developed by Suurmeijer (1980). He conducted a study on the problems in interactions and education as experienced by parents of children with epilepsy. Suurmeijer's study forms part of a cluster of studies on the educational functioning of families with a child sustaining chronic medical or developmental problems. The questionnaires used in the different studies were derived from that used in the first study by Gresnigt and Gresnigt (1973). Studies have been conducted, for instance, on parents of children with a mental handicap (Gresnigt & Gresnigt, 1973; Janssen, 1982), a heart condition (Bos, 1977), learning difficulties (Van Peer & Lutje Spelberg, 1984), and chronic obstructive pulmonary diseases (COPD) (Van Peer & De Vries, 1986). Although the nature of the problems of the children differs, their parents often face similar problems in the education of their children (Van Peer et al., 1984).

Suurmeijer's questionnaire was developed to assess 'family disturbance', defined as '...the type and the extent to which parents experience a disturbance of the family functioning as a result of the chronic disease of the child (paragraph 3.2.2)'. Suurmeijer distinguished different aspects and factors in the problems experienced by the parents (Table 6).

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Table 6. Aspects and factors of family disturbance according to Suurmeijer as described by Van Peer et al., 1984.

Aspects	Factors	Abbreviation
Disturbance of the functioning of the family	Global Psychological Pressure	GPP
	Disturbance of Leisure Time	DLT
Social and emotional relation between parents and child	Irritation	IRR
	Frustration	FRUS
Educational relation between parents and child	Inconsistent	INC
	Indulgence	IND
	Protectiveness	PROT
	Strictness	STR
Achievement orientation	Conception of Achievement	COA
	Concern about the Future	CAF
	Passivity	PAS
	Leanings towards School	LTS

The aspect ‘disturbance of the functioning of the family’ refers to daily occupations, the relation and contacts between parents and child, and the external contacts and activities of the family (Suurmeijer, 1980). Family functioning interfered with disabilities or developmental problems of the child may lead to parents experiencing psychological pressure (GPP). According to Suurmeijer, the factor GPP refers to a more global sense of the atmosphere within a family. It is thought to be influenced by the extent to which parents perceive the relations between family members as problematic, as well as the extent to which parents perceive the problems of their child as a burden. Furthermore, the way families can or will use their leisure time (DLT) is also thought to be influenced by the disabilities of the child.

The educational function of the family was also thought to be disturbed by the problems of the child. Suurmeijer refers to this family function as the function of socialization. He distinguishes the social and emotional relation between parents and child, the educational relation between parents and child, and the orientation on achievement within the family. The social and emotional aspect has to do with the acceptance or rejection of the child by the parents. Suurmeijer inserted the factors 'irritation' (IRR) and 'frustration' (FRUS) based on the assumption that the more parents reject their child, the more they will be irritated by his or her behaviour and experience the relation as frustrating. The educational aspect of the relation between parents and child refers to the way parents handle their children in terms of 'autonomy' versus 'control'. Different styles of parenting were distinguished, that is 'indulgence' (IND; the demands of parents are too low), protectiveness (PROT; the parents demand too little of their child's independence) and strictness (STR; parents are too demanding). Apart from 'autonomy versus control', Suurmeijer introduced 'inconsistent' (INC) as a fourth style of parenting. This was based on the assumption that the problems of a child will make the parents feel more uncertain about the way they should react. As a result, their educational behaviour will be more inconsistent. The third aspect of socialization, orientation on achievement, refers to ideas of what parents find worth pursuing and what they think of as feasible for their child. Suurmeijer distinguishes the extent to which parents value their children's success (conception of achievement, COA), their concern about their child's future (COF), the extent to which parents consider their children as not able to control their own lives (passivity; PAS), and the extent to which parents attach importance to school education (leanings towards school; LTS).

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The Suurmeijer questionnaire was adapted before its use in assessing the emotions and educational views of the parents of children with SLI. A number of items was removed from the list and several items were added. The aspect 'Achievement orientation' was left out entirely. Achievement orientation was introduced by Suurmeijer as a more general, global orientation on aspirations with reference to their child. However, these orientations do not refer directly to problems parents experience in the interaction with their child with SLI. The factor 'Disturbance of Leisure Time' was also removed from the list. This factor was introduced by Suurmeijer as parents of children with epilepsy may have problems doing things on their own while there is a chance of their child having a seizure. These problems do not apply to the situation of parents and children with SLI. The factors and items added to the Suurmeijer questionnaire were based on information provided by parents of children with SLI. In a pilot study, nine parents were interviewed to find whether parents of children with SLI experience particular problems in the education of their child that could not be acknowledged by using the Suurmeijer questionnaire. An item was added to the questionnaire when one of the parents mentioned it during the interview. Some of these items could be added to an existing factor. The statement 'when you handle this child more firmly, he/she can talk better', for instance, was added to the factor 'Strictness'. Other statements led to the formulation of a new factor. In two interviews, parents wondered what could have caused the language problems of their child, and if they had done something wrong themselves. One parent mentioned that she sometimes felt ashamed of her child. Consequently, 'Feelings of Guilt' and 'Feelings of Shame' were added to the aspect of 'social and emotional relation between parents and child'. The items forming the factors 'Feelings of Guilt' and 'Feelings of Shame' were

added a priori. Ultimately, the questionnaire on disturbance of the family contained a number of adopted as well as new factors. The total number of items is 57 (Table 7).

Table 7. Aspects and factors of family disturbance included in the questionnaire for parents of children with SLI.

Aspects	Factors	Abbreviation	Number of items
Disturbance within the family	Global Psychological Pressure	GPP	11
Social and emotional relation between parents and child	Irritation	IRR	7
	Frustration	FRUS	5
	Feelings of Guilt	FOG	5
	Feelings of Shame	FOS	5
Educational relation between parents and child	Uncertainty	UNC	5
	Indulgence	IND	6
	Protectiveness	PROT	8
	Strictness	STR	5
Total number of items			57

Each item contains a statement involving psychological pressure, negative emotions or educational problems, combined with a 5-point scale that refers to the extent of agreement. Value 1 indicates that a parent totally disagrees with a statement and value 5 that indicates total agreement. Value 3 indicates that parents neither agree nor disagree with a statement. A total score on each factor was calculated by adding the values on the corresponding statements. The parents of children with SLI were not compared with parents from norm or control groups. A number of statements apply particularly to the situation of children with SLI and their

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parents; therefore, the questionnaire was not appropriate for assessing other parents. The questionnaire was used to discern if the emotions and educational problems parents experience as a consequence of their children's language impairment are related to the behavioural problems of the children with SLI.

3.3.4 Problematic Parenting Styles According to the Children

Not only the parents were asked about their educational problems, the children with SLI were also asked how they experienced the educational style of their parents. A questionnaire on problematic educational styles, 'Vragenlijst Opvoedingsstijlen (VOS)' (Van der Kooij et al., 1995) was used for this purpose. 'Educational style' is conceived as the way educators handle their child and the way they use educational strategies, and involves parents' educational intentions as well as their educational behaviour. Problematic educational styles are educational patterns that are assumed to contribute to problem behaviour in children. Van der Kooij et al. mention five problematic educational styles in their VOS. These were conceived as most significant with reference to behavioural problems and were most frequently diagnosed, and characterized as follows:

- Affective neglect: neglect of the child's needs, lack of clear educational goals and educational behaviour, indifference towards the child, and no emotional involvement on the part of the parents.
- Overprotection: wielding too much control over the child's life, withholding the child from learning from his/her own experience. Satisfying the needs of the parents seems to be more important than supporting the development of the child.

- Too directive: authoritarian, severely controlling and restricting the behaviour of the child, obedience of the child is enforced by punishment or threat, often criticizing the child.
- Inconsistent: unpredictable reactions of the educators, ambivalent educational behaviour, leads to confusion of the child.
- Too normative: strong appeal to the child's conscience, evoking feelings of guilt, children are not allowed to show discontent or frustrations, indirect educational behaviour, appeals to aspirations and goals of the parents rather than to the real situation or developmental stage of the child.

The VOS contains 21 situations that refer to the daily life of children. Each situation is presented as a drawing accompanied by a description. Then, five possible reactions of the educators are given, corresponding with the five problematic educational styles. Children can state on a 4-point scale whether they think their educator will react according the fixed reaction as described in the VOS, ranging from 'never', 'sometimes', and 'often' to 'very often'.

Although the VOS is still in an experimental stage, its interitem reliability proved to be sufficient (Van der Kooij et al., 1995). The Cronbach's coefficients of the five problematic educational styles ranged from alpha .75 (inconsequent) to alpha .88 (too normative). A multiple-group analysis showed that most items had the highest load on the intended problematic educational style. Based on these outcomes, it was concluded that children are able to discriminate among the different educational styles. The construct validity of the VOS has not yet been examined extensively. Calkhoven (1995) related its subscales to a two-dimensional model on education (Schaefer, 1959). 'Too directive' and 'too normative' loaded high on the component control-autonomy 'Affective neglect', 'overprotection' and 'inconsistent' loaded high on the component

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hostility-affect. The VOS has not been used to assess clinical groups. The assumed relation between problematic educational styles assessed with the VOS and problem behaviour of the child has not yet been demonstrated. The VOS was used in our study on children with SLI in an explorative way, offering the possibility to assess problematic educational styles as experienced by the children themselves. Ultimately, the outcomes on the five problematic educational styles were used as predictive variables in our model on behavioural problems.

The original design of the VOS was regarded as rather complex for children with SLI. Each item contains a sequence of information that the child must combine. The picture must be looked at, the explanatory subscription read. Then, the prefixed reactions must be read and related to the situation on the picture. Subsequently, the prefixed reactions must be weighted by comparing them to the actual reactions of the child's educators. Therefore, the VOS was simplified with the intention of making it useful for children with SLI.

First, the reading was eliminated by removing the written prefixed reactions. The pictured situations were explained to the child by the examiner. The children could then look at the drawing and simultaneously receive information about the represented situation. The five prefixed reactions were verbally presented by the examiner, who also explained the link with the drawing. As the children were addressed more directly, the link with the actual reactions of their educators was more easily made.

Second, the language used in the explanations and prefixed reactions was simplified by using short concrete sentences and avoiding ambiguous expressions. The majority of changes in language were made a priori. Other adjustments were made after a trial that included nine children with SLI.

Third, the 4-point scale was replaced by a 2-point scale. After the examiner had made a statement about the reaction of the child's educator to a particular situation, the child had only to decide whether this statement was 'true' or 'false'. A statement considered 'false' was scored as '0', 'true' was scored as '1'. As the questionnaire contained 21 situations, the scores on each educational style ranged from 0 to 21.

As a result of the adjustments to the VOS, the outcomes of children with SLI could not be compared with those of the sample used in the construction phase of the original VOS. Therefore, a group of 173 children without SLI was assessed with the adjusted VOS as well and served as a control group. All these children attended regular education and were aged 7 to 12 years. The outcomes of these children's assessments were also employed to calculate the reliability of the adjusted VOS. Nunnally (1994) stated that, although the comprehensibility increases, the reliability of a questionnaire decreases accordingly as the number of multiple-choice alternatives per item decreases. In the adjusted VOS, the Cronbach coefficients of the 2-point scale VOS were lower on all five problematic educational styles, ranging from alpha .61 (affective neglect) to .83 (too normative) (Elzinga & Daling, 1998). However, these coefficients still meet the reliability criteria for research purposes.

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3.4 Model and Instruments

Figure 2 shows the instruments used in our study to assess the variables in our model on the relation between SLI and behavioural problems.

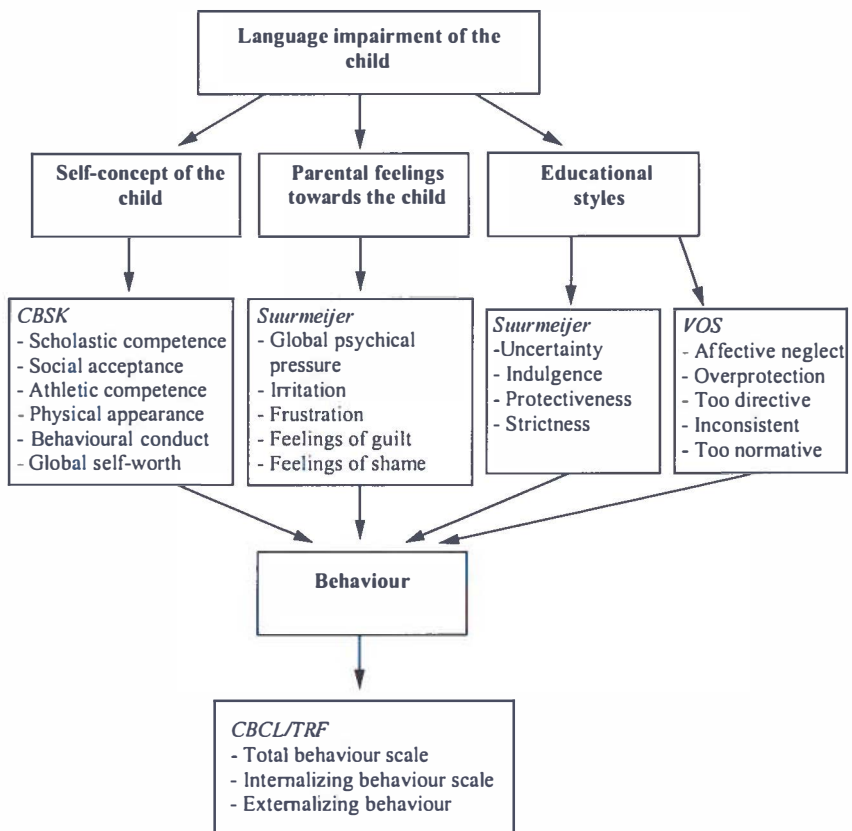


Figure 2. Instruments used to assess the variables from our model on specific language impairments and behavioural problems.

3.5 *Statistical Procedure*

The extent of the behavioural problems in children with SLI aged 8 to 12 years was determined by computing the percentage of children in our sample who had a T-score of 64 or higher on at least one of the three broad-band scales of the CBCL or TRF. To determine if the behavioural problems are limited to one situation or more extensive, the outcomes of the CBCL and TRF were compared to each other. In order to analyse if the type of behavioural problems in our sample differed from a randomly chosen group of children, the frequencies of SLI children with a T-score of 64 or higher in our sample were compared to the expected frequencies for each broad band scale. The expected frequencies were based on the standard as described in the manual of the CBCL. For each broad band scale, a T-score of 64 or higher fits the 90 percentile of the norm group. Consequently, 10% of the children within the norm group have a clinically ranged score. A chi-square goodness-of-fit test was used to compare the frequencies as observed in our sample with the expected frequencies calculated by employing this 10% norm.

In our model on behavioural problems in children with SLI, the behavioural problems were used as the criterion variable. The feelings of competence and global self-worth of the child, the problematic educational styles as experienced by the child, and the parental educational problems and feelings were the predictive variables. However, as our study was also explorative for the separate components when related to children with SLI, each component was analysed separately as well. For the CBSK, the norm group as described in the manual served as a control group when comparing the CBSK group means of children with SLI with normally developing children. As the sample described in the CBSK manual was relatively small, the group means and standard deviations could not be

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used as a standard. The individual scores of the subjects were not available. Therefore, an independent sample t-test was employed to compare the mean scores of both samples. For the adjusted VOS, 173 children without language impairments who attended regular primary schools served as a control group. As the individual scores of the subjects for both samples were available, a multivariate analysis of variance (MANOVA) could be carried out to compare both groups on each problematic educational style separately. The outcomes of the questionnaire on parental educational problems and feelings served as predictive variables in our model.

In order to test the value of our model on behavioural problems in children with SLI as a whole, we used a regression analysis. A discriminant analysis was carried out on the variable 'behavioural problems' to satisfy the condition of a continuous criterion variable. Furthermore, a step-wise regression analysis was employed to discern which components in our model predicted the outcome on behavioural problems of children with SLI.

4. RESULTS

4.1 Subjects

In the 14 participating schools, a total of 292 pupils aged 8, 10 or 12 years had been referred to the school at an earlier age on the basis of their language impairment. The parents of these 292 children were asked to participate in our research programme. The parents of 242 children agreed to this proposal and 50 sets of parents excused themselves. The main reason not to participate was that the child had just passed an assessment period at school ($n=21$); these parents did not want to put too much strain on their child. Six children's parents mentioned that their child did not directly benefit from the research. Although for 18 sets of parents the reason not to enter the study is unknown, it was assumed that the 50 who excused themselves and their children did not represent a specific group within the population of children with language impairments. The school dossiers of the remaining 242 children were analysed and 154 (64%) of these met our criteria for SLI; the other children were excluded. Of these children, 34 had a psychiatric diagnosis, 17 had a medically based problem such as a syndrome or neurological deficit, 14 had a performance IQ below 85, 10 were raised under circumstances that indicated severe social deprivation, 6 had speech or learning problems only such that their level of language functioning was not one year below their chronological age, and 7 combined two or more of these problems.

Ultimately, the sample contained 154 children with SLI, from which 107 were boys and 47 girls. The children had a variety of social economical backgrounds and were all of Dutch origin. The average age of children with SLI starting school was 5.1 years. The lowest entering age was 2.9 , the highest 10.4 years (Figure 3).

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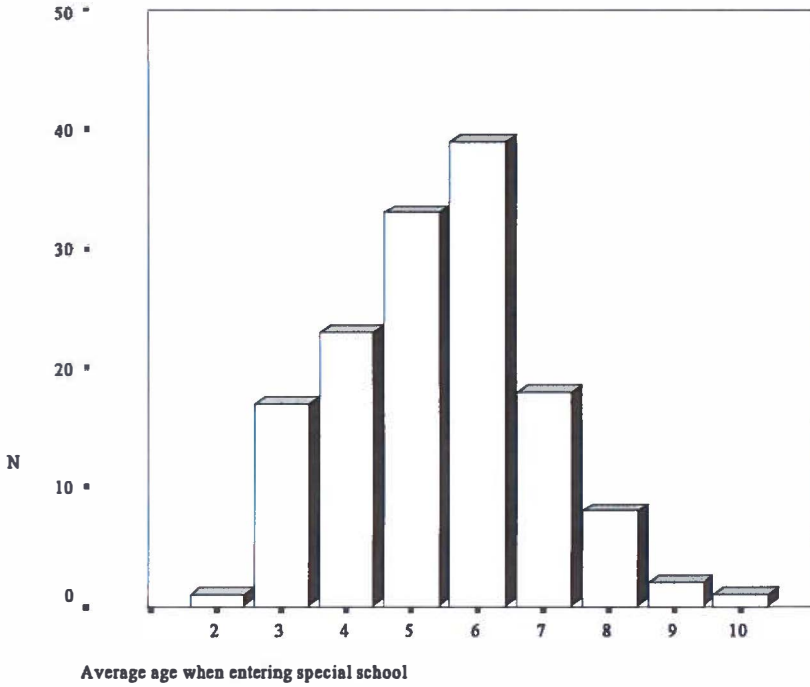


Figure 3. Distribution of age of children in the sample when entering special school

The sample included more 8-year-old than 10-year-old children, and more children aged 10 than 12 (Table 8). The majority of the children had problems with language comprehension as well as with language production at the time they were admitted to the school (Table 9).

Table 8. Number 8, 10, and 12- year-olds in the sample, boys and girls separately.

	Sex		Total
	Boys	Girls	
Age, years			
8	51	23	74
10	39	16	55
12	17	8	25
	107	47	154

Table 9. Type of language problems within the sample, number of boys and girls separately.

	Sex		Total
	Boys	Girls	
Language problem			
Language production	44	22	66
Language production and comprehension	63	25	88
	107	47	154

In our study, the mean number of children with language impairments was 25 for the primary schools and 4 for the secondary schools. As the total number of schools for children with hearing and language impairments was 21 (primary) and 11 (secondary), the total number of children aged 8, 10, or 12 with language problems attending the schools was estimated to be 569 ($25 \times 21 + 11 \times 4$). In our sample, 64% of the children for whom the school dossiers were analysed had SLI. Of the 569 children estimated to attend the schools, 364 must have a specific language impairment. This implies that our sample of 154 children includes approximately 42% of the total population of 364 children with SLI, aged 8, 10 or 12 years, attending special education in the Netherlands.

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4.2 Behavioural Problems

In paragraphs 4.2.1 and 4.2.2, the outcomes of the CBCL and TRF are explicated separately. The number and percentages of children scoring clinically on the three broad-band scales are presented and the observed percentages within the sample are compared to the expected percentages. In paragraph 4.2.3, the outcomes of the CBCL and TRF are combined.

4.2.1 Behavioural Problems According to parents

From the total of 154 subjects, 139 CBCL forms were completed and analysed. The forms were filled in mostly by the mothers. The data showed that, according to our definition, 44 of the 139 children had scores on behaviour which fell within the clinical range (32%). The distribution of these behavioural problems over the broad-band scales is summarized in Table 10.

Table 10. Distribution of behavioural problems of children with SLI on the broad-band scales according to the CBCL, n=139.

Codes	Behavioural Problems	N
A	Total Behaviour Scale	2
B	Internalizing Behaviour Scale	8
C	Total and Internalizing Behaviour Scale	11
D	Externalizing Behaviour Scale	3
E	Total and Externalizing Behaviour Scale	6
F	Total and Internalizing and Externalizing Behaviour Scale	14
	Total	44

A chi-square goodness-of-fit test was used to analyse differences between the sample and the norm group of the CBCL on the three broad band scales. In the group of 44 language- impaired children with behavioural

problems, 33 showed problems on the Total Behaviour scale (A+C+E+D). Thirty-three children showed internalizing behavioural problems (B+C+F) and 23 showed externalizing behavioural problems (D+E+F).

In other words, within the total group of 139 children with SLI, 24% had a clinical score on the Total Behaviour scale, 24% on the Internalizing Behaviour scale, and 17% on the Externalizing Behaviour scale. A chi-square goodness-of-fit test comparing the observed and expected frequencies of behavioural problems in the sample showed a significant difference on the Total Behaviour and Internalizing Behaviour scales using a level of significance of .01. The expected frequencies are based on the 10% norm of the CBCL manual (Table 11).

Table 11. Observed percentages of behavioural problems in the sample compared to expected percentages.

Broad Band Scales CBCL	Behavioural Problems		χ^2	Sign. df=1
	Observed Percentages	Expected Percentages		
Total	24%	10%	28.674	s.
Internalizing	24%	10%	28.674	s.
Externalizing	17%	10%	6.434	ns.

4.2.2 Behaviour According to Teachers

The teachers completed a total of 150 TRF lists for the children with SLI. The clinically ranged children covered about one third of the group; 50 children had a score indicating behavioural problems (Table 12). On the three broad-band profiles, 31 children scored clinically on total behaviour (A+C+E+F), 38 on internalizing behaviour (B+C+F), and 21 on externalizing behaviour (D+E+F). Within the total group of 150 children assessed with the TRF, 21% scored clinically on the Total Behaviour

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scale, 25% on the Internalizing Behaviour scale and 14% on the Externalizing Behaviour scale. According to a chi-square goodness-of-fit test, the observed and expected frequencies of behavioural problems on the TRF differed significantly on the Total Behavioural and Internalizing Behaviour scales when using a level of significance of .01 (Table 13).

Table 12. Distribution of behavioural problems in children with SLI on the broad band scales according to the TRF, n=150.

Codes	Behavioural Problems	N
A	Total Behaviour Scale	3
B	Internalizing Behaviour Scale	15
C	Total and Internalizing Behaviour Scale	11
D	Externalizing Behaviour Scale	4
E	Total and Externalizing Behaviour Scale	5
F	Total and Internalizing and Externalizing Behaviour Scale	12
	Total	50

Table 13. Observed percentages of behavioural problems in the sample compared to the expected percentages according to the TRF.

Broad Band Scales TRF	Behavioural Problems		χ^2	Sign. df=1
	Observed Percentages	Expected Percentages		
Total	21%	10%	18.963	s.
Internalizing	25%	10%	39.185	s.
Externalizing	14%	10%	2.667	ns.

4.2.3 Behaviour According to Parents and/or Teachers

The questionnaires filled in by the parents and teachers of children with SLI provided similar percentages of children with behavioural problems. Both educators also agreed on the percentages for each broad-band scale separately (Table 14). On both questionnaires, the percentage of children with SLI having a clinical score differed from the norm group on the Total behaviour and the Internalizing Behaviour scales. The percentages scoring clinically on the Externalizing behaviour scale, on both CBCL and TRF, corresponded with the norm.

Table 14. Percentages of behavioural problems within the sample, and percentages of children with a clinical score on each broad-band scale.

	CBCL N=139	TRF N=150	Norm group
Behavioural problems	32%	33%	
Total behaviour scale	24%*	21%*	10%
Internalizing behaviour scale	24%*	25%*	10%
Externalizing behaviour scale	17%	14%	10%

* significant difference from norm group percentage, $p < .01$

A total of 136 children were reported by both parents and teachers. Forty-one of these children had behavioural problems according to their parents, 47 according to their teachers (Figure 4). From these children, only 22 had behavioural problems according to both their parents and teachers, 19 had behavioural problems only according to their parents and 25 only to their teachers. From this it followed that 66 children of a total of 136 showed behavioural problems according to the CBCL or TRF. Within our sample, 49% of the children had behavioural problems.

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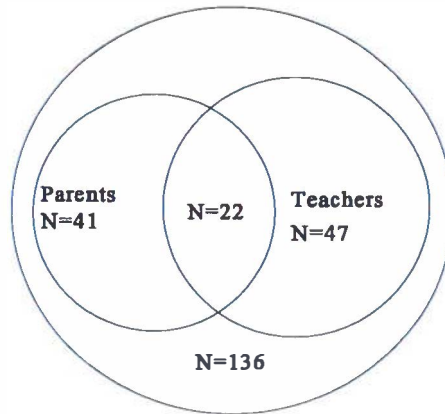


Figure 4. Number of children with SLI with behavioural problems according to parents and teachers, within a total group of 136 children.

4.3 Self-esteem

A total of 148 children with SLI filled in a CBSK form. For each subscale, an independent-sample t-test was used to compare the group means as found in our sample, with the group means of the group used to standardize the CBSK (Veerman et al., 1997). The means and standard deviations of the latter are described in the CBSK manual. In our study this group was regarded as a control group and is further referred to as the CBSK group. The scores of boys and girls were analysed separately. The data from the CBSK group showed that the mean scores of boys and girls differed significantly on all subscales, with the exception of 'social acceptance'. As our research on the self-esteem of children with SLI was explorative, the level of significance was employed 2-tailed (Table 15).

A significant difference, for boys as well as girls, was found on the subscales 'behavioural conduct' and 'global self worth' in the sense

that children with SLI found themselves more competent than did the CBSK group. The mean scores of the children with SLI were significantly higher. Moreover, girls with SLI found themselves more competent on school tasks as well. They had significantly higher mean scores on the subscale ‘scholastic competence’ than girls from the CBSK group. The mean scores from boys with SLI did not differ from those of the CBSK boys on this subscale. On the subscales ‘social acceptance’, ‘athletic competence’ and ‘physical appearance’, the children with SLI did not differ from those in the CBSK group.

Table 15. Description and comparison of group means and standard deviations on total scores on CBSK subscales of children with SLI and the CBSK group, boys and girls separately.

CBSK subscales	Boys			Girls		
	SLI n=105	CBSK group n=180	Sign. 2-tailed	SLI n=43	CBSK group n=181	Sign. 2-tailed
Scholastic competence	18.14 (3.30)	17.36 (3.53)	.063	18.09 (3.69)	16.29 (3.38)	.003
Social acceptance	18.40 (3.42)	17.78 (3.80)	.166	17.56 (4.16)	17.45 (3.55)	.837
Athletical competence	19.07 (3.58)	18.70 (3.32)	.383	18.30 (3.67)	17.55 (3.16)	.173
Physical appearance	20.55 (3.41)	20.06 (3.64)	.262	19.86 (3.82)	18.91 (4.23)	.176
Behaviour conduct	19.08 (3.57)	16.97 (2.77)	.000	19.91 (2.79)	18.02 (2.92)	.000
Global selfworth	21.37 (2.49)	20.01 (2.95)	.000	21.00 (2.90)	19.36 (3.17)	.003

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4.4 Parental Feelings and Educational Problems

4.4.1 Parental Feelings and Educational Problems According to Parents

A total of 125 children's parents in our sample were assessed using the adapted version of the Suurmeijer questionnaire. The outcomes of the first nine sets of parents of our sample could not be used in the analyses; these parents were assessed with a pilot version of the adapted questionnaire and interviewed. The questionnaire was refined based on the experiences and outcomes of the pilot. The data on the Suurmeijer questionnaire for another 20 sets of parents were not available, as it was not possible to arrange a meeting with them.

The factors of the Suurmeijer questionnaire contained different numbers of items. The total score on each factor was calculated by adding the scores of the items belonging to that factor. For some subjects, not all the items could be filled in. The factor 'Global Psychological Pressure' included one question that could be answered only in the case that the education of the child involved both parents. Three more questions referred to the presence of one or more siblings. However, 11 subjects were brought up in a single-parent family, did not have siblings, or combined these two circumstances. Therefore, a mean score on each factor was calculated for all subjects by dividing the total factor score by the number of items filled in. Consequently, the means of the subjects on the factor 'Global Psychological Pressure' were calculated by dividing the total score by 11, 10, 8 or 7. Table 16 presents the group means and standard deviations on each factor, with a minimum of 1 and a maximum of 5.

Table 16. Group means, standard deviations and number of items on the adapted Suurmeijer questionnaire.

Factors	N	Mean	Std. Dev.	N of items
Global Psychological Pressure	125	1.842	.861	11 (10, 8, or 7)
Social and emotional relation				
Irritation	125	1.939	.857	7
Frustration	125	1.363	.569	5
Feelings of guilt	125	2.269	.772	5
Feelings of shame	125	1.398	.565	5
Educational relation				
Indulgence	125	2.42	.941	6
Protectiveness	125	2.06	.777	8
Strictness	125	2.197	.764	5
Uncertainty	125	2.038	.958	5

Analyses of the items and factors of the adapted version of the Suurmeijer questionnaire showed that the reliability of the factors 'Frustration' ($\alpha=.52$), 'Feelings of shame' ($\alpha=.45$), and 'Strictness' ($\alpha=.41$) was too low, even for research purposes. These factors were eliminated from further analyses. The alpha for the factors 'Global Psychological Pressure', 'Irritation', 'Feelings of Guilt', 'Indulgence', 'Protectiveness', and 'Uncertainty' was .63 or higher. The outcomes of these six factors were used as predictive variables for the behavioural problems in children with SLI.

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4.4.2. Problematic Educational Styles as perceived by Children with Specific Language Impairments

A total of 135 children with SLI filled in the adapted questionnaire on problematic educational styles 'Vragenlijst Opvoedingsstijlen' (VOS). The first nine children of our sample were assessed with a pilot version of the questionnaire. A number of adjustments were made based on this pilot; consequently, the scores of these nine children could not be used in the eventual analyses.

The outcomes of the children with SLI were compared to those of the control group, which included 173 children attending regular primary schools. A multivariate analysis of variance (MANOVA) showed a significant difference between the two groups ($F=10.98$, $df\ 5/302$, $p=.000$). A univariate analysis of variance (ANOVA) was used to compare the group means on each educational style (Table 17).

Table 17. Comparison of group means and standard deviations of the total scores on the subscales of the VOS of children with SLI and the control group.

Educational styles	SLI n=135	Control group n=173	F	Sign. df=1/306
Affective neglect	3.22 (2.61)	2.99 (2.39)	.637	.426
Overprotection	6.61 (3.18)	6.13 (3.12)	1.825	.178
Too directive	9.99 (4.09)	9.06 (3.87)	4.139	.043
Inconsistent	7.34 (3.34)	8.62 (3.28)	11.338	.001*
Too normative	10.64 (5.33)	12.32 (4.70)	8.588	.004*

* $p<.01$

The educational styles of parents differed significantly from the control group on 'inconsistent' and 'too normative', in the sense that the children with SLI thought of their parents as less inconsistent and less normative than did the children from the control group. The group means of the children with SLI were significantly lower on both educational styles. The outcomes of the two groups did not differ on 'affective neglect', 'overprotection', or 'too directive'.

4.5 Model on Behavioural Problems in Children with Specific Language Impairments

The data collected on children with SLI served as variables in our model on behavioural problems in children with SLI, as described in Paragraph 2.6. Analysis of the model by applying structural models was considered, however because of the relative small sample size this method was found unsuitable. Thus, the model, then, was tested by using regression analysis with the outcome on behavioural problems serving as the criterion variable. The self-esteem of children with SLI, problematic educational styles as perceived by children with SLI, parental feelings and educational problems were entered as predictors. Present age, gender, type of language problems and age when entering school were conceived as intervening variables.

4.5.1 The Construction of the Criterion Variable 'Behavioural Problems'

The behavioural problems of the children with SLI were measured by two questionnaires. Both yield three broad-band scores, which are inferred from eight narrow-band scores. Altogether, the variable 'behavioural problems' was described not by one score but several. In order to make the

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analyses more convenient, the amount of scores on behavioural problems had to be summarized into a few, preferably uncorrelated, variables.

The reduction of the CBCL and TRF variables was based on our definition of behavioural problems as mentioned in Chapter 3, 'Methods'. A child was considered to have a behavioural problem when he/she had a clinical score on at least one of the three broad-band scales of the CBCL or TRF. According to this definition, the behavioural problems can be classified into four categories. The first category contains children who do not have a clinical score on the broad-band scales of either the CBCL or TRF. The second and third categories consist of children having a clinical score on the CBCL or the TRF, respectively. The fourth category contains children having a clinical score on both questionnaires. Table 18 shows the distribution of the subjects across these four categories.

Table 18. Number of children with SLI in the four combinations of behavioural problems on the CBCL and TRF, 0= no behavioural problems 1= behavioural problems.

CBCL	TRF		Total
	0	1	
0	70	25	95
1	19	22	41
Total	89	47	136

The four categories form a nominal variable, whereas interval variables appear more useful when testing our model. To construct uncorrelated interval variables that reflect the four categories, a discriminant analysis was carried out. The line of argument discussed in the following paragraphs was pursued.

For testing our model, a variable was needed that reflected whether a child had behavioural problems. We had different data on behavioural problems that could be used for constructing the criterion variable 'behavioural problems'.

First, we had scores on 16 narrow-band scales. These scores can be reduced by using a canonical correlation analysis or a factor analysis. The canonical correlation analysis results in a variable that is too broad, and is therefore difficult to interpret with regard to behavioural problems. A factor analysis would likely result in a number of variables that do not reflect whether a child has behavioural problems.

Second, we had the four categories on behavioural problems, as shown in Table 18. These variables are nominal. They are limited in use, as they only offer a broad distinction between the subjects. A continuous variable on behavioural problems would be preferable. An analyses that combined the two types of data on behaviour was needed.

A discriminant analyses, then, was carried out. The 16 narrow-band scales were used as predictors of the outcome on the four categories of behavioural problems. This analysis resulted in two uncorrelated variables, called discriminant functions, which explained 97.2 % of the total variance (Table 19).

Table 19. The four categories of behavioural problems, explained by functions inferred from scores on the 16 small-band scales of the CBCL and TRF.

Function	Eigenvalue	Cumulative %of variance	Sign.
1	4.097	68.2	p<.01
2	1.745	97.2	p<.01

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The relationship between the two discriminant functions and the four categories is shown in Figure 5, helping to interpret the two functions. Each dot represents a subject. The horizontal axis represents discriminant Function 1, the vertical axis discriminant Function 2.

We concluded that Function 1 represents the degree of behavioural problems. The groups are ordered from 'neither CBCL nor TRF' to 'TRF only', and 'CBCL only' to 'both CBCL and TRF'. We concluded that Function 2 represents the situation (family or school) in which the child was found to have behavioural problems. The groups are ordered from 'CBCL only' to 'TRF only'. In middle is 'neither CBCL nor TRF' and 'both CBCL and TRF', which both do not differentiate between two situations.

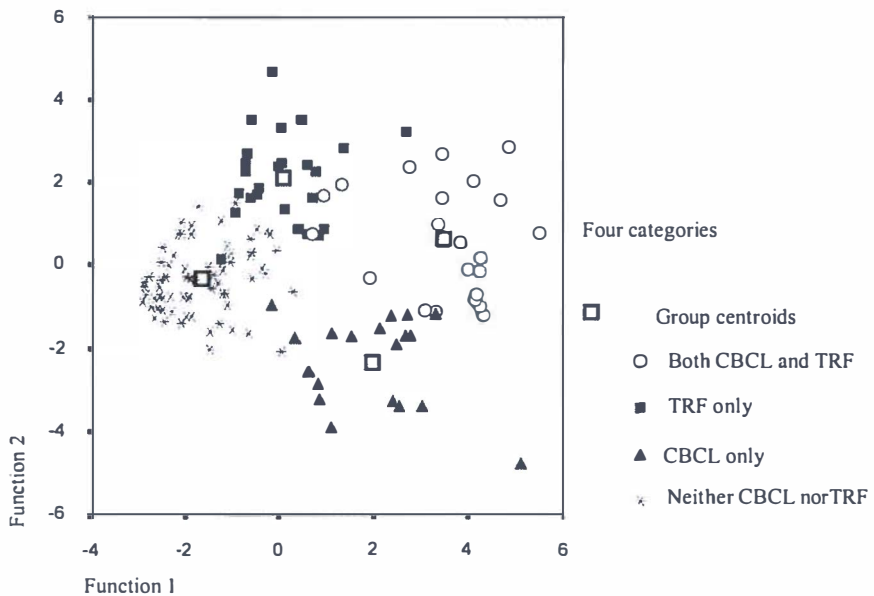


Figure 5. Four categories of behavioural problems described by two functions.

4.5.2. *The Regression Analysis*

A regression analysis was used to test the relation between the predictive variables and the behavioural problems of children with SLI as represented by the two discriminant functions. A total of 112 children were included in this analysis. Data regarding the other children were missing on one or more questionnaires. Besides the variables as obtained by the questionnaires, those of age, gender, age at admittance and type of language problem when admitted were also included in the analysis.

The variables in our model predicted 49% of the variance on behavioural problems as described by Function 1, 'degree of behavioural problems' ($R=.763$, $F=5.981$, $p=.000$). This percentage was based on the adjusted R square, as it corrects for the phenomenon that the R square calculated in one sample tends to be overrated (shrinkage problem)(Siero, 1994). The predictive value of our model on Function 2, 'situation in which a child is judged' was not significant, the variables predicting only less than 1% of the variance ($R=.428$, $F=.962$, $p=.517$). Therefore, the step-wise regression analysis of the predictive variables was carried out on Function 1 only.

The step-wise regression analysis showed that the variables 'uncertainty' (Suurmeijer questionnaire), 'global psychological pressure' (Suurmeijer questionnaire), 'social acceptance' (CBSK) and gender were significantly predictive for the outcomes on Function 1 (Table 20).

The Beta coefficients in Table 20 show the contribution of each predictive variable to Function 1. The coefficients illustrate the direction of the coherence of each factor with the degree of behavioural problems. Table 20 shows that the Beta-coefficients of the variables 'uncertainty about education' and 'global psychological pressure' were positive. The higher

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the score on these variables, the higher the score on ‘degree of behavioural problems’.

Table 20. Variables found to be significant predictors of Function 1, ‘degree of behavioural problems’ when using a step-wise regression analysis (n=112).

Variable	R	adjusted R square	Sign. R square change	Beta
Uncertainty about education	.579	.329	0	.418
Global psychological pressure	.644	.404	0	.329
Social acceptance	.677	.444	.004	-.213
Gender	.701	.473	.009	.184

The coherence between the variables ‘social acceptance’ and ‘behavioural problems’ appeared to be reverse, a low score on ‘social acceptance’ related to a high score on behavioural problems. Gender was a nominal variable. Boys were coded as ‘1’, girls as ‘2’. The positive coefficient of ‘gender’ implied that girls with SLI scored higher on ‘degree of behavioural problems’ than did boys with SLI.

The combination of the child and educator variables showed a significant relation with the variable ‘degree of behavioural problems’ (discriminant Function 1). Our model predicted 49% of the variance on behavioural problems. However, the stepwise analyses demonstrated that not all variables significantly contributed to this relation. Only the variables ‘uncertainty about education’, ‘global psychological pressure’, ‘social acceptance’, and ‘gender’ showed a significant relation with behavioural problems.

5. DISCUSSION

5.1 Behavioural Problems

5.1.1 The Extent of Behavioural Problems in Children with Specific Language Impairments

The first issue to be discussed is the extent of behavioural problems in children with SLI, aged 8 to 12 years. This study supports the assumption that specific language impairments may be associated with these behavioural problems in children. Our sample was estimated to represent 42% of the children with SLI, aged 8, 10 or 12 years, attending special schools for children with hearing and language problems. Forty-nine percent of the children in our sample had behavioural problems according to parents and teachers when asked to report on their behaviour. The selection criteria for SLI excluded children with multiple developmental or social problems. We concluded that the behavioural problems found in our sample are related to language problems, although the outcomes of our study also indicate that the behavioural problems of children with SLI do not proceed directly from their language problems. As 49% of the children in our sample had behavioural problems, 51% did not. Therefore, variables other than the language impairment also influence the genesis of behavioural problems. It should be noted that the 49% of children with SLI found to have behavioural problems were determined in a clinical sample. All our subjects attended special schools for children with hearing and language problems. Perhaps the percentage of children with SLI suffering from behavioural problems would have been higher assumed if the children in our study had been selected from other schools as well, where the educational programme is probably not at all times adjusted to the language problems of the children.

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5.1.2 Relation Between Specific Language Impairments and Behavioural Problems

Our results showed situational differences on a case-by-case level. From the 66 children in our study with behavioural problems, 19 children had behavioural problems according only to their parents, and 25 children according only to their teacher. A total of 22 children had behavioural problems according to both parents and teachers. The difference between the two questionnaires indicates that behavioural problems of children with SLI can depend on the situation, which includes the people with whom they interact. Thus, the behavioural problems in children with SLI are assumed to result from the difficulties they face as a consequence of their language impairment. Both the child and his/her environment experience communication problems, but these problems do not arise in all situations in which the child engages. Our outcomes support the postulation made by Redmond and Rice that the interactional demands in more familiar circumstances probably differ from those in a classroom (Redmond et al., 1998).

Our outcomes differed from the finding of Redmond and Rice that behavioural problems of children with SLI are limited to the school situation. In our study, the percentages of children with SLI having behavioural problems at home and in school were almost equal (32% and 33%). These dissimilar outcomes may be due to differences in the ages of the children in the two samples; Redmond and Rice studied children six years of age, while our study examined children aged 8 to 12. It may be that the behavioural problems of children with SLI first become apparent at school and expand to more situations when the children are older. The different outcomes may also be explained by the relatively small sample size of the study by Redmond and Rice ($n=17$).

Our study, as well as that of Redmond and Rice, stresses the situational factors when discussing the relation between language impairments and behavioural problems. However, other views on this relation can be found. Some researchers speculate on maturational lag, neurodevelopmental immaturity or deficits causing both the language impairment as well as the behavioural problems (Beitchman, 1985; Bishop & Edmundson, 1987; Beitchman et al., 1989).

When considering that not all children with SLI suffer from behavioural problems, a neurological determinant for both language and behavioural problems does not seem a plausible explanation. The differences between the questionnaires filled in by parents and teachers do not support this explanation either. However, should there be a neurological determinant for both language and behavioural problems, our results indicate that situational factors are still important for the manifestation of problem behaviour.

5.1.3 Interrater Differences of Questionnaires on Behaviour

As our research showed that children with SLI had behavioural problems in different situations, the influence of educators as interaction partners and raters on behaviour should be discussed as well. The behaviour of the child influences the reactions of the educators as, on the other hand, the behaviour of the educators influences the reactions of the child. Parents and teachers are interaction partners of the child with SLI. At the same time, they are asked to report on the behaviour of the child. In our study, these two informants were often found to disagree on the behavioural problems of the children in the sample. Other studies, concerning general population samples as well as clinic samples, also found a low to moderate

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agreement between parent and teacher questionnaires on behaviour (Verhulst & Akkerhuis, 1989).

This low to moderate agreement can not be attributed to unreliability of the questionnaire. The test-retest reliability of the CBCL and TRF was found to be, respectively, .91 (Total problem scale), .87 (Internalizing problem scale) .90 (Externalizing problems scale; Verhulst et al., 1996) and .90 (Total problem scale), .81 (Internalizing problem scale) .95 (Externalizing problems scale; Verhulst et al., 1997). The reciprocity in the relation between the child and his/her environment may explain the differences between parent and teacher ratings. Verhulst and Akkermans mentioned two plausible sources of variance that influence the rate of agreement between different informants. First, the actual behaviour of the child may vary depending on social context. Second, the informants may differ in their appraisal of the child's behaviour. It may also be that some combination of both effects causes the differences between parent and teacher ratings on behaviour.

It is evident that, for research as well as diagnostic purposes, two informants offer a more complete picture of the behaviour of the child. Therefore, our study on the extent of behavioural problems included children who had behavioural problems at home, in school, or in both situations. For diagnostic purposes, the comparison of two informants is worthwhile as well; as Verhulst and Akkerhuis (1989) argue, 'discrepancies between different informants' reports may be as informative as agreements between them'.

It has become clear that a child with SLI does not have behavioural problems on his/her own; the environment is involved as well, either because it evokes particular behaviour or because it must deal with the child's problem behaviour. In both cases, the environment of the child must react. A behavioural problem of a child with SLI has thus become an educational issue as well.

5.1.4 Outcomes on Behaviour Compared to Other Studies

A comparison of our outcomes on children with SLI with those of other studies seems to support our presumption that behavioural problems of children with SLI manifest themselves mainly as the children grow older. Approximately half of our sample of children aged 8 to 12 years had behavioural problems, whereas studies on children with SLI aged 2 to 6 years showed that the percentages of children with behavioural problems do not exceed those found in the norm or control group (Tallal et al., 1989; Eleveld, Goorhuis-Brouwer & Nakken, 1994; Goorhuis-Brouwer et al., 1996; Postma, 1996).

This increase of behavioural problems with age, however, may be due to an effect of having studied different samples. In the Netherlands, for example, the number of children who attend schools for children with language impairments in the ages of 8 to 12 years is much lower than the number of children aged 3 to 8 years. For ages below 8 years, the 1998 annual report (VeBOSS, 1998) mentions 1,839 pupils who were referred to the schools on the basis of a language impairment. The number of pupils above 8 years old with language impairments was 599. The same proportion of young and older pupils can be found in the 1999 annual report (VeBOSS, 1999). That is, 2,023 pupils aged younger than 8 years, and 639 pupils aged eight or more years. This implies that the children

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with the most persistent language impairments stay at the schools. The children who partly or entirely overcome their language problems return to regular schools. When comparing a group of young children with SLI to older children with SLI, it should be kept in mind that the percentage of children with behavioural problems may have risen, whereas the absolute number of those with behavioural problems may have stayed the same.

The possibility that behavioural problems in children with SLI increase with age must also be discussed. According to studies of young children with SLI, children from 2 to 6 years of age do not have more behavioural problems (Goorhuis-Brouwer, 1988; Tallal et al., 1989; Goorhuis-Brouwer et al., 1996) although interaction patterns of children with SLI with their parents and peers can already differ from children without language problems (Conti-Ramsden et al., 1983; Goorhuis-Brouwer, 1988; Hadley et al., 1991; Rice et al., 1991; Balkom, 1991; Craig et al., 1993; Craig, 1993; Goorhuis-Brouwer et al., 1996; Drenthen et al., 1997) (see Chapter 2). The behavioural problems found in our sample of children aged 8, 10 or 12 years can also be a consequence of the changing demands in interactions. The environment expects children to master more complex communicative skills as they grow older. Children with SLI may have increasing problems with these changing demands. In children with SLI, the different interaction patterns at a young age may be a prelude for the behavioural problems when aged 8 years or older.

5.1.5 Type of Behavioural Problems

On both the parent and the teacher questionnaires, the percentage of children with behavioural problems differed significantly from the norm group on the Total Behaviour and Internalizing Behaviour scales. The number of children with externalizing behavioural problems was within

the normal range. The type of behavioural problems in children with SLI seems less determined by situational factors than the manifestation of their behavioural problems.

As children with SLI had mainly internalizing behavioural problems, the problem to communicate apparently can lead to withdrawal, somatic complaints, and behaviour indicating anxiousness and depression, which are the small band scales covered by the Internalizing Behaviour scale. The score on the Total Behaviour scale includes, besides the items of the Internalizing Behaviour and the Externalizing Behaviour scales, items concerning social problems, thought problems, and problems with attention.

It would be useful to know if children with SLI have higher scores on particular small band scales. However, the number of children in our sample was too small to compare the mean scores to the norm group of the CBCL. Boys and girls, as well as 8 to 10-year-olds and 12-year-olds, should have been analysed separately as according to the manual of the CBCL these groups have different mean scores. Instead, an explorative comparison was made on the number of children with a clinical score. On all small band scales the observed number of children with behavioural problems was significantly higher than the expected number, with the exception of the small band scales 'aggressive behaviour' and 'delinquent behaviour'. This outcome indicates that, within the range of the Total Behaviour and Internalizing Behaviour scales, all subscales come forward as more problematic in children with SLI when compared to normally developing children.

The parents as well as the teachers did not experience more externalizing problems in children with SLI. This is surprising as it is generally thought that internalizing and externalizing behavioural

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problems relate to individual differences in temperament (Swets-Gronert, 1986). Apparently, in children with SLI the language impairment is a more powerful determinant of behavioural problems than temperament. It seems characteristic for children with SLI that externalizing problem behaviour does not exceed the norm.

5.2 Behavioural Problems Related to Child and Educator Variables

The premise of our study was that situational factors are related to the behavioural problems of children with SLI. These situational factors were represented by child as well as educator variables that were used as predictive variables on the outcome of behavioural problems. A regression analysis showed that 49% of the variance of the degree of behavioural problems was predicted by a composition of the child and educator variables. This implies that the variables on self-esteem of the child, parental feelings, educational problems of parents, problematic educational styles according to the children, and a number of intervening variables are together related to the behavioural problems of children with SLI. Although a connection between situational factors and behavioural problems in children with SLI seems to be established, the outcome of a regression analysis does not give evidence for a causal relation. It is not clear whether the child and educator variables are the cause of the behavioural problems, or the other way around.

A stepwise regression analysis showed that, from all the variables inserted in the analysis, the child variables ‘social acceptance’ and ‘gender’, and the educator variables, ‘uncertainty’ and ‘psychical pressure’ contributed significantly to the outcome on the degree of the behavioural problems in children with SLI. The child and educator variables are discussed separately.

5.2.1. Social Acceptance

The outcomes of the stepwise regression analysis showed that the relation between the 'social acceptance' subscale of the CBSK is negatively related to the behavioural problems of children with SLI. Low scores on 'social acceptance' are related to high scores on behavioural problems and vice versa. It should be kept in mind that 'social acceptance', as assessed with the CBSK, refers to the contacts a child has with his peers. The children were asked, for instance, if they made friends easily, or if they wished they had more friends. The relation between the CBSK outcome on 'social acceptance' and the CBCL/TRF outcomes, therefore, does not refer directly to the interaction between children with SLI and their educators.

Perhaps the problems as perceived by the educators and the children themselves are indirectly related. When children do not feel accepted in the relation with their peers, they withdraw from interactions with them. This withdrawal in contacts with peers may contribute to observations of the educators that children with SLI show mainly internalizing behavioural problems. The relation, as found in our analysis, may reflect an agreement between children and educators on the nature of the behavioural problems of children with SLI, that is problems with establishing or maintaining social interactions.

5.2.2 Gender

Gender, one of the intervening variables in our analysis, was also found to be related to the behavioural problems of children with SLI; girls were found to have more severe behavioural problems than boys.

In general, developmental problems are known to occur more frequently in boys than in girls. From studies on the frequency of language disorders in children, for instance, it is known that boys are represented

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two to three times more than girls (Bishop, 1997; Goorhuis et al., 2000). An explanation for the higher representation of girls on behavioural problems within a sample of children with SLI may lie in the different expectations from society towards boys and girls. Girls are generally expected to develop language skills quicker and often better than boys. This may result in more social pressure on girls with SLI and, as a consequence, girls with SLI withdraw more often from interaction.

Another explanation that also results from different expectations towards boys and girls may be that both boys and girls show equal social behaviour, but for the girls this behaviour is more often labelled as problematic by their educators. The severity of the language impairment also could play a role in the influence of gender on the outcome on behavioural problems. A study by Goorhuis-Brouwer (1988) showed that the language problems of girls are often more severe than those of boys. The data from our own study were not suitable for analysing this difference between boys and girls; our data on the language impairment were nominal and did not offer insight to the severity of the language problem.

5.2.3 Other Subscales of the CBSK

From the knowledge that children with SLI often have learning difficulties and behavioural problems, the CBSK subscales ‘scholastic competence’, ‘behavioural conduct’, and ‘global selfworth’ were thought to be factors that might play a role in the manifestation of behavioural problems. However, the majority of these CBSK subscales appear to be nonpredictive for behavioural problems in children with SLI. Moreover, the mean scores on the CBSK subscales in our sample were similar to or even higher than within the norm group of the CBSK. Higher scores on

CBSK subscales refer to higher experienced competence of the child. The outcome that children with SLI do not show lower scores on self-esteem corresponds with the outcomes on self-concept of children with other developmental problems such as learning difficulties, physical disabilities and psychiatric problems (Lalkhen & Norwich, 1990; Veerman, 1991; Straathof, Siebelink & Goedhart, 1991; Bakker & Griend, 1999).

In these studies, different explanations are formulated for the average outcomes on self-esteem of children with disabilities. These explanations may also apply to children with SLI. One explanation may be that children who attend special education have different references than do children who attend regular schools. Studies on children with learning and physical disabilities showed that children who attend regular education had lower scores on self-esteem than did their peers, whereas the children who attended special education scored average (Lalkhen et al., 1990; Bakker et al., 1999). All the children in the schools from which those in our sample was selected had language impairments. When our subjects had to compare themselves with other pupils, they probably felt that they were equal to the others. The study on children with learning disabilities and physical disabilities indicate that this may result differently when children with SLI attend regular schools.

Another possible explanation is that children with problems may show a tendency to deny their problems. The fact that the mean scores of children with SLI were significantly higher on the subscales 'scholastic competence' and 'global self-worth' may support this assumption, unless the learning goals in special schools are set at a lower level.

Although educators reported that 49% of the children in our sample had behavioural problems, the children scored average on the CBSK subscale 'behavioural conduct'. An explanation may be that this

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subscale refers mainly to externalizing problem behaviour. The children with SLI did not exceed the norm group for externalizing problem behaviour when assessed with the CBCL/TRF, but showed mainly internalizing behavioural problems. Consequently, 'behavioural conduct' as assessed with the CBSK will not relate to the behavioural problems of children with SLI. Differently stated, a child that suffers from internalizing problem behaviour will not consider him/herself to be behaving badly.

5.2.4 Problematic Educational Styles

None of the problematic educational styles as assessed by the VOS showed a relationship with the behavioural problems in children with SLI. Moreover, the children did not see the educational styles of their parents as more problematic than did children without language impairments. From the point of view of the children, language impairments do not lead to parental educational patterns that are known to be a determinant of behavioural problems in children.

The parents of children with SLI were even found to be significantly less inconsistent and less normative when compared to the parents of the control group. The lower scores on these particular problematic educational styles can be understood from the fact that children with SLI need short and straightforward instructions. Parents of children with SLI may adjust themselves to the needs of their children in this sense. This appears to be the same process as described for the adjustments in parental language input (Conti-Ramsden et al., 1983; Van Balkom, 1991; Leonard, 1998). Parents of children with SLI were found to shorten their sentences in order to keep things understandable.

Another explanation may lie in the questionnaire itself. The items that go with these two particular educational styles are more ambiguous

and abstract when compared to those of the other educational styles in the questionnaire. Perhaps a child with SLI who is confronted with a more ambiguous or abstract item tends to choose the negative answer that is, that their parents do not react in such a way.

5.2.5 Educator Variables

From the point of view of the parents, uncertainty about education and global psychological pressure were found to be related to the behavioural problems in children with SLI. The direction of this relation is still unclear. Either the feelings of the parents result in behavioural problems of the children, or the children's behavioural problems generate parental feelings of uncertainty and pressure.

The relation between language impairments, 'uncertainty about education', 'psychological pressure', and behavioural problems is, in our opinion, entwined. Based on previous studies and our own outcomes, we hypothesize the following. From studies of children with SLI aged two to six years, we know that parents already feel uncertain about the education of their child at an early age (Goorhuis-Brouwer, 1988; Goorhuis-Brouwer et al., 1996). The behavioural problems of these children, however, are within a normal range. This discrepancy may be explained by the outcomes of studies by Banis, Suurmeijer and Van Peer (1999), Van Peer and De Vries (1986), and Suurmeijer (1980), who found that the reactions of educators to a child with an impairment are influenced more by the way parents perceive a problem than by the severity of the impairment itself. In children with SLI, then, it may be that the parental uncertainty persists or even increases when the language impairment of the child appears to be lasting, leading to altered interaction patterns between parents and child, and ultimately resulting in behavioural

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problems in the child. When these behavioural problems occur, the parents are confronted with not only a language problem, but also behavioural problems. This cumulation of problems may be the cause of feelings of 'global psychical pressure'.

The parental feelings of uncertainty and global psychical pressure do not seem to evolve into problematic educational styles. Indulgence, protectiveness, or strictness (Suurmeijer questionnaire) were not found to be predictive for behavioural problems in the children with SLI. In this sense, neither parents nor children experience problems in child-rearing practice. The education of children with SLI, then, seems to be aggravated but language impairments do not seem related to overt problematic educational styles.

6. CONCLUSION AND RECOMMENDATIONS

Our study subscribes to the notion that language impairments increase the risk of behavioural problems. Forty-nine percent of the children in our sample, who were included on the basis of their specific language impairment, were reported by their educators to have behavioural problems. It seems to be characteristic for children with SLI that internalizing behavioural problems exceed the norm group, whereas externalizing problem behaviour is within the normal range.

Our study made clear that behavioural problems in children with SLI are not to be conceived as an isolated problem; they appeared to be related to a number of child and educator factors. The child factors that were significantly predictive for the outcome on behavioural problems were 'social acceptance' as perceived by the child him/herself and 'gender'. The educator factors found to relate to the behavioural problems were 'uncertainty about education' and 'psychical pressure'.

In our sample of children aged 8, 10 and 12 years, 49% had behavioural problems, whereas other studies showed that in younger children with SLI the number with behavioural problems did not exceed the norm group (Tallal et al., 1989; Goorhuis et al. 1996). The question was raised whether this increase of behavioural problems is caused by differences in the samples of young and older children with SLI, or is due to the fact that behavioural problems of children with SLI grow with age. The differences between samples of young and older children with SLI lies in the proportion of children with persistent language impairments. A study of Bishop and Edmundson (1987) showed that many young children with language impairments overcome their language problems. This can also be found in the annual report of the schools of children with language impairments. For instance the 1999 annual report (Veboss, 1999) showed

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that the number of pupils with language impairments of eight years or younger was 2,023 whereas the number aged eight years or older was 639. The population of older children appears to be smaller than the population of younger children. Consequently, the proportion of children with persistent language impairments will be higher in a sample of older children. Whether a language impairment is persistent may be an important factor in the development of behavioural problems. For future research, the following questions can be raised. Do children with persistent language impairments have behavioural problems from of young age or do these problems manifest themselves when they grow older? Children, who are diagnosed SLI at an early age, should be assessed on behavioural problems during a number of years. Longitudinal data on the behavioural problems in children with SLI can contribute to our insights into the development of behavioural problems as a result of a specific language impairment.

To prevent children from developing persistent language impairments, much emphasise should be placed on early detection of language impairments. Early diagnosis will lead to early language therapy. In therapy or by education adjusted to the language impairment, the child gets the chance to overcome his/her language problems. When persistent language impairments can be prevented by early diagnosis and therapy, our assumption is that early diagnosis can prevent children from getting behavioural problems as well. This assumption can be investigated by including the children that overcome their language impairment in a follow-up study on behavioural problems in children with SLI.

As the behavioural problems become more concentrated at an older age, the schools for children with language impairments are confronted with changing demands in the education of their pupils. In

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younger children the emphasis should be on the remediation of the language impairment; in older children the therapeutic efforts should lean towards coping strategies. Older children should learn to deal with the limitations and problems associated with a language impairment. When considering the character of the behavioural problems, and problems as perceived by the children themselves, education of mid-school-aged children with SLI should stimulate the skills that will improve their participation in interactions with others. This may also have a positive effect on the social acceptance as experienced by the child itself. As in our sample 51% of the children with SLI did not develop behavioural problems, it may be postulated that special schools for speech and language-impaired children already give attention to positive self-concept and coping strategies. Research on the behavioural problems in children with SLI attending different types of education, or even following different programs, can contribute to our understanding of the influence of educational settings on the functioning of children with SLI.

The educational factors that were found to be related to the behavioural problems in children with SLI (uncertainty about education and psychological pressure) indicate that the parents of children with SLI also need support. Information about the development of young children, language development and language impairments may reduce feelings of uncertainty to some extent. Furthermore, as parents were found to alter their language input and interactional behaviour, they should be reinforced and receive instruction about how they can support their children in a positive way. An educational programme for parents of children with SLI should be informative. As specific language impairments did not seem to be related to overt problematic educational styles, parents of children with SLI do not need special therapeutic educational programs.

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Also, the communication between parents and teachers about the behaviour of the children seems to be important. In our study, it was only regarding 22 of the 66 children that parents and teachers agreed on the behavioural problems of the child. When parents and teachers have different opinions on the behaviour of the child, it does not imply that one of the educators is wrong and the other right. The situation as well as the interactors can have an effect on the behaviour of the child, and the child may show different behaviour. Differences as well as agreement on parent and teacher questionnaires, therefore, can have a diagnostic value.

Considering our model on child variables, educator variables and specific language impairments, we can conclude that only some variables showed a significant relation with behavioural problems (Figure 6). The behavioural problems of children with SLI go together with parental uncertainty and psychological pressure and by a negative perception of social acceptance by the child him/herself. However, it is unclear whether these factors are the cause or the result of their behavioural problems.

Future research on behavioural problems of children with SLI should look further into the matter of uncertainty and psychological pressure perceived by parents, as well as the children's negative feelings of social acceptance (Figure 7).

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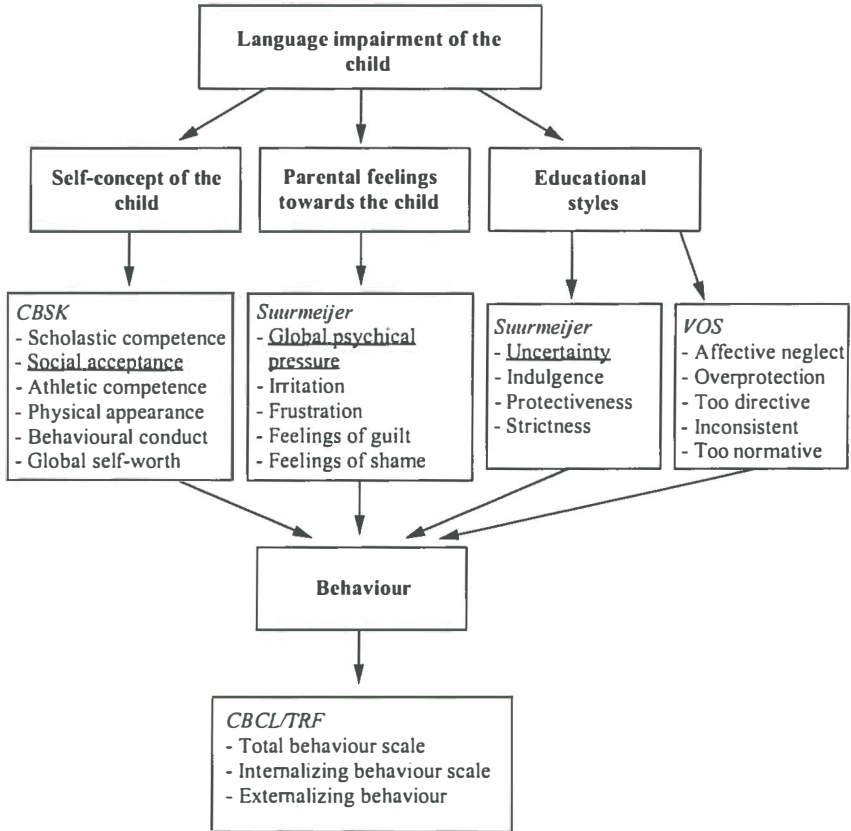


Figure 6. Variables from our model on specific language impairments and behavioural problems. Variables that showed a significant relation with behavioural problems underlined.

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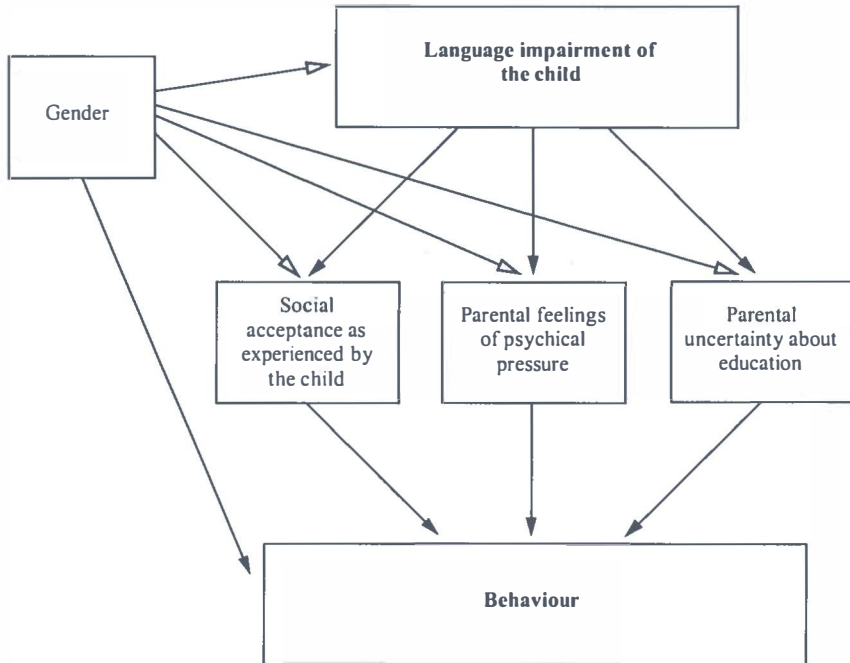


Figure 7. New model on specific language impairments and behavioural problems based on outcomes of our study.

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A longitudinal study might gain more insight into the question of causality. Moreover, it can be investigated whether the subject of parental uncertainty, the cause of their feelings of psychical pressure and the child's own experience of social acceptance are stable or change over time. Future research should also include assumptions on the influence of gender on the behavioural problem of children with SLI. Our study showed that gender relates significantly to behavioural problems in children with SLI, but it is not clear how this relation is established. The following questions can be raised. Does gender influence the type or severity of the language impairment? Do boys and girls with SLI differ in the way they feel socially accepted? Are the feelings of psychical pressure and uncertainty about education of parents of children with SLI gender related? It is also possible that gender relates to behavioural problems in children with SLI through a hidden third factor.

SUMMARY

In this study, the behavioural problems of children with specific language impairments (SLI) were explored. ‘Specific language impairments’ refers to problems in language production or language comprehension that can not be explained by the presence of other problems, such as hearing impairments or cognitive developmental problems. The language problem is the only developmental problem of the child. Several studies indicate that children with language impairments are at risk for having behavioural problems. However, a broad range of percentages of behavioural problems in these children are mentioned and the studies show a great variety in age of the children in the sample, type of language problems and materials to assess behavioural problems. In our study we were interested in the extent and type of behavioural problems in children with SLI in the ages of 8 to 12 years. Furthermore, the relation between specific language impairments and behavioural problems was explored.

In Chapter 1, we discussed the relation between language development and behaviour according to different fields of research, that is the philosophy of education, linguistics, and speech pathology. Language development and behaviour were found to be intertwined in several ways. We concluded that, in order to explore the influence of a language problem on behaviour, we had to focus our study on children with specific language impairments. The behavioural problems of these children can not be explained from other developmental problems.

Our premise on the relation between specific language impairments and behavioural problems was that the behavioural problems of children with SLI do not stem directly from their language problems. Other factors were thought to play a role as well. A child’s language impairment can influence the relation with the environment and raise

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educational questions. A language impairment combined with altered relationships with others may influence the child's functioning. A language impairment, then, influences the interpersonal and intrapersonal aspects of a child's development, which may lead to behavioural problems.

Chapter 2 introduced a model on the relation of specific language impairments and behavioural problems. The model was based on the effects a language impairment was assumed to have on the child and his educators. The self-concept of the child, parental feelings, and educational problems were related to the behavioural problems of children with SLI.

Chapter 3 presented the procedures used to select the subjects and materials, and introduced the statistical procedure to test our model. The behavioural problems of the children in our sample were assessed using the Achenbach Child Behavioural Checklist and Teacher Report Form, both questionnaires on behavioural problems in children that can be filled in by parents or teachers, respectively. The self-concept of the child was assessed by using the Veerman 'Competentie Belevingsschaal voor Kinderen' (CBSK). Children are asked about their feelings of self-worth and feelings of competence on scholastic tasks, social acceptance, athletic performance, physical appearance, and behavioural conduct. Parental feelings towards the child and problematic educational styles according to the parents were assessed by interviewing the parents using the Suurmeijer questionnaire, which assesses the parental feelings 'global psychological pressure', 'irritation', 'frustration', 'feelings of guilt', 'feelings of shame', and educational problems 'uncertainty about education', 'indulgence', 'protectiveness', and 'strictness'. Additionally, the children were asked about the educational style of their parents using the van der Kooij 'Vragenlijst Problematische Opvoedingsstijlen' (VOS), which assesses the

problematic educational styles 'affective neglect', 'overprotection', 'too directive', 'inconsistent', and 'too normative'. The self-concept of the child, the parental feelings towards the child, educational problems according to the parents and educational styles according to the children served as the child and educator factors thought to be related to the behavioural problems in children with SLI. The outcomes on the questionnaires were used as predictive variables on the outcome on behavioural problems. A stepwise regression analysis was administered to determine which of these factors related significantly to the behavioural problems in children with SLI.

Chapter 4 and Chapter 5, respectively, described and discussed the outcomes on the questionnaires and the analysis of the model. A total of 154 children with SLI aged of 8, 10 or 12 years were selected from special schools for children with hearing and language problems in the Netherlands. This was estimated to be 43% of the total population of children with SLI, aged 8, 10 or 12 years, attending these special schools.

The outcomes on the Child Behaviour Checklist and Teacher Report Form showed that, in children with SLI aged 8 to 12 years, a language impairment is often accompanied by behavioural problems. Forty-nine percent of the children in our sample were found to have behavioural problems, either by their parents or their teacher or both. This indicates that not all children with SLI have behavioural problems. Other factors must also play a role in the relation between language impairment and behavioural problems.

From the total of 66 children found to have behavioural problems, the parents and teachers agreed on the behavioural problems of 22 children. Twenty-five children had behavioural problems according only to their parents, and 19 children according only to their teachers. This

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indicates that behavioural problems can depend on situational factors, which includes the people with whom the children interact. The interactional demands in more familiar circumstances probably differ from those in a classroom.

The parents and teachers agreed to a high degree on the type of behavioural problems. The children in our sample had mainly internalizing behavioural problems, according to both parents and teachers. The number of children with externalizing behavioural problems did not differ significantly from the 10% limit mentioned in the CBCL and TRF manual. In general, it is thought that internalizing and externalizing behavioural problems are related to individual differences in temperament (Swets-Gronert, 1986). Apparently, in children with SLI the language impairment is a more powerful determinant of behavioural problems than is temperament. It seems characteristic for children with SLI that only internalizing problem behaviour exceeds the norm.

A comparison of our outcomes on the behaviour of children with SLI with those of other studies indicated that behavioural problems in children with SLI manifest themselves mainly as the children grow older. About half of our sample of children aged 8 to 12 years had behavioural problems, whereas studies on children with SLI aged 2 to 6 years showed that the percentages of children with behavioural problems do not exceed those found in the norm or control group. Whether the increase of behavioural problems is caused by manifestation of behavioural problems at an older age or is due to differences within samples is not yet clear.

A regression analysis showed that 49% of the variance on behavioural problems in children with SLI could be explained by the child and educator variables we investigated. As a regression analysis does not give evidence for causality, it is not yet clear whether the child and

educator variables are causing the behavioural problems or are resulting from them. A stepwise analysis showed that, from all the child variables used in the analyses, 'social acceptance' and 'gender' related significantly to the outcome on behavioural problems of children with SLI. Thus, children with SLI seem to show some awareness of their problems in interactions with others. These problems in interactions are covered by the internalizing problem scale of the CBCL/TRF, in which parents and teachers report the children to have more problems than children without language impairments. The educator variables 'uncertainty' and 'psychical pressure' showed a significant relation with behavioural problems. It seems that the education of children with SLI is aggravated in relation with behavioural problems, but a language impairment does not lead to problematic educational styles.

Chapter 6 described the conclusions from our study and the implications for our model and future research. Our study subscribed to the notion that language impairments increase the risk of behavioural problems. Not all children with SLI have behavioural problems, and those who have problems do not always show them both at home and in school. In the clinical practise as well as in research, the two situations should be analysed and compared. It has become clear that a child with SLI does not have behavioural problems on its own; the child's environment is involved as well, either because it evokes particular behaviour or because it must deal with the child's problem behaviour.

The assumption was made that the behavioural problems in children with SLI appear for the greater part appear as they grow older. A follow-up study is recommended to investigate this assumption.

Our study showed that some factors play a role when children with SLI have behavioural problems, whereas others do not. The behavioural

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problems in children with SLI appeared to be related to a number of child and educator factors. The child factors that were significantly predictive for the outcome on behavioural problems were 'social acceptance' as perceived by the child itself and 'gender'. The educator factors found to relate to the behavioural problems were 'uncertainty about education' and 'psychical pressure'.

Further study on behavioural problems in children with SLI should search further into the matter of parental uncertainty and psychical pressure perceived by parents, as well as children's feelings of social acceptance in relation to their behavioural problems. The study should be longitudinal, in order to gain more insight to the problem of cause and effect when considering the factors related to the behavioural problems in children with SLI.

NEDERLANDSE SAMENVATTING

In deze studie is het verband nagegaan tussen specifieke taalstoornissen en gedragsproblemen bij kinderen in de leeftijd van 8, 10 en 12 jaar. Het onderzoek is voortgekomen uit vragen vanuit de Vereniging ter Bevordering van het Onderwijs aan Slechthorende kinderen en kinderen met Spraak- en/of taalmoeilijkheden (VeBOSS). Op de betreffende scholen werd gesignaleerd dat kinderen met specifieke taalstoornissen met name in de midden- en bovenbouw gedragsproblemen gaan vertonen. Met een specifieke taalstoornis wordt bedoeld dat er problemen zijn op het gebied van de taalproductie en/of het taalbegrip, maar dat deze taalproblemen niet samenhangen met slechthorendheid, cognitieve ontwikkelingsachterstanden, neurologische problemen, syndromen, contactstoornissen met een psychiatrische achtergrond (autisme, PDD-NOS) of met een gezinssituatie waarbij verwaarlozing leidt tot ontwikkelingsproblemen van het kind.

In verschillende studies wordt een verband gevonden tussen taalstoornissen en gedragsproblemen, maar als de uitkomsten van deze onderzoeken met elkaar worden vergeleken, zijn er grote verschillen in de percentages kinderen met gedragsproblemen. Deze variërende uitkomsten kunnen worden toegeschreven aan verschillen in de onderzoeksgroep en onderzoeksmethode. Zo lopen de leeftijden van de kinderen in de verschillende onderzoeken uiteen van 2 tot 21 jaar, en zijn de aard van de taalstoornis en de methode om de gedragsproblemen vast te stellen niet steeds dezelfde. Over de gedragsproblemen van oudere kinderen met een specifieke taalstoornis is in de literatuur nog maar weinig bekend. In deze studie is voor kinderen met een specifieke taalstoornis in de leeftijd van 8, 10 en 12 jaar onderzocht wat de omvang van de gedragsproblematiek is, wat de aard van de gedragsproblemen is en welke kind- en opvoedersfac-

toren een rol spelen in de relatie tussen taalstoornissen en gedragsproblemen.

In hoofdstuk 1 wordt beschreven hoe de relatie tussen taalontwikkeling en gedrag wordt benaderd vanuit de theoretische pedagogiek, de taalkunde/linguïstiek en de taalpathologie. Duidelijk wordt, dat taalontwikkeling en gedrag elkaar beïnvloeden en in de ontwikkeling van een kind met elkaar verweven zijn. Zo kunnen gedragsproblemen samengaan met taalproblemen, maar is het omgekeerde ook aannemelijk, namelijk dat taalproblemen kunnen leiden tot gedragsproblemen. Door de gedragsproblemen te bestuderen in een onderzoeksgroep die is samengesteld uit kinderen met een specifieke taalstoornis kan er meer inzicht worden verkregen in de invloed die een taalstoornis heeft op het gedrag van kinderen. Bij deze kinderen vormt de taalontwikkeling het primaire ontwikkelingsprobleem. Eventuele gedragsproblemen kunnen dan worden toegeschreven aan de taalstoornis zelf en zijn niet het gevolg van andere (ontwikkelings)problemen.

Het uitgangspunt van dit onderzoek is dat de gedragsproblemen niet rechtstreeks het gevolg zijn van de taalproblematiek, maar dat waarschijnlijk meerdere factoren daarin een rol spelen. Zo kan een taalstoornis de omgang tussen het kind en zijn omgeving beïnvloeden. Problemen in de omgang kunnen gevolgen hebben voor het functioneren van het kind zelf, maar kunnen ook vragen oproepen bij de opvoeders. Een taalprobleem kan daarmee leiden tot intra- en interpersoonlijke problemen die zich uiten in de vorm van gedragsproblemen. In hoofdstuk 2 wordt een theoretisch model geïntroduceerd over de relatie tussen specifieke taalstoornissen en gedragsproblemen. Het model is gebaseerd op de mogelijke effecten die een taalstoornis kan hebben op het kind zelf en zijn opvoeders. Het zelfbeeld van het kind, de gevoelens van ouders en opvoedingsproblemen

worden gerelateerd aan de gedragsproblemen die bij kinderen met een specifieke taalstoornis kunnen voorkomen.

In hoofdstuk 3 worden de selectieprocedure, de onderzoeksmethoden en de statische methode beschreven waarmee het model is getoetst. Om de gedragsproblemen van de kinderen te vast te stellen is gebruik gemaakt van de Nederlandse versie van de Achenbach Child Behavior Checklist (CBCL) en Teacher Report Form (TRF). Dit zijn nagenoeg identieke vragenlijsten over het gedrag van kinderen, die ingevuld kunnen worden door de ouders (CBCL) en de leerkracht (TRF) van het kind. De mate waarin de kinderen met een specifieke taalstoornis gedragsproblemen vertonen en de aard van hun gedragsproblemen is onderzocht door de uitkomsten te vergelijken met de gegevens van de normeringsgroep van de CBCL.

De 'Competentie Belevingsschaal voor Kinderen' (CBSK) is gebruikt om het zelfbeeld van het kind te testen. Aan de kinderen wordt gevraagd aan te geven hoe ze zichzelf waarderen en hoe competent ze zich voelen op het gebied van schooltaken, sociale acceptatie, sportieve vaardigheden, fysieke verschijning en gedrag. De 'Suurmeijer Vragenlijst' is gebruikt om de gevoelens van ouders te onderzoeken, en werd nagegaan welke problemen ouders ervaren bij de opvoeding van een kind met een taalstoornis. In deze lijst worden vragen gesteld die verwijzen naar gevoelens van 'algemene psychische druk', 'ergernis', 'frustratie', 'schuld' en 'schaamte' en naar de volgende opvoedingsproblemen: 'pedagogische onzekerheid', 'toegeeflijkheid', 'overprotectie', en 'strengheid'. Ook is de kinderen gevraagd naar de opvoedingsstijl van hun ouders met behulp van de 'Vragenlijst Problematische Opvoedingsstijlen' (VOS). In deze lijst worden vragen gesteld die verwijzen naar de volgende problematische opvoedingsstijlen: 'affectieve verwaarlozing', 'overprotectie', 'te sturende

opvoedingsstijl', 'inconsequente opvoedingsstijl' en 'te sterk appelleren aan normen en waarden'.

Al deze kind- en opvoedervariabelen zijn ingevoerd in een regressieanalyse, waarbij de gedragsproblemen van de kinderen als de afhankelijke variabele aangemerkt zijn en de overige variabelen als voorspellers. Een stapsgewijze regressie-analyse is uitgevoerd om te testen welke van de voorspellende variabelen significant gerelateerd zijn aan de gedragsproblemen van kinderen met een specifieke taalstoornis.

In hoofdstuk 4 worden de uitkomsten van het onderzoek beschreven, in hoofdstuk 5 wordt hierover een discussie gevoerd. De kinderen uit de onderzoeksgroep zijn geselecteerd op de scholen voor slechthorende kinderen en kinderen met spraak- en/of taalmoeilijkheden. De onderzoeksgroep is samengesteld uit 154 kinderen met een specifieke taalstoornis in de leeftijd van 8, 10 of 12 jaar. Dit is naar schatting 43% van de totale Nederlandse populatie van kinderen met een specifieke taalstoornis die 8, 10 of 12 jaar zijn en deze vorm van speciaal onderwijs volgen.

De uitkomsten van de CBCL en TRF wijzen uit dat veel kinderen van de genoemde leeftijden met een specifieke taalstoornis gedragsproblemen vertonen. Negenenveertig procent van de kinderen in de onderzoeksgroep hebben volgens hun ouders of volgens hun leerkracht gedragsproblemen. Dit betekent ook dat de helft van kinderen met een specifieke taalstoornis geen gedragsproblemen heeft. Het is aannemelijk dat de relatie tussen taalstoornissen en gedragsproblemen wordt beïnvloed door andere factoren dan de taalstoornis alleen.

Van de 66 kinderen met gedragsproblemen worden 22 kinderen door zowel hun ouders als hun leerkracht als zodanig beoordeeld, 25 kinderen hebben alleen volgens hun ouders gedragsproblemen en 19 alleen volgens hun leerkracht. Hieruit kan geconcludeerd worden dat gedragspro-

blemen afhankelijk zijn van de situatie waarin een kind zich bevindt en van de personen waar het kind in die situatie mee te maken heeft. In de thuissituatie worden waarschijnlijk andere eisen aan de interactie tussen kind en omgeving gesteld dan op school.

Over de aard van de gedragsproblemen zijn de ouders en de leerkrachten het wel eens. Beiden geven aan dat de kinderen vooral internaliserende gedragsproblemen vertonen. In het algemeen wordt aangenomen dat het vertonen van internaliserend of externaliserend probleemgedrag afhankelijk is van het temperament van het kind. Blijkbaar is dit bij kinderen met een specifieke taalstoornis minder het geval en is de taalstoornis een sterkere determinant voor de aard van de gedragsproblemen dan het temperament van het kind.

Als de uitkomsten van het onderzoek naar de gedragsproblemen worden vergeleken met andere studies naar kinderen met een specifieke taalstoornis dan lijken de gedragsproblemen bij deze kinderen zich vooral te manifesteren als ze ouder zijn. In onze studie van kinderen in de leeftijd van 8 tot 12 jaar vertoont ongeveer de helft gedragsproblemen, terwijl in onderzoeken van kinderen van 2 tot 6 jaar niet meer gedragsproblemen worden gevonden dan in de norm- of controlegroep. Het is nog onduidelijk of de gedragsproblemen toenemen met de leeftijd of dat dit verschil te wijten is aan verschillen in de onderzoeksgroepen. Het is aannemelijk dat de groep kinderen met een specifieke taalstoornis door een gerichte didactische aanpak kleiner wordt naarmate de kinderen ouder worden, en alleen kinderen met persisterende taalproblemen het speciale onderwijs blijven volgen.

Een regressie-analyse laat zien dat 49% van variantie van de scores op gedragsproblemen kan worden verklaard door de kind- en opvoedervariabelen die zijn onderzocht. Een stapsgewijze regressie-analyse

toonde aan dat van alle variabelen die zijn ingevoerd, de kindvariabelen 'sociale acceptatie' en 'geslacht' significant samenhangen met de ernst van de gedragsproblemen. 'Sociale acceptatie', zoals dit wordt gemeten met de CBSK, vertoont inhoudelijk overeenkomsten met het internaliserende probleemgedrag dat is vastgesteld met de CBCL/TRF. De kinderen met een specifieke taalstoornis lijken zich dus bewust te zijn van de problemen die ze hebben in de interactie met anderen. Van de opvoedersvariabelen vertonen 'onzekerheid over opvoeding' en 'globale psychische druk' een significante samenhang met de ernst van de gedragsproblemen. De opvoeding van een kind lijkt te worden verzwaard door de aanwezigheid van een specifieke taalstoornis, maar dit lijkt bij de ouders niet te leiden tot het hanteren van een opvoedingsstijl die gedragsproblemen bij kinderen kan veroorzaken. Op basis van een regressie-analyse kan geen uitspraak worden gedaan over causaliteit. Het is niet duidelijk of de negatieve perceptie van het kind van zijn sociale acceptatie en de onzekerheid en de psychische druk die wordt ervaren door de ouders de oorzaak zijn van de gedragsproblemen of voortkomen uit de gedragsproblemen het kind.

In hoofdstuk 6 wordt een aantal conclusies getrokken over de gedragsproblemen bij kinderen met een specifieke taalstoornis en vindt een terugkoppeling plaats naar het theoretisch model over de relatie tussen specifieke taalstoornissen en gedragsproblemen. De veronderstelling dat een taalstoornis de kans op gedragsproblemen vergroot wordt door de uitkomsten van ons onderzoek onderschreven. Echter, niet alle kinderen met een specifieke taalstoornis hebben gedragsproblemen en de kinderen die gedragsproblemen hebben vertonen deze soms alleen thuis en soms alleen op school. Een aantal kinderen vertoont gedragsproblemen in beide situaties. Ook voor de klinische praktijk is het van belang dat de thuis- en

schoolsituatie nader worden geanalyseerd, omdat de omgeving van het kind een rol kan spelen als het kind gedragsproblemen vertoont. Soms zal de omgeving van het kind bepaald gedrag oproepen. Daarnaast zal in alle gevallen de omgeving op het probleemgedrag van het kind moeten reageren.

Om na te gaan of gedragsproblemen zich pas manifesteren als kinderen ouder worden, ofwel toenemen omdat de groep kinderen met specifieke taalstoornissen kleiner wordt, is een longitudinaal onderzoek nodig. Naast het persisterende karakter van de taalstoornis spelen ook kind- en opvoederskenmerken een rol. Van de kindfactoren hangen 'sociale acceptatie' en 'geslacht' significant samen met de ernst van de gedragsproblemen. Van de opvoedersfactoren vertonen 'onzekerheid in de opvoeding' en 'algemene psychische druk' een significante samenhang. Vervolgonderzoek moet deze factoren in samenhang met gedragsproblemen gedetailleerder onderzoeken. In een longitudinaal onderzoek kan de causaliteit beter worden onderzocht en kan worden gekeken of de gevoelens en problemen van het kind en de ouders stabiel zijn of veranderen in de loop van de tijd.

Reference List

- Achenbach, T.M. (1997). What is normal? What is abnormal? Developmental perspectives on behavioral and emotional problems. In S. S. Luthar, J. A. Burack, D. Cicchetti, & J. R. Weisz (Eds.), *Developmental psychopathology. Perspectives on adjustment, risk, and disorder*. (pp. 93-114). Cambridge: Cambridge University Press.
- Alm, N., & Parnes, P. (1995). Augmentative and alternative communication: past, present and future. *Folia Phoniatr.Logop.*, 47(3), 165-192.
- Baker, L., & Cantwell, D.P. (1987a). A prospective psychiatric follow-up of children with speech/language disorders. *J.Am.Acad.Child Adolesc.Psychiatry*, 26(4), 546-553.
- Baker, L., & Cantwell, D.P. (1987b). Factors associated with the development of psychiatric illness in children with early speech/language problems. *J.Autism.Dev.Disord.*, 17 (4), 499-510.
- Bakker, J.Th.A., & Griend, J. van der (1999). Zelfbeeld en sociale status van kinderen met leerproblemen in het regulier en speciaal onderwijs. *Tijdschrift voor Orthopedagogiek*, (38), 497-511.
- Balkom, H. van (1991). *The communication of language impaired children*. Amsterdam/Lisse: Swets & Zeitlinger.
- Banis, S., Suurmeijer, T.P.B.M., & Peer, D.R. van (1999). Child-rearing practices toward children with hemophilia: the relative importance of clinical characteristics and parental emotional reactions. *Family Relations*, 44, 207-213.

References

- Beitchman, J.H. (1985). Speech and language impairment and psychiatric risk: Toward a model of neurodevelopmental immaturity. *Psychiatric Clinics of North America*, (8), 721-735.
- Beitchman, J.H., Brownlie, E.B., Inglis, A., Wild, J., Ferguson, B., Schachter, D., Lancee, W., Wilson, B., & Mathews, R. (1996). Seven-year follow-up of speech/language impaired and control children: psychiatric outcome. *J Child Psychol.Psychiatry*, 37(8), 961-970.
- Beitchman, J.H., Hood, J., & Inglis, A. (1990). Psychiatric risk in children with speech and language disorders. *J.Abnorm.Child Psychol.*, 18(3), 283-296.
- Beitchman, J.H., Hood, J., Rochon, J., & Peterson, M. (1989). Empirical classification of speech/language impairment in children. II. Behavioral characteristics. *J.Am.Acad.Child Adolesc.Psychiatry*, 28(1), 118-123.
- Beitchman, J.H., Nair, R., Clegg, M., Ferguson, B., & Patel, P.G. (1986). Prevalence of psychiatric disorders in children with speech and language disorders. *J Am.Acad.Child Psychiatry*, 25(4), 528-535.
- Beitchman, J.H., Nair, R., Clegg, M., Patel, P.G., Ferguson, B., Pressman, E., & Smith, A. (1986). Prevalence of speech and language disorders in 5-year-old kindergarten children in the Ottawa-Carleton region. *J.Speech Hear.Disord.*, 51(2), 98-110.
- Beitchman, J.H., Wilson, B., Brownlie, E.B., Walters, H., & Lancee, W. (1996). Long-term consistency in speech/language profiles: I. Developmental and academic outcomes. *J Am.Acad.Child Adolesc.Psychiatry*, 35(6), 804-814.

- Beitchman, J.H., Wilson, B., Brownlie, E.B., Walters, H., Inglis, A., & Lancee, W. (1996). Long-term consistency in speech/language profiles: II. Behavioral, emotional, and social outcomes. *J Am.Acad.Child Adolesc.Psychiatry*, 35(6), 815-825.
- Benasich, A.A., Curtiss, S., & Tallal, P. (1993). Language, learning, and behavioral disturbances in childhood: a longitudinal perspective. *J.Am.Acad.Child Adolesc.Psychiatry*, 32(3), 585-594.
- Bishop, D.V., & Edmundson, A. (1987). Language-impaired 4-year-olds: distinguishing transient from persistent impairment. *J.Speech Hear.Disord.*, 52 (2), 156-173.
- Bishop, D.V., & Edmundson, A. (1987). Specific language impairment as a maturational lag: evidence from longitudinal data on language and motor development. *Dev.Med.Child Neurol.*, 29(4), 442-459.
- Bishop, D.V., & Rosenbloom, L. (1987). Classification of childhood language disorders. In W. Yule & M. Rutter (Eds.), *Language development and disorders*. London: MacKeith Press.
- Bishop, D.V.M. (1992). The underlying nature of specific language impairment. *J.Child Psychol.Psychiatry*, 33(1), 3-66.
- Bishop, D.V.M. (1997). *Uncommon understanding. Development and disorders of language comprehension in children*. East Sussex: Psychology Press.
- Bloom, L., & Lahey, M. (1978). *Language development and language disorders*. New York: John Wiley & Sons.
- Bollnow, O.F. (1979). *Sprache und Erziehung*. Stuttgart: Verlag W. Kohlhammer.
- Bos, J.M. (1977). *Het gezin met een hartekind*. Amsterdam: Swets & Zeitlinger.

References

- Bruner, J.S. (1977). Early social interaction and language acquisition. In H. R. Schaffer (Ed.), *Studies in mother-infant interaction*. New York: Academic Press.
- Bruner, J.S. (1983). *Child's talk. Learning to use language*. Oxford: Oxford University Press.
- Bullock, M. (1979). *Before speech. The beginning of interpersonal communication*. Cambridge: University Press.
- Calkhoven E. (1995). *Een operationalisatie van opvoedingsbeleving bij het expertmodel voor emotioneel en sociaal probleemgedrag*. Doctoraalscriptie Rijksuniversiteit Groningen, vakgroep Orthopedagogiek.
- Cantwell, D.P., & Baker, L. (1987). Prevalence and type of psychiatric disorder and developmental disorders in three speech and language groups. *J.Commun.Disord.*, 20(2), 151-160.
- Catts, H.W. (1993). The relationship between speech-language impairments and reading disabilities. *Journal of Speech and Hearing Research*, 36(5), 948-958.
- Conti-Ramsden, G., & Friel-Patti, S. (1983). Mothers' discourse adjustments to language-impaired and non-language-impaired children. *J.Speech Hear.Disord.*, 48, 360-367.
- Coster, F.W., Goorhuis-Brouwer, S.M., Nakken, H., & Lutje Spelberg, H.C. (1999). Specific language impairments and behavioural problems. *Folia Phoniatr.Logop.*, 51, 99-108.
- Craig, H.K. (1993). Social skills of children with specific language impairment: Peer relationships. *Language, Speech, and Hearing Services in Schools*, 24, 206-215.

- Craig, H.K., & Washington, J.A. (1993). Access behaviors of children with specific language impairment. *J Speech Hear.Res.*, 36 (2), 322-337.
- Drenthen, M.C.B., & Riksen-Walraven, J.M.A. (1997). De interactie tussen spraak-taalgestoorde kinderen en hun ouders. Relatie met kinderlijke gedragsproblemen en ouderlijke opvoedingsbeleving. *Tijdschrift voor Orthopedagogiek*, 36, 313-326.
- Eleveld, J., Goorhuis-Brouwer, S.M., & Nakken, H. (1994). Taal en sociale problemen. Onderzoek naar sociaal-emotionele problemen bij specifiek taalgestoorde kinderen. *Tijdschrift voor Orthopedagogiek*, 33, 550-556.
- Elzinga, A., & Daling, L. (1998). *Hoe het (niet) moet. Een onderzoek naar opvoedingsstijlen bij moeders van kinderen met een specifieke taalstoornis*. Groningen: Rijksuniversiteit Groningen, PPSW (interne publikatie).
- Evers, A., Vliet-Mulder, J.C. van & Groot, C.J. (2000). *Documentatie van tests en testresearch in Nederland. Deel 1: Testbeschrijvingen*. Assen: van Gorcum.
- Fletcher, P., & Hall, D. (1992). *Specific speech and language disorders in children: correlates, characteristics and outcomes*. London: Whurr.
- Fujiki, M., & Brinton, B. (1994). Social competence and language impairment in children. In R. V. Watkins & M. L. Rice (Eds.), *Specific language impairments in children*. (pp. 123-143). Baltimore: Paul H. Brookes Publishing Co.

References

- Goorhuis-Brouwer, S.M. (1988). *Gesprekspartners? Taalontwikkelingsstoornissen als pedagogisch probleem, een verkenning*. Utrecht: Elsevier/de Tijdstroom.
- Goorhuis-Brouwer, S.M. (1990). Disordered speech and language development as a pedagogic problem. Reaction of parents to child speech problems. *Folia Phoniatr.Basel.*, 42(5), 217-225.
- Goorhuis-Brouwer, S.M., Nakken, H., & Berg, H.v.d. (1996). De relatie tussen specifieke taalstoornissen, gedrag van het kind en beleving van de ouders. *Tijdschrift voor Orthopedagogiek*, (35), 352-360.
- Goorhuis, S.M., & Schaerlaekens, A.M. (2000). *Handboek Taalontwikkeling, Taalpathologie en Taaltherapie bij Nederlandssprekende kinderen*. (Tweede druk). Leusden: de Tijdstroom.
- Gresnigt, H.A.A., & Gresnigt, A.M.C. (1973). *Ouders en gezinnen met een diep zwakzinnig kind*. Amsterdam: Swets en Zeitlinger
- Hadley, P.A., & Rice, M.L. (1991). Conversational responsiveness of speech- and language-impaired preschoolers. *J.Speech Hear.Res.*, 34, 1308-1317.
- Harter, S. (1986). Processes underlying the construction, maintenance, and enhancement of the self-concept in children. In J. Suls & A. G. Greenwald (Eds.), *Psychological perspectives on the self*. (pp. 136-182). Hillsdale: Lawrence Erlbau Associates, Inc.
- Haynes, C., & Naidoo, S. (1991). *Children with specific speech and language impairment*. London: Mac Keith Press.
- Imelman, J.D. (1982). *Inleiding in de pedagogiek. Over werkelijkheid, taal en wetenschap van de opvoeding*. Groningen: Wolters-Noordhoff.

- Ingram, T.T.S. (1961). Specific developmental disorders in speech in childhood. *Brain*, 82, 450-467.
- International Congress on Education of the Deaf. Abstract Book. Hamburg: The German Congress Secretariat.
- Janssen, C.G.C. (1982). *Ouders van geestelijk gehandicapte kinderen*. Lisse: Swets en Zeitlinger
- Kohnstamm, Ph. (1967). *Persoonlijkheid in wording*. Haarlem: Tjeenk Willink.
- Kooij, R. van der, Calkhoven E., & Lutje Spelberg, H.C. (1995). Een operationalisatie van opvoedingsbeleving bij het expert-model voor emotioneel en sociaal probleemgedrag. *Nederlands Tijdschrift voor Opvoeding, Vorming en Onderwijs*, 11(1), 4-20.
- Korkman, M. (1999). Specific language impairment: Subtypes and assesment. In F. Fabbro (Ed.), *Concise encyclopedia of language pathology*. (pp. 225-231). Oxford: Elsevier Science Ltd.
- Kunnen, S. (1993). Ervaren controle en waargenomen competentie op de basisschool. *Kind en Adolescent*, 14, 194-204.
- Lalkhen, Y., & Norwich, B. (1990). The self-concept and self-esteem of adolescents with physical impairments in integrated and special school settings. *European Journal of Special Needs Education*, 5, 1-12.
- Langeveld, M.J. (1969). *Beknopte theoretische pedagogiek*. Groningen: Wolters-Noordhoff.
- Leonard, L.B. (1998). *Children with specific language impairment*. Cambridge, Massachusetts: Massachusetts Institute of Technology.

References

- Litt, Th. (1965). *Führen oder wachsenlassen*. Stuttgart: Ernst Klettverlag.
- Loncke, F. (1993). Implications of research on deaf and hearing children's language learning. In Marschark M & M. D. Clark (Eds.), *Psychological perspectives on deafness*. Hillsdale: Erlbaum.
- Meijer, W.A.J. (1995). *Perspectieven op mens en opvoeding*. Nijkerk: Uitgeverij Intro.
- Meulen, M. van der (1993). Zelfbeeld en psychisch functioneren. *Kind en Adolescent*, 14, 115-126.
- Nakken, H. (1994). Limits of conducting research in the field of Orthopedagogy. In J. E. Rink & R. C. Vos (Eds.), *The limits of Orthopedagogy: changing perspectives*. Leuven: Garant.
- Naucler, K., & Magnusson, E. (1998). Reading and writing development: report from an ongoing longitudinal study of language-disordered and normal groups from pre-school to adolescence. *Folia Phoniatr.Logop.*, 50(5), 271-282.
- Nunnally, J.C., & Bernstein, I.H. (1994). *Psychometric theory*. New York: McGraw-Hill.
- Papousek, H., & Papousek, M. (1975). Cognitive aspects of preverbal interaction between human infants and adults. In N. O'Connor (Ed.), *The parent-child interaction*. Amsterdam: Elsevier.
- Peer, D.R. van, & Lutje Spelberg, H.C. (1984). Ouders met een kind op de LOM-school. Enkele problematische gezinsaspecten. *Tijdschrift voor Orthopedagogiek*, (23), 303-314.
- Peer, D.R. van, & Vries, A.F. de (1986). De invloed van een kind met een chronische ziekte (cara) op de opvoedingsattituden van de ouders. *Tijdschrift voor Sociale Gezondheidszorg*, (9), 309-312.

- Ploeg, J.D. van der (1990). *Gedragsproblemen. Ontwikkelingen en risico's*. Rotterdam: Lemniscaat.
- Postma, L.D. (1996). *Onuitgesproken emoties? Onderzoek naar sociaal-emotionele ontwikkeling en problematiek bij jonge, specifiek taalgestoorde kinderen*. Groningen: Rijksuniversiteit Groningen, PPSW (interne publikatie).
- Rapin, I., & Allen, D.A. (1987). Why classify dysphasic children?. *Abstracts first interational symposium specific speech and language disorders in children, 2-2*.
- Redmond, S.M., & Rice, M.L. (1998). The socioemotional behaviors of children with SLI: social adaptation or social deviance? *Journal of Speech, Language, and Hearing Research, 41*, 688-700.
- Rice, M.L., Sell, M.A., & Hadley, P.A. (1991). Social interactions of speech- and language-impaired children. *J Speech Hear.Res., 34(6)*, 1299-1307.
- Rutter, M., & Mawhood, L. (1991). The long-term psychosocial sequelae of specific developmental disorders of speech and language. In M. Rutter & P. Casaer (Eds.), *Biological factors for psychosocial disorders*. (pp. 233-259). Cambridge: Cambridge University Press.
- Rutter, M., Mawhood, L., & Howlin, P. (1992). Language delay and social development. In P. Fletcher & D. Hall (Eds.), *Specific speech and language disorders in children*. London: Whurr Publishers.

References

- Sameroff, A.J., & Fiese, B.H. (1990). Transactional regulation and early intervention. In S. J. Meisels & J. P. Shonkoff (Eds.), *Handbook of early childhood intervention*. (pp. 119-149). Cambridge: Cambridge University Press.
- Schaefer, E.S. (1959). A circumplex model for maternal behavior. *Journal of Abnormal and Social Psychology*, (59), 226-235.
- Shane, H.C. (1980). Approaches to assessing the communication of non-oral persons. In R. L. Schiefelbusch (Ed.), *Non-speech language and communication*. Baltimore: Baltimore University Park Press.
- Siero, F.W. (1994). Multiplere regressie. In A. van Knippenberg & F. W. Siero (Eds.), *Multivariate analyse: beknopte inleiding en toepassingen*. (pp. 13-52). Deventer: Bohn Stafleu Van Loghum.
- Silva, P.A., Williams, S., & McGee, R. (1987). A longitudinal study of children with developmental language delay at age three: later intelligence, reading and behaviour problems. *Dev.Med.Child Neurol.*, 29(5), 630-640.
- Smolac, L. (1986). *Infancy*. New Jersey: Prentice Hall.
- Spiecker, B. (1982). De pedagogische relatie. In B. Spiecker, B. Levering, & A. J. Beekman (Eds.), *Theoretische pedagogiek*. Meppel: Boom.
- Stark, R.E., & Tallal, P. (1981). Selection of children with specific language deficits. *J.Speech Hear.Disord.*, (46), 114-122.
- Stothard, S.E., Snowling, M.J., Bishop, D.V., Chipchase, B.B., & Kaplan, C.A. (1998). Language-impaired preschoolers: a follow-up into adolescence. *J Speech Lang.Hear.Res.*, 41(2), 407-418.

- Straathof, M., Siebelink, B., & Goedhart, A. (1991). Eigenwaarde en competentiebeleving: Een onderzoek bij 8-12 jaar oude kinderen op een polikliniek kinderpsychiatrie. *Tijdschrift voor Psychiatrie*, 33, 375-390.
- Strasser, S. (1970). *Opvoedingswetenschap en opvoedingswijsheid*. 's-Hertogenbosch: Malmberg.
- Suurmeijer, T.P.B.M. (1980). *Kinderen met epilepsie. Een onderzoek naar de invloed van een ziekte op kind en gezin*. Groningen: dissertatie.
- Swets-Gronert, F.A. (1986). *Temperament, taalcompetentie en gedragsproblemen van jonge kinderen*. Lisse: Swets & Zeitlinger B.V.
- Tallal, P., Dukette, D., & Curtiss, S. (1989). Behavioral/emotional profiles of preschool language-impaired children. *Development and Psychopathology*, (1), 51-67.
- Trevarthen, C. (1979). Communication and cooperation in early infancy: a description of primary intersubjectivity. In M. Bullowa (Ed.), *Before speech; the beginning of interpersonal communication*. Cambridge: University Press.
- VeBOSS. *Jaarverslag 1998*. (1998).
- VeBOSS. *Jaarverslag 1999*. (1999).
- Veerman, J.W. (1989). De competentiebelevingsschaal voor kinderen. Theoretische achtergronden en enkele onderzoeksgegevens. *Tijdschrift voor Orthopedagogiek*, 28, 286-301.
- Veerman, J.W. (1991). Zelfbeoordeling van jongens opgenomen in een psychiatrisch centrum. *Kind en Adolescent*, 12, 233-235.

References

- Veerman, J.W., Straathof, M.A.E., Treffers, Ph.D.A., Bergh, B.R.H.v.d., & Brink, L.T.t. (1997). *Competentiebelevingsschaal voor kinderen (CBSK)*. Lisse: Swets & Zeitlinger.
- Verhulst, F.C., & Akkerhuis, G.W. (1989). Agreement between parents' and teachers' ratings of behavioral/emotional problems of children aged 4-12. *Journal of Child Psychology and Psychiatry.*, 30, 123-136.
- Verhulst, F.C., Koot, H.M., Akkerhuis, G.W., & Veerman, J.W. (1990). *Praktische handleiding voor de CBCL (Child Behavior Checklist)*. Assen/Maastricht: Van Gorcum.
- Verhulst, F.C., van der Ende, J., & Koot, H.M. (1996). *Handleiding voor de CBCL/4-18*. Rotterdam: Afdeling Kinder- en jeugdpsychiatrie, Sophia Kinderziekenhuis/Academisch Ziekenhuis Rotterdam/Erasmus Universiteit Rotterdam.
- Verhulst, F.C., van der Ende, J., & Koot, H.M. (1997). *Handleiding voor de Teacher's Report Form (TRF)*. Rotterdam: Afdeling Kinder- en jeugdpsychiatrie, Sophia Kinderziekenhuis/Academisch Ziekenhuis Rotterdam/Erasmus Universiteit Rotterdam.
- Watkins, R.V. (1992). Specific language impairments in children. An introduction. In R. V. Watkins & M. L. Rice (Eds.), *Specific language impairments in children*. (pp. 1-15). Baltimore: Paul H. Brookes Publishing Co.
- Zangwill, O.L. (1978). The concept of developmental dysphasia. In M. A. Wyke (Ed.), *Developmental dysphasia*. London: Academic Press.

TESTLEIDERSVERSIE VAN DE VRAGENLIJST PROBLEMATISCHE OPVOEDINGSSTIJLEN

Voorbeeldvraag:

Je speelt met een bal. Je bal vliegt door de ruit van de buurman. De ruit is kapot.

Antwoorden:

1. Je moeder vindt het helemaal niet erg als jij een ruit kapot maakt.
2. Je moeder zegt: 'Heb je je pijn gedaan?'
3. Ze zegt: 'Je moet de nieuwe ruit van je eigen zakgeld betalen'.
4. Je weet nooit of ze boos wordt. De ene keer is ze heel boos. De andere keer vindt ze het niet erg dat je een ruit kapot hebt gemaakt.
5. Ze zegt: 'De buurman is boos en dat komt door jou'.

Vraag 1.

Je zit naar de televisie te kijken (door de week). Het is tijd om naar bed te gaan. Je moeder komt eraan.

Antwoorden:

1. Je moeder komt eraan, maar je hoeft niet meteen naar bed. Ook al is het bedtijd.
2. Je moeder zegt: 'Als je morgen moe bent, dan is het je eigen schuld'.
3. Je moet meteen naar bed van je moeder. Het is bedtijd.
4. Jij mag altijd zelf weten wanneer je naar bed gaat.
5. De ene keer stuurt je moeder je naar bed. De andere keer mag je zelf weten of je naar bed gaat (door de week).

Vraag 2.

Je bent aan het spelen. Overal in de kamer ligt er speelgoed van jou. Je moeder komt binnen.

Antwoorden:

1. Je moet het speelgoed meteen opruimen.
2. Soms ruimt je moeder al het speelgoed op. Soms moet je zelf alles opruimen.
3. Je moeder zegt: "Speelgoed is duur hoor. Pas maar op dat je het niet kapot maakt'.
4. Je moeder helpt je met opruimen. Jullie doen het samen.
5. Je moeder vindt het niet erg als je je speelgoed niet opruimt.

Vraag 3.

Je komt te laat thuis.

Antwoorden:

1. Je moeder zegt er niets van.
2. Je moeder is bang dat er iets met je is gebeurd. Ze is je al aan het zoeken.
3. De ene keer is je moeder blij dat je weer thuis bent, maar de andere keer krijg je straf omdat je te laat bent.
4. Als je te laat bent dan zoekt je moeder je op. Dan krijg je straf.
5. Je moeder zegt: 'Je bent niet aardig. Als je iets afspreekt, dan moet je dat ook doen'.

Vraag 4.

Je maakt thuis ruzie. Je vecht met een ander kind.

Antwoorden:

1. Je moeder zegt: 'Je weet toch wel dat vechten slecht is'.
2. Ze laat jullie het zelf uitvechten.
3. Je moeder stopt het vechten. Maar dat doet ze wel voorzichtig.
4. De ene keer geeft je moeder straf, de andere keer doet ze niets.
5. Je moeder stopt het vechten. Wie de schuld heeft, die krijgt straf.

Appendix 1. VOS Rater Version

Vraag 5.

Wat lust je niet? (Antwoord invoeren in vraag)

Je eet met je moeder bij andere mensen. En wat ligt er op je bord? Ja hoor,.....

Antwoorden:

1. Je moeder zegt eerst: 'Probeer het maar op te eten'. Maar als je het echt niet wilt dan mag je het laten staan.
2. Als je bij andere mensen bent, dan moet je het van je moeder gewoon opeten.
3. Je moeder zegt er niets. Je moet het zelf maar oplossen.
4. Als je iets niet lust, dan zegt je moeder: 'Denk toch eens aan al die arme kinderen die honger hebben'.
5. Je moeder vraagt aan de andere mensen of je iets anders mag eten.

Vraag 6.

Moet jij wel eens thuis iets doen voor school. Rekenen of lezen?

Je moet thuis voor school Dat doe je niet. Je zit te spelen.

Antwoorden:

1. Je moeder zegt: 'Als je later goed wilt worden dan moet je nu gaan leren'.
2. Als jij geen zin hebt, dan maakt je moeder het (de sommen, de taal) voor je.
3. Je moeder pakt het speelgoed af want je moet leren.
4. De ene keer wordt ze heel boos, de andere keer mag je gewoon verder spelen.
5. Je moeder ziet wel dat je zit te spelen, maar ze zegt er niets van.

Vraag 7.

Jullie hebben gegeten. Je moest de borden even naar de keuken brengen, maar dat ben je

vergeten. Als je moeder binnenkomt staan de borden nog op tafel.

Antwoorden:

1. Je moet van je moeder de borden opruimen. Je krijgt straf.
2. Je moeder zegt: 'Nu ben je al zo oud, dan hoor je je moeder toch te helpen'.
3. Je moeder helpt je met het opruimen van de borden. Jullie doen het samen.
4. Je moeder ruimt de borden zelf wel even op als jij het vergeten bent.
5. De ene keer wordt je moeder heel boos, de andere keer weer niet.

Vraag 8.

Je mag van je moeder niet bij een vriendje spelen. Je gaat zeuren om je zin te krijgen.

Antwoorden:

1. Je moeder zegt: 'Je doet maar waar je zin in hebt'.
2. Je moeder zegt: 'Je mag daar nu niet spelen. Hou op te zeuren'.
3. Soms krijg je toch je zin als je zeurt, soms niet.
4. Je moeder zegt: 'Nu ben je al zo groot, moet je dan nog steeds zeuren als een klein kind'.
5. Je mag toch daar spelen, maar je moeder vindt het niet leuk.

Vraag 9.

Je hebt zelf je kleren aangetrokken maar je moeder vindt het niet mooi.

Antwoorden:

1. Je mag de kleren niet aanhouden maar jullie zoeken samen andere kleren uit, die jullie allebei mooi vinden.
2. Als je moeder de kleren niet mooi vindt, dan mag je ze de ene keer aanhouden en de andere keer moet je wat anders aantrekken.
3. Het maakt je moeder niet zoveel uit wat je aantrekt. Ook niet als je kleren niet mooi zijn.
4. Je moet van haar andere kleren aantrekken en je moeder zoekt die kleren uit. Daar heb jij niets over te zeggen.
5. Je moeder zegt: 'Hoe kun je dat nou aantrekken, wat zullen andere mensen toch van ons denken'.

Vraag 10.

Van je zakgeld wil je graag een speelgoedpistool kopen.

Antwoorden:

1. De ene keer vindt je moeder dat goed, de andere keer wil ze dat helemaal niet hebben.
2. Je mag zelf weten wat je van je geld koopt.
3. Je moeder zegt: 'Er is toch al genoeg oorlog in de wereld. Koop maar geen pistool'.
4. Je moeder gaat mee naar de winkel en zoekt een klein speelgoedpistool uit.
5. Je mag het niet kopen maar je weet eigenlijk niet waarom.

Vraag 11.

Je hebt te wild met je fiets gespeeld. Nu is je fiets kapot.

Antwoorden:

1. Het maakt je moeder niets uit dat je je fiets kapot hebt gemaakt.
2. Je moeder zegt: 'Weet je dan niet hoe duur die fiets geweest is?'
3. Je mag voor straf een week niet buiten spelen.
4. Je moeder wordt eerst heel boos omdat je fiets kapot is maar je krijgt meteen een nieuwe fiets.
5. Je moeder vindt het heel zielig voor je, dat je fiets kapot is. Ze koopt meteen een nieuwe fiets.

Vraag 12.

Je moet van je moeder je kamer opruimen. Je doet het niet want je hebt er geen zin in.

Antwoorden:

1. Je moeder helpt je als je geen zin hebt. Jullie ruimen samen je kamer op.
2. Je moet toch zelf je kamer opruimen. Ook al heb je er geen zin in.
3. Je moeder zegt: 'Dit had ik van jou niet verwacht, dat je je kamer niet wilt opruimen'.
4. Je moeder zegt er niets van.
5. De ene keer moet je je kamer toch opruimen, de andere keer mag je gaan spelen.

Vraag 13.

Je moeder maakt je wakker want je moet naar school. Je blijft in je bed liggen.

Antwoorden:

1. Je moeder wordt eerst heel kwaad maar ze helpt je wel om op tijd te komen.
2. Je moeder laat je maar even liggen en dan brengt ze je met de auto naar school.
3. Het maakt je moeder niet zoveel uit dat je te laat op school komt.
4. Je moeder zegt: 'Je bent toch oud en wijs genoeg om zelf op tijd op te staan'.
5. Je moeder wordt kwaad en jaagt je het bed uit.

Vraag 14.

Je zit aan tafel wat jullie gaan eten. Je handen zijn vies van het spelen.

Antwoorden:

1. Je moet meteen je handen gaan wassen.
2. Jij mag van jouw moeder met vieze handen eten.
3. Je moeder zegt: 'Met vieze handen eten mag niet, maar je moet het zelf weten'.
4. Je moeder haalt een doekje voor je op en maakt je handen schoon. Je hoeft het niet zelf te doen.
5. Je moeder zegt: 'Hoe kan je dat nu doen. Je weet toch dat je niet met vieze handen mag eten'.

Appendix 1. VOS Rater Version

Vraag 15.

Je hebt een grote mond tegen je moeder.

Antwoorden:

1. Je moeder zegt: 'Dat is niet netjes, als kinderen tegen grote mensen schreeuwen'.
2. De ene keer wordt je moeder heel boos, de andere keer weer niet.
3. Je krijgt altijd je zin als je tegen je moeder schreeuwt.
4. Je moeder schreeuwt terug.
5. Je moeder vindt het niet erg als je een grote mond tegen haar hebt.

Vraag 16.

Je maakt de beer van je vriendje kapot.

Antwoorden:

1. Je moeder zegt: 'Hoe kun je nu zo onvoorzichtig zijn met de beer van een ander'.
2. Je moet van je eigen geld een nieuwe beer voor je vriendje kopen.
3. Je moeder koopt snel iets nieuws voor je vriendje.
4. Je moeder zegt er niets van.
5. De ene keer is ze heel boos en de andere keer zegt ze er weer niets van.

Vraag 17.

Je hebt veel fouten in een dictee.

Antwoorden:

1. Je krijgt straf.
2. Je moeder gaat je helpen met schrijven.
3. Je moeder zegt: 'Het is niet zo erg, maar je moet wel beter je best doen'.
4. Je moeder zegt: 'Ik wil dat je beter je best doet, later moet je goed kunnen schrijven'.
5. Je moeder vindt het niet belangrijk, wat je op school doet.

Vraag 18.

Je ligt al in bed. Je hebt je tanden niet gepoetst. Je moeder weet dat.

Antwoorden:

1. Je moeder zegt er niets van.
2. Je moeder zegt: 'Wat ben je slordig, dat had ik niet gedacht van jou'.
3. Je moet meteen je bed uit en je tanden gaan poetsen.
4. Je moeder zegt: 'Als je nu vlug je tanden poets, krijg je nog een snoepje'.
5. Je moeder zegt: 'Ik zou het heel fijn vinden als je je tanden nog even poetst. Ik help je wel'.

Vraag 19.

Je bent aan het spelen. Je scheurt je broek aan het prikkeldraad.

Antwoorden:

1. Soms wordt je moeder boos, soms ook niet.
2. Je moeder vindt het niet erg dat je met een scheur in je broek rondloopt.
3. Je moeder zegt: 'Je bent nu zo groot. Dan kan je toch wel beter op je kleren passen'.
4. Je moeder zegt: 'Arm kind, heb je je pijn gedaan?'.
5. Je krijgt straf.

Vraag 20.

Je bent met je moeder in de winkel. Je wilt graag snoepjes hebben.

Antwoorden:

1. Je moeder zegt: 'Weet je wat, ik koop het, dan hebben we er samen plezier van.'
2. Soms koopt je moeder het, soms ook niet.
3. Je mag zelf weten of je iets meeneemt uit de winkel. Dat hoeft je niet te vragen.
4. Je moeder zegt: 'Er wordt hier niets gekocht'.
5. Je moeder zegt: 'Je moet maar eens leren dat je niet alles kunt krijgen wat je ziet'.

ppn. nr:

VRAGENLIJST OPVOEDINGSSTIJLEN

behorende bij

Expertmodel voor Emotioneel en Sociaal Probleemgedrag

bewerkte versie voor kinderen met een taalstoornis

Naam :

Jongen / Meisje :

School :

Voorbeeld

Je speelt met een bal. Je bal vliegt door de ruit van de buurman. De ruit is kapot.



Klopt

Klopt niet

1.

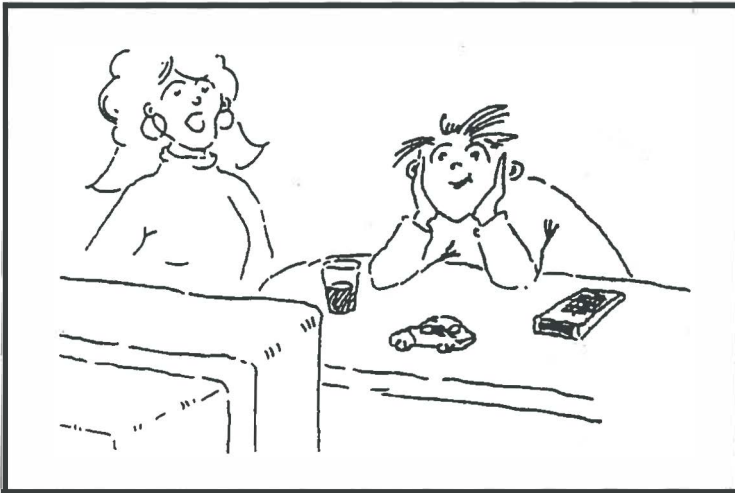
2.

3.

4.

5.

1. Je zit naar de televisie te kijken. Het is tijd om naar bed te gaan.



Klopt

Klopt niet

1.

2.

3.

4.

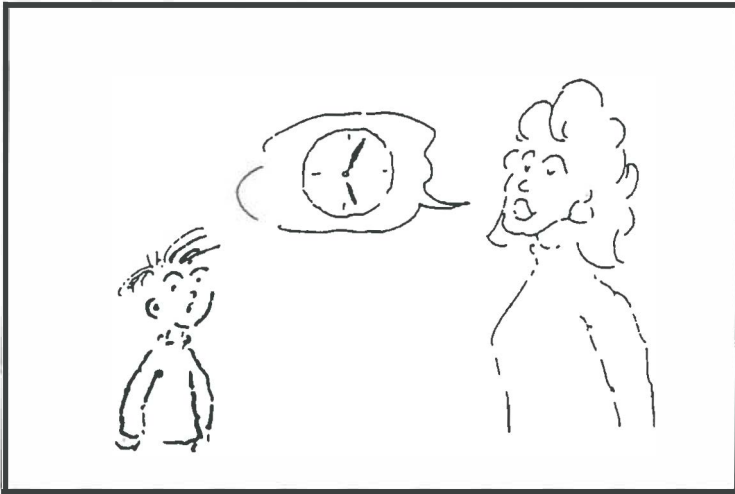
5.

2. Je bent aan het spelen. Overall in de kamer ligt speelgoed van jou. Je moeder komt binnen.



	Klopt	Klopt niet
1.	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>

3. Je komt te laat thuis.



Klopt

Klopt niet

1.

2.

3.

4.

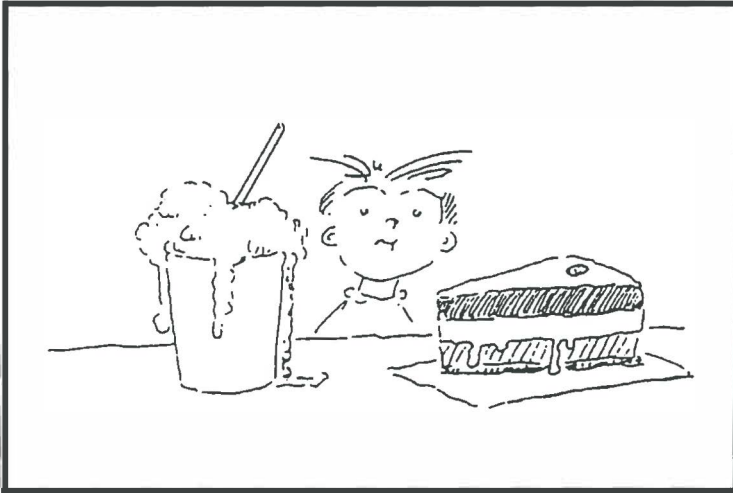
5.

4. Je maakt thuis ruzie. Je vecht met een ander kind.



	Klopt	Klopt niet
1.	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>

5. Je eet bij andere mensen. Je lust het eten niet.



Klopt

Klopt niet

1.

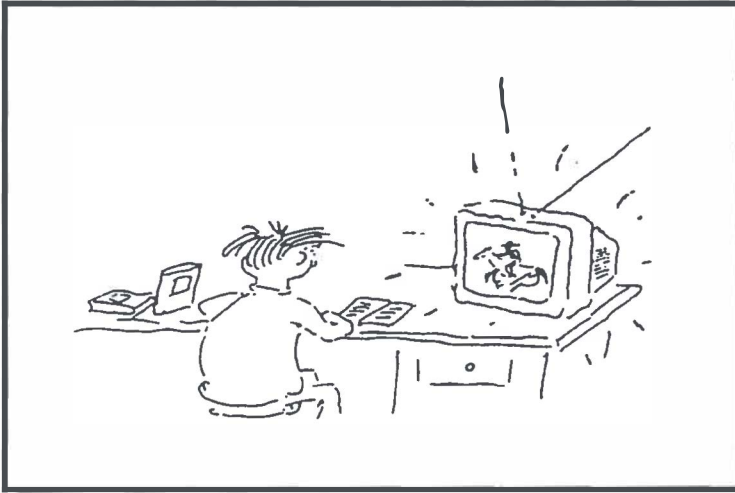
2.

3.

4.

5.

6. Je moet huiswerk maken. Dat doe je niet. Je zit te spelen.



	Klopt	Klopt niet
1.	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>

7. Het eten is op. Je moet de tafel afruimen maar je doet het niet. Je moeder ontdekt het.



Klopt

Klopt niet

1.

2.

3.

4.

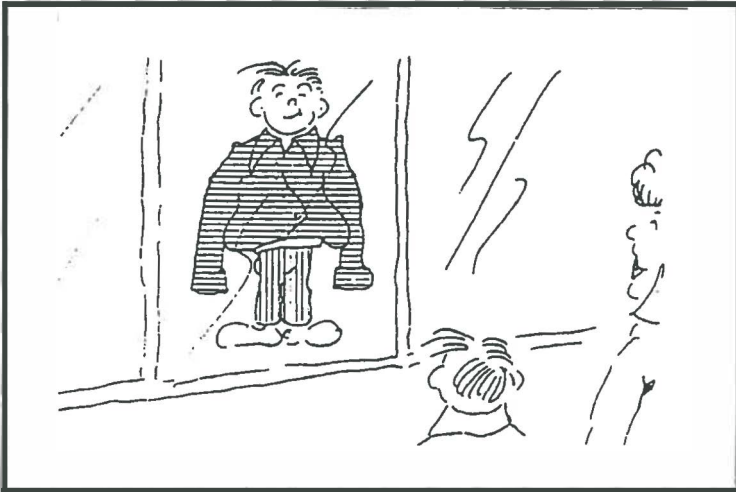
5.

8. Je wilt bij iemand spelen maar het mag niet van je moeder. Je gaat zeuren om je zin te krijgen.



	Klopt	Klopt niet
1.	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>

9. Je hebt zelf je kleren aangetrokken maar je moeder vindt het niet mooi.



Klopt

Klopt niet

1.

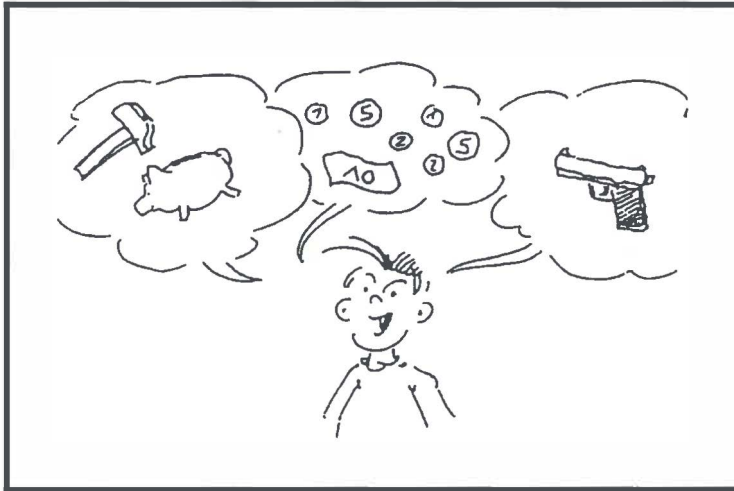
2.

3.

4.

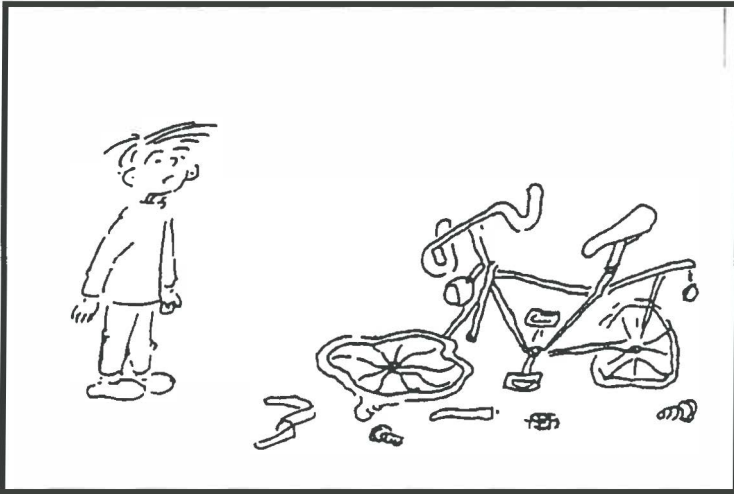
5.

10. Van je zakgeld wil je graag een speelgoedpistool kopen.



	Klopt	Klopt niet
1.	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>

11. Je hebt te wild met je fiets gespeeld. Nu is je fiets kapot.



Klopt

Klopt niet

1.

2.

3.

4.

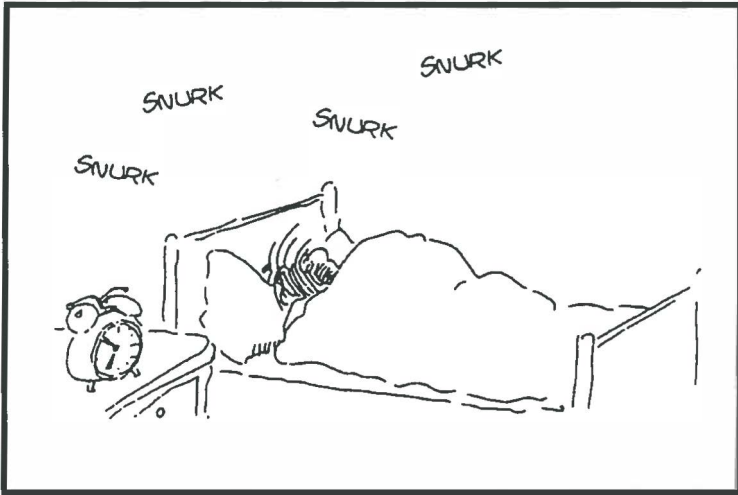
5.

12. Je moet van je moeder je kamer opruimen. Je doet het niet want je hebt er geen zin in.



	Klopt	Klopt niet
1.	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>

13. Je moeder maakt je wakker want je moet naar school. Je blijft in bed liggen.



Klopt

Klopt niet

1.

2.

3.

4.

5.

14. Je zit aan tafel want jullie gaan eten. Je handen zijn vies van het spelen.



	Klopt	Klopt niet
1.	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>

15. Je hebt een grote mond tegen je moeder.



1.	<input type="text"/>	<input type="text"/>
2.	<input type="text"/>	<input type="text"/>
3.	<input type="text"/>	<input type="text"/>
4.	<input type="text"/>	<input type="text"/>
5.	<input type="text"/>	<input type="text"/>

16. Je maakt het speelgoed van je vriendje kapot.



Klopt

Klopt niet

1.

2.

3.

4.

5.

17. Je hebt een slecht cijfer op school gehaald.



Klopt

Klopt niet

1.

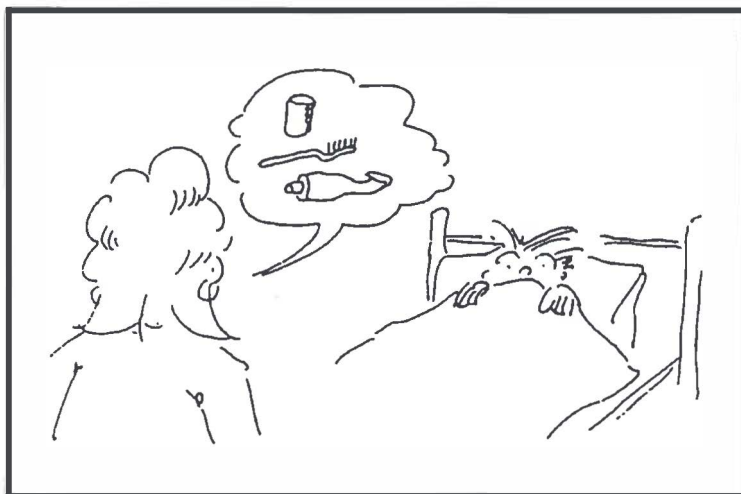
2.

3.

4.

5.

18. Je ligt al in bed. Je hebt je tanden niet gepoetst.



Klopt

Klopt niet

1.

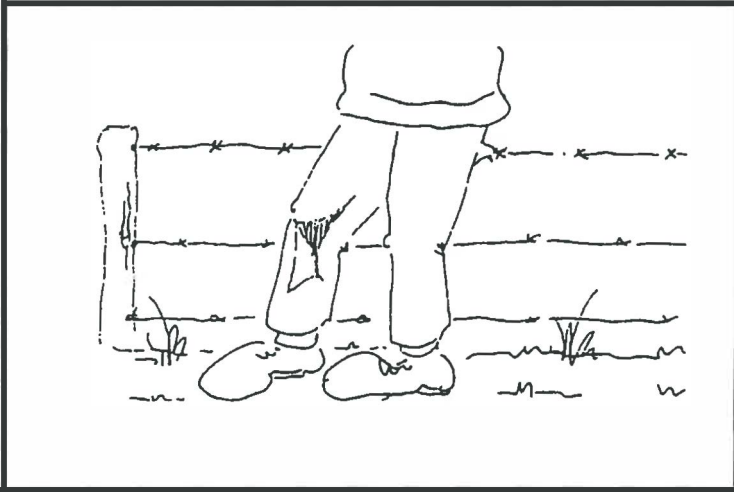
2.

3.

4.

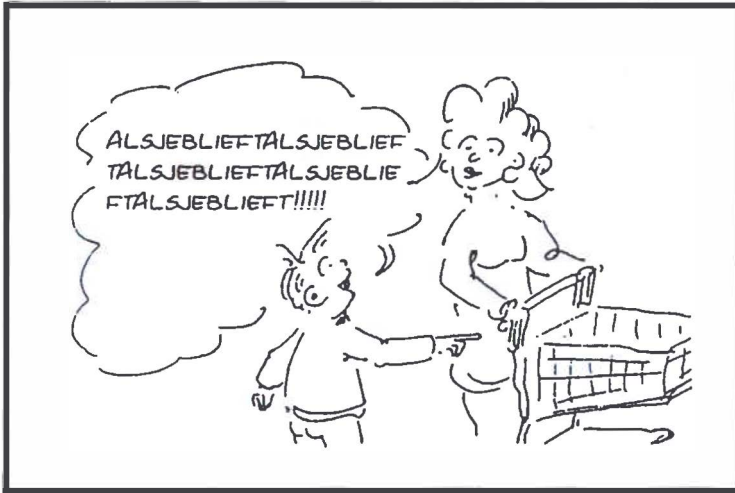
5.

19. Je bent aan het spelen. Je scheurt je broek aan het prikkeldraad.



- | | | |
|----|----------------------|----------------------|
| 1. | <input type="text"/> | <input type="text"/> |
| 2. | <input type="text"/> | <input type="text"/> |
| 3. | <input type="text"/> | <input type="text"/> |
| 4. | <input type="text"/> | <input type="text"/> |
| 5. | <input type="text"/> | <input type="text"/> |

20. Je bent met je moeder in de winkel. Je ziet iets dat je heel graag wilt hebben.



- | | Klopt | Klopt niet |
|----|--------------------------|--------------------------|
| 1. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. | <input type="checkbox"/> | <input type="checkbox"/> |

NAWOORD

Dit proefschrift is tot stand gekomen door de zeer gewaardeerde medewerking van vele personen. Een aantal mensen ben ik speciale dank verschuldigd.

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