

Interviewing Children

**Development of the Dutch version of the
Semistructured Clinical Interview for Children and Adolescents
(SCICA) and testing of the psychometric properties**

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Ontwikkeling van de Nederlandse versie van het
Semigestructureerde Klinisch Interview voor Kinderen en Adolescenten
en toetsing van de psychometrische eigenschappen

Proefschrift

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The extraordinary development of modern science may be her undoing. Specialism, now a necessity, has fragmented the specialties themselves in a way that makes the outlook hazardous. The workers lose all sense of proportion in a maze of minutiae.

Sir William Osler, Oxford, 1910.

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CHAPTER 1

Introduction

Assessment of psychopathology in children and adolescents

Psychopathology in children and adolescents can be an enormous source of concern because of interference with the developmental process in the growing child. Understanding of the nature and causes of child and adolescent psychiatric disorder, accompanied by increases in therapeutic efficacy, can help to enlarge the power of effective prevention and intervention (Rutter, 1988). In endeavors to expand knowledge of the nature and causes of emotional and behavioral disorders in children and adolescents the diagnostic process plays an important role.

The diagnostic process comprises two essential elements, assessment and taxonomy. In the assessment process, distinguishing features in behaviors and emotions of individuals are identified. Various instruments and procedures can be used in this process to identify the distinguishing features of each individual case. The grouping of these cases according to their distinguishing features (similarities and differences) is accounted for by the concept of taxonomy. In the taxonomic process constructs are generated by grouping distinguishing features on hierarchical levels of defining characteristics such as individual problems (symptoms), symptom aggregates (syndromes) or etiological factors.

Assessment approaches

Current methods of assessment of psychopathology in children and adolescents pertain to two major approaches: 1. the medical or clinical consensus approach, generating categorical diagnoses, and 2. the psychometric approach, using continuous measures. The categorical approach views psychopathological phenomena as distinct disorders requiring a predetermined number of symptoms for diagnoses. In a dimensional approach

psychopathology is viewed as a quantitative deviation from normal, instead of discrete clinical entities. Emphasizing just one of these approaches in assessment of psychopathology in children and adolescents could lead to disregarding important clinical information revealed by assessment based on the other approach.

Taxonomy

Classification in child and adolescent psychiatry can be viewed as a process of enforcing order on data by grouping data into categories based on shared characteristics providing a common language by which to communicate (Achenbach, 1985; Rutter et al., 1975). In child and adolescent psychiatry, as in other medical and psychiatric specialties, a classification system facilitates communication by permitting the use of diagnostic labels instead of a full listing of all the features of a patient's disorder (Cantwell and Baker, 1988).

In child and adolescent psychiatric practice, a few systems have been introduced to classify psychiatric conditions, for example: the Developmental Profile (A. Freud, 1965), the GAP Report (Group for the Advancement of Psychiatry, 1966, 1974), the International Classification of Diseases, Tenth Edition (ICD-10) (World Health Organization [WHO] 1992), the Diagnostic and Statistical Manual of Mental Disorders (DSM) (American Psychiatric Association [APA] 1980, 1987, 1994), and the empirically based multivariate factorial approach (as exemplified by the Child Behavior Profile of Achenbach and Edelbrock, 1983, and Achenbach, 1991b).

Most of these classification systems for child and adolescent psychiatric conditions were derived from the medical approach and consist of categories based on clinical impressions and consensus between skilled clinicians. This approach can be called a top-down approach. For example, the most widely used exponent of these classification systems, the Diagnostic and Statistical Manual of Mental Disorders (DSM), defines categories with specific diagnostic criteria consisting of identifiable behavioral signs or symptoms. Where these criteria specify the essential features of disorders, they forego to specify the assessment needed to arrive at the diagnosis. Another difficulty

with categorical classification systems is that for many of the childhood psychiatric disorders inadequate data are available to establish specific diagnostic criteria.

The psychometric approach to the classification of psychopathology and psychiatric disorders in children and adolescents uses statistical procedures to examine the tendency of specific items of behavior to occur together. This approach typically uses scores for problem behaviors derived from actual samples of children and adolescents. In this way, classifications are empirically derived and definitions of disorders are tied to specific scores on specific assessment instruments. Because of its empirical foundation the psychometric approach produces groupings that are based on numerical scores obtained on specific assessment instruments.

Issues specific to diagnosis in child and adolescent psychiatry

Apart from the the point of taxonomy that applies to both adult and child psychiatric conditions other issues are more specific to the diagnostic process in children and adolescents.

Issues distinguishing the diagnostic process of psychiatric conditions in children and adolescents from adults are:

Developmental aspects. Childhood and adolescence are characterized by rapid changes in biological, cognitive, emotional, and social functioning. Many behaviors are normal at certain ages but not at others. This implies not only that the psychiatric assessment of children and adolescents requires a sound knowledge of normal child development. It also implies that assessment procedures and diagnostic constructs and criteria need to take account of age (Rutter, 1989).

Need for multiple informants. To obtain a comprehensive picture of the child's or adolescent's functioning, information from different informants is needed. Besides the child or adolescent and its family, other informants can be sources of information reflecting behavior in different settings or different areas of functioning.

A multiaxial approach to assessment

Achenbach (1985) developed a multiaxial system based on standardized assessment procedures dealing with the above mentioned issues specific to child and adolescent psychopathology and psychiatric disorder. This system seeks to preserve different types of data, as well as revealing any discrepancies between them. The five axes of this system are:

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Parents Reports	Teacher Reports	Cognitive Assessment	Physical Assessment	Direct Assessment of the Child/ Adolescent

The focus of attention in this study will be on the direct assessment of the child or adolescent, introducing the Dutch adaptation of the Semistructured Clinical Interview for Children and Adolescents (SCICA), a newly developed clinical interview that stemmed from this multiaxial system.

Clinical interview with the child or adolescent

The clinical interview is the primary diagnostic tool in child and adolescent psychiatry. The clinical interview covers different purposes. Firstly, information is collected that will assist in making diagnosis and formulating treatment plans. Secondly, the interview serves as initial contact between child and clinician to establish a therapeutic relationship. Thirdly, the interview creates the opportunity to observe behavior that could be relevant diagnostic information.

A clinical interview with the child provides opportunities to probe emotionally sensitive material to assess children's coping strategies and perceptions of significant persons and events related to their problems. The interview raises the opportunity to do this in such a way that the child is assured of a genuine interest in his or her problems. Thus, the outcome of such an interview is not only relevant diagnostic information for the clinician but also creates an awareness in the child of the clinician's concern and

interest in his or her problems and difficulties.

Traditionally in child and adolescent psychiatry, the majority of direct clinical assessment of the child or adolescent is carried out by use of unstandardized procedures. The influence of individual styles and interpretations in these unstandardized procedures limit their reliability in clinical practice and research (Young et al., 1987). Structured and semi-structured interviews use standardized questions and standardized procedures in order to raise reliability by reducing influences of individual styles and interpretations.

Structured and semi-structured interviews provide the opportunity to obtain child interview data in a systematic way. They assure a full coverage of problems that can be assessed and they create an opportunity for systematic comparison with reports from other informants on the same problems. Compared to structured interviews, semi-structured interviews employ more open-ended questions and more flexible sequencing of topics.

Limitations of existing structured and semi-structured interviews (reviewed in chapter 2) on the clinical assessment process prompted McConaughy and Achenbach to develop the Semistructured Clinical Interview for Children and Adolescents (SCICA). This semi-structured interview was designed to assess children's functioning in ways that are compatible with their cognitive levels and interaction styles, to yield psychometrically sound scores for observations and self-reports in terms of empirically derived scales and to provide data that can be meshed with data from other sources in a multi-axial approach to assessment (McConaughy and Achenbach, 1994). In the Netherlands such a semi-structured interview was unavailable. Therefore the SCICA was translated into Dutch and a study protocol was developed to test its use, psychometric properties and relation to other instruments.

Aims of the study

The objective of the present study was to contribute to the standardized direct assessment of the child or adolescent by introducing a semi-structured interview in the Dutch language based on the original SCICA. Topics to be covered in this study are:

1. Review of structured and semi-structured clinical interviews for children and adolescents.
2. Rationale for the SCICA and its Dutch translation.
3. Empirically derived syndromes for SCICA Observation and Self-Report items.
4. Reliability of the SCICA.
5. Validity of the SCICA.

Structure of this thesis

- Chapter 2 reviews structured and semi-structured interviews and their psychometric properties.
- Chapter 3 describes the aims of the SCICA and the structure of the protocol and scoring form. Administration of the interview and scoring procedures for observational and self-reported items are also discussed in this chapter.
- Chapter 4 deals with the methods of this study and contains a description of the sample and instruments other than the SCICA used for data collection: the Child Behavior Checklist (Achenbach, 1991b), Youth Self-Report (Achenbach, 1991d), Teacher's Report Form (Achenbach, 1991c) and Diagnostic Interview Schedule for Children Parent version (DISC-P) and Child version (DISC-C) (National Institute of Mental Health, 1992).
- In Chapter 5 the factor structure of SCICA data for a combined Dutch and American referred sample is studied.
- Test-retest and interrater designs were used to study the reliability of the SCICA reported in Chapter 6.
- The validity of the SCICA was tested by studying its capability to distinguish between children referred and non-referred children

(discriminant validity), and by studying the relation of the SCICA to other instruments, CBCL, YSR, TRF and DISC-P and DISC-C (construct validity). The result of these validity tests is presented in Chapter 7.

- Chapter 8 concludes with a discussion on the psychometric properties of the SCICA and the role of this specific child clinical interview in multi-method assessment of emotional and behavioral problems.

Review of structured and semi-structured interviews

In their 1968 article on psychiatric assessment of the child, Rutter and Graham (1968) concluded that until that moment “there has been virtually no consideration of the use of the interview with the child to discover *whether* the child has any psychiatric disorder and *what* is the nature of this disorder”. Nowadays, clinical interviews are broadly used in assessing psychopathology in children. Child and adolescent psychiatry has expanded enormously and interviewing children seems important in diagnosing childhood disorders and formulating treatment plans.

With the focus of both clinicians and researchers on diagnostic interviews, it is not surprising that a lot of energy has been put in the development and testing of child interviews over the past three decades.

Different perspectives were taken into account in developing diagnostic interviews. From a clinical perspective an interview serves as a means for obtaining information on the individual’s functioning including affective and interpersonal aspects. From a research perspective interview information serves as a source of data on the presence and type of psychopathology in certain populations.

Over the years different interview techniques were developed to try to fit objectives of both perspectives with more or less success. Studies with unstructured clinical interviews showed low reliability because clinicians were biased by their internal definitions of certain clinical constructs and because of a tendency to gather confirmatory information without further exploring (Cantwell et al, 1988; Young et al, 1987). In an attempt to reduce the influence of unstructured clinical interview techniques on the information they generated structured and semistructured formats were developed. Interviews were structured and the procedures standardized to reduce information variance in order to improve reliability and validity.

Structured and Semi-structured Interviews

In structured interviews a set of standardized questions and response categories, generally involving a hierarchical organization of questions and quotes is used. Two sorts of structured interviews can be distinguished, the respondent based and the interviewer based (Harrington et al., 1988).

In respondent based interviews within different content categories, standard questions are organized with skip procedures to omit certain questions, according to the answers given to stem questions by the respondent. Variability in questioning due to phrasing is reduced, and interviewers need relatively little training.

In interviewer based interviews the interviewer decides according to the questions asked if a specific symptom is present. Detailed questions and symptom definition within specific content areas guide the interviewer, reducing variability in content. Interviewers are expected to be clinically experienced and trained in the specific interviews.

Respondent based interviews are also known as structured interviews and are mostly used in epidemiological studies whereas interviewer based interviews are known as semi-structured interviews, and are used mainly in clinical settings.

Most structured clinical interviews to assess psychopathology in children and adolescents are modelled on interviews for adults and most of the interviews score items and symptoms through clustering rules or algorithms to generate DSM diagnoses (Diagnostic and Statistical Manual of mental disorders). The structured interviews often employ two versions, one aimed at the child and one aimed at the parent.

Although tens of structured and semi-structured interviews were developed over the years, only a few gained broader acceptance and are well-known and currently used. Among these are the following:

- Child and Adolescent Psychiatric Assessment (CAPA);
- Child Assessment Schedule (CAS);
- Diagnostic Interview for Children and Adolescents (DICA);
- Diagnostic Interview Schedule for Children (DISC);
- Interview Schedule for Children (ISC);

- Schedule for Affective Disorders and Schizophrenia for school aged children (K-SADS).

These interviews will be briefly reviewed in the next section.

Characteristics and Development of different structured interviews

The Child and Adolescent Psychiatric Assessment (CAPA) (Angold et al., 1995) was developed to cover a broad range of childhood and adolescent disorders, including both DSM and ICD diagnoses and a variety of other psychopathological issues. It is aimed to serve as a clinical research as well as an epidemiological tool. The interview is divided in three phases: introduction, symptom review and incapacity ratings. A detailed series of questions about symptoms is provided consisting of 1401 emphasized probes and 2571 discretionary probes. Symptoms are rated by the interviewer using all the information obtained, and behaviors observed during the interview are also scored. The interview covers age ranges 8-18-years and usually takes one hour to be administered. The time frame of the interview is the last 3 months. A child and parent format are available and the interview can be administered by both lay-interviewers and clinicians after specific training.

The Child Assessment Schedule (CAS) (Hodges et al., 1982) is a semi-structured diagnostic interview modelled after a traditional clinical interview. It was designed to determine DSM diagnoses as well as important clinical information about the child's life situation. The CAS consists of three sections covering the past year. In the first section 320 questions are thematically organized around 11 content areas, in the second section onset and duration of positive symptoms are reported. In the third section observable behavior during the interview is scored by the interviewer. Both a parent and a child version are available and the interview takes approximately 45-75 minutes. The interview should be administered by a trained clinician.

The Diagnostic Interview for Children and Adolescents (DICA) (Herjanic et al., 1982; Welner et al., 1987) was developed as a highly structured

interview designed for use in clinical and epidemiologic research. The DICA questions are grouped according to category of disorder, most can be answered with “yes” or “no”. The DICA was modelled after the Diagnostic Interview Schedule (DIS) (Robins et al., 1981). Through 267 subitems with skip functions current and lifetime DSM diagnoses are generated. The interview can be administered by lay interviewers after a moderate training. Three versions are available: one for children aged 6-12 years, one for adolescents aged 13-17 years and one for parents. The interview takes 60 to 90 minutes to be administered.

The Diagnostic Interview Schedule for Children (DISC) (Costello et al., 1987; Shaffer et al., 1993; Shaffer et al., 1994) is a highly structured interview to assess DSM diagnoses. The DISC was developed specifically for use in epidemiological studies to provide estimates of the prevalence of psychiatric disorders. The time frame of the DISC is the last 6 months. Over 1500 questions are arranged around criteria for DSM diagnoses in different sections in a skip fashion. The DISC can also provide ICD diagnoses. Questions are designed to be read exactly as written and most questions are answered “yes”, “no” or “sometimes”. Two versions are available: a parent and a child version. A shortened version is available to interview teachers. The child version can be administered to children aged 9-17, while the parent version covers ages 6-17. Dependent on the number of questions the administration of the interview lasts 1 to 2 hours. The interview can be administered by trained laymen.

The Interview Schedule for Children (ISC) (Kovacs, 1985) is a semi-structured, symptom oriented interview suitable for children aged 8 to 17. The ISC was primarily designed for research assessments of childhood depression. Two parallel forms are available, intake and follow-up, both focus on current phenomenology with a time frame of the last 6 months. The assessment starts with an unstructured part followed by standardized questions, totaling 200 questions or more. The ISC was designed to yield symptom ratings but can be applied to obtain DSM diagnoses. The interview

takes approximately 45 to 90 minutes and should be administered by a trained clinician.

The Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS) (Chambers et al., 1985) is a semi-structured interview developed as a children's version of the Schedule for Affective Disorders and Schizophrenia for adults (Endicott and Spitzer, 1978). The K-SADS was designed for clinical and research assessments for use with children aged 7 to 17 years. Several protocols for assessing different time frames are available ranging from present to lifetime (Kaufman et al., 1997). Administration of the K-SADS requires an interview with the parents first, followed by an interview with the child. Over 800 questions, mostly scored on a 0-6 point scale are arranged around diagnostic areas which contain skip out criteria. The interview takes approximately 45 to 120 minutes to administer and requires a trained clinician.

A summary of the characteristics of the described structured and semi-structured clinical interviews appears in Table 2.1.

Table 2.1 Characteristics of structured and semi-structured interviews

Interview	CAPA	CAS	DICA	DISC	ISC	K-SADS
	Child and Adolescent Psychiatric Assessment	Child Assessment Schedule	Diagnostic Interview for Children and Adolescents	Diagnostic Interview Schedule for Children	Interview Schedule for Children	Schedule for Affective Disorders and Schizophrenia
Interviewer	Layman or Clinician	Clinician	Layman or Clinician	Layman or Clinician	Clinician	Clinician
Training	Intensive	Intensive	Moderate	Moderate	Intensive	Intensive
Informant	Parent Child	Parent Child	Parent Child Adolescent	Parent Child	Parent Child	Parent Child
Age range (in years)	8-18	7-16	6-17 (P) 6-12 (C) 13-17 (A)	6-17 (P) 9-17 (C)	8-17	7-17
Duration (in minutes)	60	45-75	60-90	60-120	45-90	45-120
Format	Semi-structured	Structured	Structured	Structured	Semi-structured	Semi-structured
Diagnoses	DSM ICD	DSM	DSM	DSM ICD	DSM	DSM

Comparison; Strengths and Weaknesses

Although originally developed for different purposes, all the clinical interviews are comprehensive, covering the major diagnostic categories found in children and adolescents. All the interviews are adapted to the Diagnostic and Statistical manual of Mental disorders (DSM) criteria, which makes the interview formats vulnerable to revisions of the DSM. The DISC 2.3 and CAPA can also provide International Classification of Diseases (ICD) diagnoses.

All interviews give outcomes for DSM diagnoses as either present or absent, the K-SADS and DICA are restricted to assessing diagnoses whereas some interviews can also elicit symptom presence; CAPA, CAS, DISC and ISC. The K-SADS and DICA omit complete sections of the interview when it seems unlikely that criteria for a certain diagnosis are met, thus not allowing for assessment of symptom presence in absence of a full diagnosis. The CAPA, CAS, DISC and ISC extract the presence or absence of diagnostic symptomatology with few omissions allowing the assessment of severity of psychopathology through symptom presence in the absence of full diagnosis.

Both ISC and K-SADS depend on clinical judgment to assess presence or absence of a symptom after having interviewed both parent and child and after reconciling differences in information taking into account other sources of information. The use of the ISC and K-SADS is therefore limited to interviewers with clinical training because of the requirement of clinical judgment in rating many of the items. To a lesser extent, the CAS and DICA have equal restrictions, requiring the interviewer to choose between certain probes and different content areas.

Most interviews cover the same age ranges but the strict format of questions of the highly structured DISC interview makes it less suitable for younger children's cognitive levels and interaction styles (Edelbrock, 1985).

Although all interviews have parallel child and parent versions, only the CAPA, CAS, DICA and DISC have algorithms that provide diagnoses based on the individual informant. The K-SADS and ISC only generate diagnoses by synthesizing parent and child data. Often the diagnoses generated by the child interview differ from the diagnoses generated by the parent interview

(Achenbach et al., 1987; Edelbrock et al., 1986; Hodges et al., 1990; Welner et al., 1987). Low cross-informant agreement is a limitation to aggregation of data from both parent and child, nonetheless the CAPA, CAS, DICA and DISC do provide a diagnoses by aggregating all interview information.

Psychometric properties reported for these six instruments are not absolutely comparable but give an indication of differences in reliability and validity of the different interviews.

Test-retest reliabilities of the described structured and semi-structured clinical interviews as reported in various studies (Angold and Costello, 1995; Hodges et al., 1989; Jensen et al. 1995; Kaufman et al., 1997; Kovacs, 1985; Welner et al., 1987) appear in Table 2.2.

Table 2.2 Test-retest reliabilities. Kappa's for diagnostic categories

	Any Anxiety Disorder	Any Depressive Disorder	Attention Deficit Hyperactivity Disorder	Oppositional Defiant Disorder
CAPA	.64	.90	-	-
CAS	.72	.83	.43	-
DICA	.76	.90	1.00	.79
DISC	.50	.70	.68	.61
ISC	-	.90	.66	-
K-SADS	.80	.90	.63	.74

Several studies support the validity of the different structured and semi-structured interviews (Angold et al., 1995; Hodges et al., 1982, 1987; Kaufman et al., 1997; Kovacs, 1985; Schwab-Stone et al., 1996; Welner et al, 1987) with some interviews, especially CAS and DISC more extensively studied than others. In different reviews the structure and psychometric properties of interviews to assess psychopathology in children and

adolescents were compared (Orvaschel, 1985; Edelbrock and Costello, 1988; Hodges, 1993), though the interviews should not be viewed as competing with one another but as alternatives offered to clinicians and researchers in need of varying assessment tools. The interviews were developed originally for different purposes and each has strengths and weaknesses which must be considered. As the development and modification of these interviews continues it will be important to remain attentive to the developmental limitations of children (Hodges, 1993).

To assess psychopathology in children and adolescents in valid and meaningful ways it is essential to find an equilibrium between rigid procedures and clinical sensitivity in the clinical interview. The Semistructured Clinical Interview for Children and Adolescents (SCICA) (McConaughy and Achenbach, 1994) was developed in this context as a semi-structured interview to assess psychopathology in both younger children and adolescents.

CHAPTER 3

Development and Description of the SCICA

Aims of developing a new semi-structured interview

Interviewing is a technique particularly well adapted to reveal a child's or adolescent's own affects, perceptions, experiences and thoughts. This can be invaluable in the process of assessment of the child's or adolescent's perceptions of the meaningful people and events in his or her environment, and to assess the cognitive processing of his or her life experiences.

Not surprisingly this technique plays a major role in the psychiatric diagnostic process of children and adolescents. The importance of this technique in the diagnostic process justifies a continuous study and improvement of existing interviews and development of new techniques as ways to ameliorate this process.

In this perspective McConaughy and Achenbach developed the Semistructured Clinical Interview for Children and Adolescents (SCICA) to be used by clinicians and researchers. They emphasized the following aspects. 1. The interview situation itself can be used as observation panel to observe a child's or adolescent's manner of coping with different facets of a defined social situation. 2. The delicate balance of the interpersonal relationship developing between the interviewer and the interviewee, can both boost or hamper the release of information during the process. 3. Results of the interview with the child or adolescent, although very important, are often not the only source of information in the diagnostic process. An outcome format that is comparable to data from other sources (e.g. parent, teacher) or techniques (questionnaires) will improve our knowledge of the diagnostic process and refine it.

The structure in which an interview is presented should be compatible with the child's or adolescent's cognitive level and interaction style. Inappropriate formats can lead to poor rapport challenging the reliability of

the obtained information.

The SCICA is designed to conduct a diagnostic interview with a child or adolescent in employing open-ended questions with a flexible sequence of topics. Meanwhile, it uses the interview as basis for observation and structured report of these observations. The SCICA is further designed as one component of multi axial assessment employing data from different sources and techniques. The SCICA was specifically designed to interlock with data obtained by other well described and tested instruments developed by the same group to assess behavioral and emotional problems. Parent ratings on the Child Behavior Checklist/4-18 (CBCL/4-18; Achenbach, 1991b), teacher ratings on the Teacher's Report Form (TRF; Achenbach, 1991c) and adolescent's self ratings on the Youth Self-Report (YSR; Achenbach, 1991d).

Concluding, the aims of the SCICA are:

- To provide a standardized child and adolescent interview for clinical and research purposes.
- To serve as one component of multi axial empirically based assessment.
- To provide quantitative scores for observed behavior and self-reported problems.
- To provide empirically derived syndromes for the child and adolescent interview.
- To provide a basis for comparing interview data with data from other sources.

History of the Semistructured Interview for Children and Adolescents (SCICA)

The history of the SCICA cannot be detached from the history of the other instruments developed by the same group: the CBCL and related instruments the TRF and YSR. The rationale for the development of these instruments was to increase reliability and validity by standardization and enhancing comparability of results between sources and studies. Using a psychometric perspective, these rating scales were developed to score children's and

adolescents' behavior by parents, teachers, and children and adolescents themselves.

The basis for these instruments was the development of the CBCL which started with work by Thomas Achenbach in the sixties (Achenbach, 1966) and has been developed over the years. The CBCL is a parent questionnaire consisting of two parts, the first part containing 20 competence items and a second part containing 120 items on behavioral or emotional problems during the past six months. Results of the rating scale can be scored on the Child Behavior Profile, consisting of empirically derived syndromes (Achenbach and Edelbrock, 1983; Achenbach 1991b). The CBCL and TRF are among the most frequently used instruments, having been used in over 1,300 published studies (Brown and Achenbach, 1994).

Stressing the need for obtaining data on children's and adolescents' functioning from multiple sources Achenbach (1982, 1985) proposed a multi axial model of assessment to highlight the types and sources of data relevant to the assessment of children's behavioral/emotional problems and competencies (Achenbach, 1991a). Examples of multi axial assessment procedures are listed in Table 3.1.

Table 3.1 Examples of multi axial assessment

1	2	3	4	5
Parents Reports	Teacher Reports	Cognitive Assessment	Physical Assessment	Direct Assessment of the Child/ Adolescent
CBCL History Parent interview	TRF School records Teacher interview	Cognitive tests	Height Weight Medical exam	YSR SCICA

The SCICA was first developed in the eighties by McConaughy and Achenbach to complement their "multi-axial empirically based assessment and taxonomy" with a interview as direct assessment of the child. Initially the Semistructured Clinical Interview for Children (SCIC) was developed for children aged 6-11 (1989) and later adapted to include ages 12-18. This change was reflected in the changing of the name of the interview in Semistructured Clinical Interview for Children and Adolescents (SCICA).

The SCICA protocol was designed to guide interviewers in eliciting and observing a broad sample of children's behavior in relation to a variety of topics and situations in a non rigid structured interview. Furthermore, it scores problems and syndromes elicited by the interview in the same standardized fashion for all children and adolescents irrespective of their problems or situation (McConaughy and Achenbach, 1994).

In developing this instrument procedures were followed as described in the Manual for the Semistructured Clinical Interview for Children and Adolescents by Stephanie H. McConaughy and Thomas M. Achenbach (1994):

- A semi-structured protocol of questions and procedures was developed to sample children's functioning across a variety of topics and tasks.
- Standardized rating forms were developed for scoring interviewers' observations and children's and adolescents' self-reported problems during the clinical interview.
- Multiple items on the rating scales were used to sample a broad range of observed and self-reported problems.
- To facilitate cross-informant comparisons, many SCICA observation and self-report items were drawn from items scored by parents on the CBCL and teachers on the TRF.
- Statistical procedures were used to aggregate SCICA items into quantitative syndrome scales to measure different problem areas.
- Standard scores were derived for each syndrome scale, Internalizing, Externalizing and Total problems to indicate how a particular child compares with other clinically referred children.
- Tests of reliability and validity were performed on SCICA scores derived from observations and children's and adolescent's self-reports.
- Scores on the SCICA scales were compared to scores on the CBCL from parents, TRF from teachers, and direct observations with the Direct Observation Form (DOF) for the same children.

After development of the instrument and the first promising results, the opportunity was taken to complement the already translated and validated Dutch versions of the CBCL, TRF and YSR in the multi axial approach with a Dutch version of the SCICA. Translated instruments to be used in different cultures have to be studied extensively on their applicability. Studies should include replication of the testing of the psychometric properties. To construct syndrome scales and test the psychometric properties of the Dutch version of the SCICA, the same thorough approach as described above was followed. The results of those efforts will be reported in this thesis.

Description of the instrument

As outlined by McConaughy and Achenbach (1994) the Semistructured Clinical Interview for Children and Adolescents is a standardized clinical interview for ages 6-18. Although the interview format is semistructured, the scoring is done quantitatively on standardized Observation and Self-Report Forms. The SCICA can be administered in approximately 60 to 90 minutes. The SCICA should be administered by a professional who is clinically experienced in interviewing children and adolescents and trained in using structured assessment procedures.

The SCICA is designed to sample various areas of functioning in ways that are directed at the cognitive and emotional level of the child or adolescent being interviewed.

The SCICA uses open-ended questions and structured tasks to encourage the child or adolescent to talk and behave in ways that will reveal their thoughts, feelings, concerns, and interests, as well as their interaction style in a clinical interview situation.

The format of the SCICA protocol allows to administer the standardized procedures in a flexible manner to individualize the interview. All topics should be covered but no specific order is prescribed and questions are not standardized.

Forms

Two forms are needed to administer and score the SCICA:

- SCICA Protocol Form (see Appendix A)
- SCICA Observation and Self-Report Form (see Appendix A)

The *SCICA Protocol Form* outlining topics, questions, and tasks is structured in a modular fashion:

1. Activities, school, job
2. Friends
3. Family relations
4. Fantasies
5. Self perception, feelings

6. Parent/teacher-reported problems
7. Achievement test
8. Screen for fine and gross motor abnormalities
9. Somatic complaints, alcohol, drugs, trouble with the law.

The *SCICA Observation and Self-Report Form*, contains items to be scored on four points scales ranging from 0 to 3. The Observation Form describes aspects of the child's or adolescent's behavior, affect and interaction style observed during the interview and tasks. The Self-Report Form contains items that describe problems a child or adolescent might report during the interview. Items on the SCICA Observation and Self-Report Forms contain items that were adapted from items on the CBCL and TRF and items that were specifically designed for the SCICA. Whenever possible the original wording of the CBCL and TRF items was retained. The CBCL yielded 50 items for the observation form and 81 items for the self-report form. The TRF yielded 12 items for the observation form and 6 items for the self-report form.

Scores on both SCICA Observation and Self-Report Form from clinically referred subjects were used to construct the SCICA Profile. This Profile consists of syndrome scales for observation and self-report items that are constituted through factor analysis.

After constructing a SCICA profile, individual scores on syndromes and total scores for the observation and self-report items can be computed. These scores can be used for clinical and research purposes both on their own and in comparison with scores from other profiles (CBCL, TRF and YSR).

Dutch version of the SCICA

To be able to perform the above outlined approach in the Dutch language, the SCICA protocol form and scorings forms were translated with the help of a translator. This Dutch translation was translated back by another bilingual translator. The results of this translated-backtranslated version were examined with the developers of the instrument and some subtle differences between the original and translated-backtranslated version were cleared with the help

of the bilingual translator. To test the Dutch version of the scoring-forms, a test was performed with training video recordings of American interviews (n=10), one trained interviewer scored the interviews on the original American version and one trained interviewer scored the interviews on the Dutch version, no significant differences were found comparing these scores to the standard scores for these tapes.

In this study the item scores and composed scores from clinically referred children interviewed with the Dutch SCICA will be used to construct the SCICA profile and test the psychometric properties of the Dutch SCICA.

CHAPTER 4

Method: samples and instruments

Sample

The present study was performed at the outpatient department of Child and Adolescent Psychiatry of the Sophia Children's Academic Hospital in Rotterdam, where the majority of the interviews were performed, and for a small group of adolescents, at the outpatient department of the Rotterdamsch Medisch Pedagogisch Instituut (The Rotterdam Medical Educational Institute).

Referred Sample

Between April 1992 and April 1994, 262 children and adolescents with behavioral and emotional problems who had been referred to the outpatient departments of the above-mentioned institutes and their parents were asked by the investigator to participate in the study. Children and adolescents aged 6 to 16 years at the moment of referral, without known pervasive developmental disorder or severe mental retardation, were eligible for the study. Children who attended kindergarten (or comparable level in special education) were excluded from the study.

Of the 262 eligible children and adolescents, 246 had been referred to the outpatient department of Child and Adolescent Psychiatry of the Sophia Children's Hospital in Rotterdam and 16 to the outpatient department of the Rotterdamsch Medisch Pedagogisch Instituut.

One hundred and eighty-five children and adolescents and their parents consented to participate in at least part of the study.

Non-Referred Sample

A sample of 148 non-referred children and adolescents aged 6 to 16 attending regular primary or secondary education in the Rotterdam area was

randomly selected from the registers of the Municipal Health Service Rotterdam Area Department of Youth to participate in the study as comparison sample. If parents consented to the municipal health service, the subjects were further approached by the investigators. Eight subjects who had been referred to mental health services within one year prior to the study were excluded. Between May 1992 and May 1993 and from October through December 1994, 86 comparison subjects were assessed.

Socioeconomic status (SES)

Parental occupational and educational level were scored on a 6-point scale, where 6=highest and 1=lowest socioeconomic status (Van Westerlaak, Kropman & Collaris, 1975).

The mean socioeconomic status for the referred sample was 3.4 ($SD=1.7$) for the responders and 3.0 ($SD=1.7$) for the refusers. There was no statistically significant difference in mean socioeconomic status between responders and refusers of the referred group (Student's t test, $t = -1.36$, $p > .05$) The mean socioeconomic status for the non-referred sample was 4.2 ($SD=1.6$) for the responders. No information was available on the refusers in this group. The difference in mean *SES* scores between referred and non-referred subjects accounted for a statistically significant difference (Student's t test, $t=3.61$, $p < .0001$). Table 4.1 shows the distribution of the socioeconomic status for the referred and non-referred sample.

Table 4.1 Socioeconomic characteristics of the referred and non-referred samples

SES	Referred N = 185	Non-referred N = 86
1	16.2 %	7.0 %
2	19.5 %	16.3 %
3	25.4 %	11.6 %
4	9.2%	9.3%
5	9.7%	29.1%
6	20.0%	26.7%
Mean (SD) ^a	3.4 (1.7)	4.2 (1.6)

Note. ^aThere was a statistically significant difference in mean *SES* scores between the referred and non-referred subjects

Response, age and gender distribution

Table 4.2 shows the numbers of subjects who participated in the study. The response rates were 71% for the referred and 64% for the non-referred sample. Table 4.3 shows the age and gender distribution of the subjects in the sample.

Table 4.2 Response rates of referred and non-referred subjects

	Target Sample	Response	Non-Response
	N	N (%)	N (%)
Referred	262	185 (70.6)	77 (29.4)
Non-referred	148	94 (63.5) ^a	54 (36.5)

Note ^a Including 8 subject who had been referred to mental health services and were excluded from the study.

Table 4.3 Age and gender distribution in the sample

	Referred		Non-referred	
	Boys (N = 113)	Girls (N = 72)	Boys (N = 41)	Girls (N = 45)
Age	n (%)	n (%)	n (%)	n (%)
6	7 (6.2)	1 (1.4)	2 (4.9)	-
7	14 (12.4)	10 (13.9)	6 (14.6)	2 (4.4)
8	10 (8.8)	4 (5.6)	2 (4.9)	9 (20.0)
9	17 (15.0)	8 (11.1)	5 (12.2)	4 (8.9)
10	17 (15.0)	9 (12.5)	1 (2.4)	3 (6.7)
11	8 (7.1)	11 (15.3)	6 (14.6)	6 (13.3)
12	12 (10.6)	5 (6.9)	4 (9.8)	2 (4.4)
13	9 (8.0)	6 (8.3)	4 (9.8)	10 (22.2)
14	9 (8.0)	4 (5.6)	2 (4.9)	1 (2.2)
15	3 (2.7)	7 (9.7)	6 (14.6)	3 (6.7)
16	5 (4.4)	6 (8.3)	2 (4.9)	4 (8.9)
17	2 (1.8)	1 (1.4)	1 (2.4)	1 (2.2)
Mean (SD) ^a	10.42 (2.85)	11.15 (2.96)	11.17 (3.18)	11.38 (2.86)

Note. ^a There was no statistically significant difference in mean ages between the referred and non-referred subjects (Student's *t* tests, $p > .05$).

Representativeness of the samples

To test if the referred and non-referred samples were representative of the population they were drawn from, we tested the mean problem scores and competence scores on the CBCL against Dutch norms for these scores as described by Verhulst, Van der Ende & Koot (1996). No significant differences were found between CBCL competence and problem scale scores for non-referred subjects versus the Dutch norms for girls in all age groups and for boys aged 12 years and older. Only one significant difference was found for the CBCL syndrome Delinquent Behavior in boys aged 4-11 years, with non-referred boys scoring higher than Dutch norms for non-referred boys of the same age (t test, $t=2.31$, $p<.05$).

More differences in CBCL scale scores between referred subjects in this study versus a large ($n=2004$) sample of referred children and adolescents were found. Description of this referred sample can be found in the manual for the Dutch CBCL/4-18 (Verhulst, Van der Ende and Koot, 1996). Referred boys in the study sample aged 4-11 years were scored significantly higher on the School scale ($t=2.29$, $p<.05$) and on the problem scales: Somatic Complaints ($t=2.38$, $p<.05$), Anxious/Depressed ($t=2.32$, $p<.05$), Social Problems ($t=2.75$, $p<.01$), Thought Problems ($t=5.56$, $p<.001$), Attention Problems ($t=2.36$, $p<.05$), Delinquent Behavior ($t=2.35$, $p<.05$) than referred boys of the same age in the comparison sample. Girls aged 4-11 years in the study sample were scored significantly higher on the competence scale Activities ($t=2.57$, $p<.05$) but not on any of the other scales than girls in the referred comparison sample. For boys aged 12 years and older in the referred sample significant differences in scores were found for the total competence scale ($t=2.74$, $p<.05$) and Thought Problems scale ($t=3.13$, $p<.01$), with higher scores in the study sample than the comparison sample of referred children. Girls aged 12 years and older in the study sample were scored significantly higher on the Activities scale ($t=2.10$, $p<.05$) and the Anxious/Depressed ($t=2.43$, $p<.05$) and Thought Problems ($t=2.63$, $p<.05$) scales than girls in the comparison sample.

Comparing the study samples to the Dutch norms for non-referred and referred children on the CBCL problem scales, no difference was found

between almost all CBCL scores for the non-referred study sample with the Dutch norms. For the referred sample, significant differences indicating problem scale scores being scored higher, i.e. more problematic, were found for the study sample compared to the Dutch norms for referred children. Apparently, referred children and adolescents in the study sample were scored higher than a representative sample of Dutch referred children and adolescents of the same age and gender. This might be explained by the fact that the majority of the study sample originates from an academic clinic for child and adolescent psychiatry with referrals of rather complex and severe cases. With problem scores on the CBCL for the study sample in the same range or higher than Dutch norms for referred children and adolescents, the study sample for the SCICA may be regarded as an adequate sample to test a clinical interview.

Instruments

The SCICA is designed to function as one component of a multi axial empirically based approach to assessment as outlined in chapter 3. Other components that most directly parallel the SCICA include the CBCL, TRF and YSR. These instruments were used in the present study, either to validate the SCICA or to assess similarities and differences between problems reported for the same child or adolescent by different informants using different measures. Other instruments used were the DISC-P and DISC-C.

The Raven (Coloured) Progressive Matrices (Raven, 1965) was administered to all children and adolescents as part 7 (Achievement Tests) of the SCICA. Parents were asked to fill out a questionnaire concerning family characteristics, occupational and educational level of both parents, and to answer questions concerning the physical and emotional health and education of the child or adolescent. Table 4.4 gives an overview of the instruments used with the different informants in the present study.

Table 4.4 Instruments used in the study

Informant	Instruments	
	Referred Sample	Non-referred Sample
Child/Adolescent	SCICA YSR ^a DISC-C	SCICA YSR ^a
Parent	CBCL DISC-P Questionnaire	CBCL Questionnaire
Teacher	TRF	

Note. ^a If the child was 11 years or older.

Child Behavior Checklist for Ages 4-18 (CBCL/4-18)

To obtain standardized parent's reports of the behavioral and emotional problems and competencies of the children and adolescents, the Child Behavior Checklist was used. Designed to be self-administered, the CBCL includes 20 items for assessing competencies and 120 items concerning behavioral and emotional problems. The competence items ask about the number of sports, hobbies, organizations, jobs, friendships the child or adolescent takes part in as well as the amount and quality of the participation.

The competence items further ask about the relations of the child or adolescent with its siblings, peers and parents, and how the child or adolescents functions at school. The competence items are grouped into three scales designated as Activities, Social and School on the basis of their content. The total competence score is the sum of the raw scores for the three competence scales. The 120 problem items describe a broad range of behavioral and emotional problems. The problem items are scored by parents on a 3-point scale based on the preceding 6 months in the following way: 0 if the item is not true of the child, 1 if the item is somewhat or sometimes true,

and 2 if it is very true or often true. Most parents can complete the CBCL within 30 minutes. The good reliability and discriminative validity of the English version established by Achenbach (1991b) were confirmed for the Dutch translation. (Verhulst, Akkerhaus and Althaus, 1985; Verhulst, Van der Ende and Koot, 1996).

Besides describing children in terms of many specific items, the CBCL is also designed to identify syndromes of problems that tend to occur together. Based on principal components analyses, Achenbach (1991a, 1991b) constructed eight syndrome scales that are common to the CBCL, TRF and YSR (see Table 4.5). These so called cross-informant syndromes represent the same construct. The syndromes contain the set of core items that are common to each of the instruments and in addition some instrument specific items. The scales have been standardized for each instrument and age group (4-11; 12-18) separately. The Sex Problems scale is the only scale that is exclusively found for the CBCL for ages 4-11. The rest of the syndromes represent constructs shared by each instrument. By performing second-order factor analyses of the eight syndrome scales, Internalizing, including the Withdrawn, Somatic Complaints and Anxious/Depressed scales and Externalizing, including the Delinquent and Aggressive Behavior scales, groupings were derived.

One week test-retest reliabilities for the syndrome scores range from .82 to .95 (Mean $r=.89$), (Achenbach, 1991b). The internal consistency coefficients (Cronbach's alpha) ranged from .56 to .96 for younger boys (4-11) and from .68 to .96 for older boys (12-18). For girls these coefficients ranged from .54 to .96 for the younger girls and from .70 to .96 for the older girls. Two week test-retest reliabilities for the Dutch CBCL differ scarcely from those published by Achenbach. For the Dutch CBCL the reliabilities for the syndrome scores ranged from .74 to .91 (Mean $r = .85$; Verhulst, Van der Ende and Koot, 1996). Verhulst and Van der Ende (1991) found a correlation of .70 between CBCL total problem scores and problem scores based on clinical interviews with parents.

Table 4.5 Cross informant syndromes for the CBCL, YSR and TRF

Internalizing	Neither Internalizing nor Externalizing	Externalizing
Withdrawn	Social Problems	Delinquent Behavior
Somatic Complaints	Thought Problems	Aggressive Behavior
Anxious/Depressed	Attention Problems	
	Sex Problems ^a	

Note. ^a Sex Problems syndrome was only found for the CBCL and only for ages 4-5 and 6-11.

Teacher's Report Form (TRF)

The Teacher's Report Form, which is modelled on the CBCL/4-18, was used to obtain standardized teacher reports on children's and adolescent's adaptive functioning and behavioral and emotional problems. The TRF is designed to be filled out by teachers who have known a pupil in a school setting for at least two months. Unlike the CBCL, the TRF scores are based on the preceding two months. The TRF consists of items regarding academic performance and aspects of adaptive functioning and 120 problem items. Ninety-five problem items have counterparts on the CBCL/4-18.

Items that are relevant to the home situation, such as bed wetting or nightmares were replaced by items more relevant to the school situation. Only the problem section of the TRF was used in the present study.

The good reliability and discriminative validity of the English version established by Achenbach (1991c) were confirmed for the Dutch TRF by studies of Verhulst et al. (Verhulst, Akkerhuis and Althaus, 1985; Verhulst and Akkerhuis, 1986). Fifteen-days test-retest reliabilities for the syndrome scores as reported by Achenbach (1991c) ranged from .82 to .96. Internal consistency coefficients (Cronbach's alpha) ranged from .72 to .97 for younger boys (5-11) and .70 to .97 for older boys (12-18). For girls these coefficients ranged from .63 to .97 for the younger ones and .65 to .98 for the older ones. Significant associations were found with clinical psychiatric

judgment supporting the validity of this instrument in the assessment of psychopathology in children and adolescents (Verhulst, Berden and Sanders-Woudstra, 1985).

Youth Self -Report (YSR)

To obtain reports of competencies and problems from the children and adolescents themselves in a standardized way, the Youth Self-Report was used. The YSR was modelled on the CBCL and has the same format except that items are worded in the first person. It was designed to be filled out by youths who are 11 to 18 years old. The YSR consists of competence items and problem items. The competence items generally parallel the competence items of the CBCL/4-18, except for questions that were deemed inappropriate to ask youths to report about themselves. The YSR contains 103 problem items that parallel the CBCL/4-18 problem items and 16 socially desirable items (e.g., I am pretty honest, I like to try new things) that replace items that were deemed inappropriate to ask adolescents. Like the CBCL the adolescents are asked to report problems that occurred during the last 6 months.

The good reliability and validity for the English version reported by Achenbach (1991d) were replicated for the Dutch YSR (Verhulst, Prince, Vervuurt-Poot and De Jong, 1989). One week test-retest reliabilities for the syndrome scores ranged from .47 to .81. Internal consistency coefficients (Cronbach's alpha) ranged from .59 to .95 for boys and girls (Achenbach, 1991d).

Diagnostic Interview Schedule for Children -Parent version (DISC-P)

The National Institute of Mental Health-Diagnostic Interview Schedule for Children, second edition (DISC-2.3) (NIMH, 1992) was used as a structured interview with the parents. The DISC-P is a structured interview schedule developed for use in epidemiological studies of psychiatric disorder in children and adolescents aged 6 to 18 years. It standardizes the order, wording, and coding of symptoms and behavior questions and in this way diagnostic criteria for 40 DSM-III-R diagnoses and a psychosis screen are

addressed. Responses to questions are scored 0, 1 or 2, corresponding to "no," "sometimes," or "yes". Unless otherwise specified the time frame of the DISC is the past 6 months. To administer a DISC interview an interview requires specific training in administering and scoring. Table 4.6 lists the diagnoses generated by the DISC interview.

Test-retest reliabilities for preceding versions of the DISC-P from which the version used in this study was derived ranged from .55 to .88 (Schwab-Stone et al., 1993). Interrater reliabilities ranged from .66 to 1.0 for different diagnoses (Shaffer et al., 1993) and validity as reported by Piacentini et al. (1993) could be regarded adequate ranging from .36 to .60.

Table 4.6 DISC generated DSM-III-R Diagnoses

<u>Anxiety Disorders</u>	<u>Mood Disorder</u>
Simple Phobia	Major Depression
Social Phobia	Dysthymia
Agoraphobia	Mania
Panic Disorder	Hypomania
Separation Anxiety Disorder	
Avoidant Disorder	<u>Psychosis Screen</u>
Overanxious Disorder	
Generalized Anxiety Disorder	<u>Disruptive Disorders</u>
Obsessive Compulsive Disorder	Attention Deficit Disorder
	Oppositional Defiant Disorder
	Conduct Disorder
<u>Miscellaneous Disorders</u>	
Bulimia Nervosa	
Anorexia Nervosa	<u>Substance Use Disorders</u>
Enuresis	
Encopresis	
<u>Tic Disorder</u>	
Chronic Motor Tic Disorder	
Chronic Vocal Tic Disorder	
Tourette's Disorder	
Transient Tic Disorder	

Diagnostic Interview Schedule for Children -Child version (DISC-C)

The National Institute of Mental Health-Diagnostic Interview Schedule for Children-Child version (DISC-C) was used in a part of the present study to interview the children and adolescents with a structured interview generating DSM-III-R diagnoses. The child version of the DISC which is administered directly to the child or adolescent, completely parallels the parent version, except that the questions are worded in the first person. Reliabilities for the DISC-C ranged from poor to good for different diagnoses .16 to .80 (Schwab-Stone et al., 1993).

The sensitivity of the DISC-C diagnoses in a clinical population was reported by Fischer et al. (1993) and ranged from .18 to .82 compared to .44 to 1.0 for the DISC-P. Sensitivities for a combined algorithm, using DISC-C and DISC-P information ranged from .73 to 1.0.

The sensitivity of the DISC-C diagnoses in a Dutch general population was reported by Verhulst et al. (1997) and ranged from .50 to 1.0 compared to .51 to .87 for the DISC-P. Sensitivities for a combined algorithm, using DISC-C and DISC-P information ranged from .77 to 1.0.

Although poor agreement was found between diagnoses generated by the DISC-C and by clinicians (Weinstein et al., 1989; Aronen et al. 1993), statistically significant associations were found between DSM-III diagnostic categories generated by the DISC-C and the Syndrome scales of the YSR. Associations were found between Conduct Disorder and the YSR syndrome scales Delinquent and Externalizing, for Affective Disorders and Attention Deficit Disorder with all syndrome scales of the YSR. Anxiety disorders were associated with all YSR syndrome scales except for the Delinquent scale (Weinstein et al., 1990). The DISC-P and -C were translated into Dutch by the author.

Raven's Progressive Matrices

As part of the achievement testing in the SCICA interview Raven's progressive matrices (Raven, 1983; Raven, Court and Raven, 1990) were used in this study. Two designs are available, the Standard Progressive Matrices for all age groups and the Coloured Progressive Matrices for use

with young children and old people.

The Standard Progressive Matrices (sets A, B, C, D and E), is a test of a person's capacity to apprehend meaningless figures presented for his observation, see the relation between them, conceive the nature of the figure completing each system of relations presented, and, by so doing, develop a systematic method of reasoning. The scale consists of 60 problems divided into five sets of 12. In each set the first problem is as nearly as possible self-evident. The problems which follow become progressively more difficult. The five sets provide five opportunities for grasping the method and five progressive assessments of a person's capacity for intellectual activity.

The test was designed to cover the widest possible range of mental ability to be equally useful with persons of all ages, whatever their education, nationality or physical condition. Norms are available from a British representative sample of 3,500 children and adolescents aged 6-16 (Raven, 1983). The Coloured Progressive Matrices is based on the Standard Progressive Matrices and uses only 3 sets, A, Ab, and B. The coloured version is designed for use with young children. In this study the coloured version was used in children under the age of 9, if, on using them, sets A, Ab, and B proved to be too easy, they could always be followed by sets C, D, and E on the Standard Scale (Raven, Court and Raven, 1990).

The most satisfactory method of interpreting the significance of a subject's total score is to consider it in terms of the percentage frequency with which a similar score is found to occur amongst subjects of the same age. In this way, a subject is classified according to the score obtained.

GRADE I	<i>"Intellectually superior"</i> If a score lies at or above the 95th percentile for that age-group
GRADE II	<i>"Definitely above the average in intellectual capacity"</i> If a score lies at or above the 75th percentile; II+, if a score lies at or above the 90th percentile.
GRADE III	<i>"Intellectually average"</i> If a score lies between the 25th and 75th percentiles; III+, if a score lies at or above the 50th percentile; III-, if a score is less than the median.
GRADE IV	<i>"Definitely below the average in intellectual capacity"</i> If a score lies at or below the 25th percentile; IV-, if a score lies at or below the 10th percentile.
GRADE V	<i>"Intellectually impaired"</i> If a score lies at or below the 5th percentile.

The majority of studies giving consistency data with the progressive matrices report correlations of at least .90 with a modal value of .91. One week test-retest reliabilities range from .85 to .91 (Raven, 1983).

SCICA Syndromes

Construction of the syndromes

The information obtained with the SCICA interview not only describes specific problems through the individual items scored on both Self-report and Observation forms, this information can also be used to identify empirical syndromes of problems that tend to occur together. Using a large sample of referred children the results scored on both Observation and Self-report forms can be used to perform statistical analysis.

In this study, principal components analyses were used to identify syndromes of items that tend to group together. Like factor analysis principal components analysis is used to identify factors that explain the correlations among a set of variables. The purpose often is to summarize a large number of variables with a smaller number of factors. To avoid the possible effects of low cognitive ability, the results of interviews with children were excluded from the analyses if they had a full scale IQ below 75 (American sample) or a grade V score on the Raven (Dutch sample). Comparing separate exploratory principal components analyses for the referred Dutch and American samples for children aged 6 to 12, five factors shared similar cores of 5 to 20 items (see Appendix B). Comparing the findings of these exploratory analyses in consultation with the developers of the US SCICA syndromes the decision was made to pool the data of both samples to strengthen the empirical basis to develop SCICA syndromes by using an extended sample instead of the smaller Dutch sample.

The analyses were performed for the ages 6-12. For these analyses we combined the Dutch (N=128) and American (N=168) referred samples for this age group. The Dutch sample consisted of 82 boys and 46 girls, whereas the American sample consisted of 119 boys and 49 girls. In both samples these differences reflect differences in referral patterns for boys and girls. The

mean age for the Dutch sample, 9.2 years ($SD=1.8$) was significantly higher (Student's t test, $t=3.17$, $P<0.01$) than for the American sample, 8.7 years ($SD=1.8$). To compare the socio-economic status, the SES scores of the Dutch sample were recoded on the Hollingshead (1975) 9-step scale. The mean SES score for the Dutch sample, 4.8 ($SD=2.4$) was significantly lower (Student's t test, $t=2.77$, $P<0.01$) than the mean SES score for the American sample, 5.4 ($SD=2.3$). Multiple regression analyses on SCICA items by McConaughy and Achenbach (1994) revealed that there were fewer significant effects of sex and SES than expected by chance and only two significant age effects in addition to effects expected by chance. In view of these results the differences in age and SES between the Dutch and American sample formed no contraindication to combine both samples to perform principal components analyses to develop syndrome scales for the SCICA. The number of subjects in the Dutch referred sample aged 13-18 was too small ($N=51$) to perform separate principal components analyses for this age group. To keep the referred sample as homogeneous as possible we decided to omit this group from the principal components analysis. Separate principal components analyses were performed on the Observation and Self-report items for the total sample of 296 referred subjects aged 6-12. A varimax rotation was chosen to simplify the interpretation of the factors.

Items that were scored in less than 5%, or more than 95% of the total sample are generally not differentiating well. After tabulating the frequencies for all the items in the sample, those that were scored in less than 5% of the subjects were excluded from the analysis. Items that were excluded from the analyses are listed in Appendix C. None of the items was scored in more than 95% of the subjects. A total of 110 Observation items and 80 Self-report items were submitted to separate principal components analysis. In order to identify syndromes with the principal components analysis, solutions with 3 to 9 factors were compared to identify syndromes that remained relatively similar over the different solutions.

The 5 component rotation for the Observation items and the 4 component rotation for the Self-Report items produced the most robust factors. Factors that contained at least 10 items with loadings $\geq .30$ were used to construct

syndrome scales for this sample. The sum of squared loadings in the identified factors, the Eigenvalue, ranged from 3.32 to 11.99 for the Observation items and from 2.67 to 5.64 for the Self-report items.

To come to a final model of syndromes for the Observation items, 7 items that loaded highest on the first component and $\geq .30$ on one or more of the four remaining components were assigned to the component on which they had their second highest loading (2 items were assigned to the 4th component and 5 items were assigned to the 5th component). The first component for the Self-report items revealed only one item that loaded highest on the first component and $\geq .30$ on another component, this item was assigned to the 4th component. All other Observation and Self-report items loading $\geq .30$ on more than one component were retained on the component on which they had their highest loading.

Syndromes for SCICA Observation items

Table 5.2 displays the factor loadings for the SCICA Observation items in the referred study sample.

Factor 1 is characterized by high loadings on the items 28. Demands must be met immediately, 27. Defiant, talks back, 6. Argues, and 76. Resistant or refuses to comply, which could be summarized as reflecting "refusing to accept", this factor was accordingly named "Resistant".

Factor 2 is characterized by high loadings on items 114. Withdrawn, 56. Limited conversation, 87. Slow to warm up, and 5. Apathetic. The content of this syndrome is best summarized by "Withdrawn".

Items like 45. Has difficulty understanding language, 44. Has difficulty expressing self verbally, 4. Acts too young for age, and 22. Concrete thinking characterize Factor 3, reflecting development lag. This factor was labeled "Immature".

Factor 4 was labeled "Strange", items 35. Exaggerates or makes things up, 15. Bragging, boasting, 100. Talks too much, and 30. Disjointed or tangential conversation, loaded highest on this factor.

With items 40. Frequently off-task, 33. Easily distracted by external stimuli, and 64. Needs repetition of instruction or questions, loading highest,

this last factor for the Observation items was named "Attention Problems".

Syndromes for SCICA Self-Report items

Table 5.3 displays the factor loadings for the SCICA Observation items in the referred study sample.

With items expressing qualities of aggression loading highest on factor 1 this factor was named "Aggressive Behavior". Among the highest loading items on this factor are 188. Reports physically attacking others, 207. Reports threatening others, 173 Reports getting into physical fights, and 122. Reports acts of cruelty, bullying or meanness to others.

Factor 2 was labeled "Lonely", because highest loading items were 193. Reports problems making or keeping friends, 192. Reports not getting along with peers, 185. Reports not being liked by peers, and 168. Reports feeling others are out to get him/her.

Factor 3 is clearly defined by items 141. Reports being too fearful or anxious, 162. Reports fears of certain people, animals or situations, and 160. Reports fear of making mistakes, and subsequently named "Anxious".

The last factor on the self-report items was labeled "Family Problems" because items loading on that factor seem all related to family structure. Examples of items in this factor are 186. Reports not getting along with father or mother, 142. Reports being treated unfairly at home, 177. Reports hating or disliking father or mother.

Summarizing, 5 syndromes were derived from the Observation items and 4 syndromes were derived from the Self-report items. The superscripts ^{OB} and ^{SR} indicate the items from which the syndromes are derived (see Table 5.1).

Table 5.1 SCICA Syndromes

Attention Problems ^{OB}	Aggressive Behavior ^{SR}
Immature ^{OB}	Anxious ^{SR}
Resistant ^{OB}	Family Problems ^{SR}
Strange ^{OB}	Lonely ^{SR}
Withdrawn ^{OB}	

Selecting names for the syndrome scales, 4 of the Observation scales were similar enough to the 5 Observation scales derived from the original American sample (McConaughy and Achenbach, 1994) to merit similar names: Resistant^{OB}, Withdrawn^{OB}, Strange^{OB}, and Attention Problems^{OB}. For the Self-report scales two scales were similar enough to the 3 Self-report scales found for the American sample: Aggressive Behavior^{SR}, and Family Problems^{SR}.

Table 5.2 Factor loadings for SCICA Observation items from principal components analyses

1 Resistant (Observation items)		3 Immature (Observation items)	
6. Argues	.73	4. Too Young	.53
8. Attempts to leave room	.32	13. Bizarre language	.41
10. Irresponsible behavior	.52	22. Concrete thinking	.52
14. Blames diff. on task	.47	23. Confused	.46
16. Burps	.30	29. Diff. following directions	.37
19. Complains being bored	.33	39. Fine motor difficulties	.49
27. Defiant, talks back	.74	42. Gross motor difficulty	.47
28. Demands must be met	.82	44. Diff. expressing self	.56
36. Explosive, unpredictable behavior	.60	45. Diff. understanding language	.61
43. Guesses a lot	.41	46. Probl. remembering facts	.48
54. Laughs inappropriately	.33	65. Nervous	.30
59. Makes odd noises	.44	66. Nervous movements, tics	.44
67. Out of seat	.31	88. Speech problem	.30
76. Resistant	.63	91. Strange behavior	.41
93. Stubborn, irritable	.58	103. Fearful or anxious	.33
95. Sudden changes mood, feelings	.49		
96. Sulks	.33	4 Strange (Observation items)	
97. Suspicious	.32	1. Overconfident	.37
105. Tries to manipulate interviewer	.50	15. Bragging	.58
109. Unusually changeable behavior	.41	17. Obsessions	.47
112. Quits tasks	.66	26. Daydreams, lost in thoughts	.46
115. Works quickly, carelessly	.51	30. Disjointed conversation	.51
		35. Exaggerates	.59
2 Withdrawn (Observation items)		41. Long, complex responses	.39
5. Apathetic	.72	51. Jokes inappropriately	.45
9. Avoids eye contact	.47	84. Shows-off	.31 (1)
56. Limited conversation	.77	92. Strange ideas	.45
57. Limited fantasy	.63	100. Talks too much	.54
63. Needs coaxing	.39	110. Unusually loud	.31 (1)
72. Refuses to talk	.55		
73. Reluctant to discuss feelings	.46	5 Attention Problems (Observation items)	
77. Says "Don't know" a lot	.47	7. Asks feedback	.43
79. Secretive, keeps things to self	.58	31. Doesn't concentrate	.39 (1)
80. Overtired	.51	32. Restless, hyperactive	.38
82. Unresponsive to humor	.68	33. Distracted	.49
85. Shy or timid	.50	40. Freq. off task	.50
86. Slow to respond verbally	.68	48. Impatient	.36 (1)
87. Slow to warm up	.73	49. Impulsive	.32 (1)
89. Stares blankly	.52	53. Lapses in attention	.41
106. Underactive	.63	60. Messy work	.32 (1)
107. Unhappy, depressed	.62	61. Misbehaves	.30 (1)
111. Unusually quiet	.63	64. Needs repetition questions	.44
114. Withdrawn	.81	99. Talks aloud to self	.39

(1) Indicating items with their highest loading on factor 1, that were assigned to the component on which they had their second highest loading

Table 5.3 Factor loadings for SCICA Self-report items from principal components analyses

1 Aggressive Behavior (Self-report items)		3 Anxious (Self-report items)	
122. Rpts acts cruelty, bullying	.64	128. Rpts being confused	.34
130. Rpts disobedient home	.48	141. Rpts too fearful, anxious	.50
131. Rpts disobedient school	.59	143. Rpts treated unfairly school	.33
132. Rpts being impulsive	.33	160. Rpts fear making mistakes	.46
155. Rpts destroying own property	.32	162. Rpts fears	.47
156. Rpts destroying property others	.42	164. Rpts feeling guilty	.40
159. Rpts disliking school	.32	165. Rpts feeling must be perfect	.41
173. Rpts physical fights, no siblings	.62	166. Rpts hurt when criticized	.43
175. Rpts hanging around, trouble	.58	167. Rpts feeling nervous, tense	.36
178. Rpts hating teacher, boss	.51	179. Rpts nightmares	.46
182. Rpts lacking guilt	.57	208. Rpts trouble sleeping	.46
188. Rpts phys. attacking others	.70	228. Rpts aches	.38
204. Rpts reports teasing others	.35	234. Rpts stomachache	.41
207. Rpts threatening others	.62		
2 Lonely (Self-report items)		4 Family Problems (Self-report items)	
134. Rpts lonely, left out	.52	133. Rpts being jealous	.30
144. Rpts unable concentrate	.34	135. Rpts phys. harmed parents	.46
157. Rpts diff. following directions	.45	142. Rpts treated unfairly home	.50
158. Rpts diff. learning	.48	150. Rpts concerns family problems	.35
168. Rpts others out to get him	.53	170. Rpts no one loves him	.38
171. Rpts feeling worthless, inferior	.45	176. Rpts hating sibling	.41
174. Rpts getting teased, picked on	.40	177. Rpts hating parent	.47
185. Rpts not liked peers	.60	181. Rpts lack attention parents	.39
190. Rpts prefer being alone	.36	186. Rpts not getting along parent	.64
192. Rpts problems getting along peers	.62	205. Rpts temper tantrums	.30 (1)
193. Rpts problems making friends	.66		

(1) Indicating item with highest loading on factor 1, that was assigned to the factor with the with second highest loading

Second order grouping of syndromes

Second order factor analyses were applied to the 9 syndromes found for the SCICA. Second order analysis is used to detect broad band groupings of problems. To perform this analysis raw scores were computed on the 9 SCICA syndromes by adding the ratings for all items of a scale for each subject, and performing analysis on the syndrome scores. Principal components analysis with varimax rotation yielded the most clear-cut second order factors.

Two principal factors were obtained. On factor 1 the syndromes Resistant, Strange, Attention Problems, and Aggressive Behavior had loadings ranging from .55 to .80. This second order factor was labeled Externalizing and contains the same syndromes as found for the American sample. The Immature, Lonely, and Anxious syndromes had loadings from .52 to .76 on the second factor, which was labeled Internalizing. This Internalizing factor does not contain syndromes that were found in the American sample.

The Withdrawn and Family Problems syndromes did not load $\geq .30$ on either the Internalizing or Externalizing factor. A finding that was consistent with the one in the American sample.

Table 5.4 lists the SCICA syndrome scales in terms of the Internalizing and Externalizing scales.

Table 5.4 Second order grouping of syndromes

Internalizing	Neither Internalizing nor Externalizing	Externalizing
Immature ^{OB}	Withdrawn ^{OB}	Resistant ^{OB}
Lonely ^{SR}	Family Problems ^{SR}	Strange ^{OB}
Anxious ^{SR}		Attention Problems ^{OB}
		Aggressive Behavior ^{SR}

Discussion

Results reported in this chapter indicate that the observation and self-report items of the SCICA can be used to detect different types of problem behavior in children in the age group 6-12 years. Factor analyses for a combined sample of Dutch and American referred children revealed 9 syndromes: Immature, Lonely, Anxious, Withdrawn, Family Problems, Resistant, Strange, Attention Problems and Aggressive Behavior. The observation items accounting for the Immature syndrome paint a picture of improperly "young" behavior: *Too Young, Confused, Fine motor difficulties, Difficulties expressing self* and *Problems remembering facts*, are some of the items accounting for this syndrome. The self-reported items in the Lonely syndrome share a desolate quality: *Reports feeling lonely and being left out*,

Reports that others are out to get him, Reports not being liked by peers, Reports problems making friends, are a few of the items in this syndrome. The Anxious syndrome consists of self-reported items that indicate fearfulness and worrying: *Reports being too fearful and anxious, Reports fear of making mistakes, Reports feeling nervous and tense* and *Reports nightmares* are some of the items in this syndrome.

The observation items that represent the syndrome Withdrawn share an introverted quality: *Apathetic, Limited conversation, Limited fantasy, Refuses to talk, Unresponsive to humor* and *Withdrawn* are a few of the items this syndrome consists of. The Family Problems syndrome consists of self-report items that apply to problems related to the family situation, examples are: *Reports being physically harmed by parents, Reports being treated unfairly at home, Reports hating sibling* and *Reports not getting along with parents*.

The observation items representing the Resistant syndrome roughly sketch oppositional behavior: *Argues, Irresponsible behavior, Demands must be met immediately, Resistant* and *Quits tasks* are a few examples. The observation items constituting the syndrome Strange sample behavior that can be perceived as different and sometimes even bizarre or peculiar: *Bragging, Disjointed conversation, Exaggerates, Jokes inappropriately* and *Strange Ideas* are among these items. The Attention Problems syndrome represents observation items that indicate a lack of concentration and interest: *Distracted, Frequently off-task, Impatient, Lapses in attention* and *Needs repetition of questions*. Self-reported items reflecting aggressive or hostile behaviors constitute the syndrome Aggressive Behavior, a few examples are: *Reports acts of cruelty or bullying, Reports being disobedient at school, Reports physical fights, Reports hanging around getting into trouble, Reports lacking guilt* and *Reports physically attacking others*.

Comparing these syndromes with the 1994 American SCICA Syndromes, differences and similarities are found as can be expected with syndromes that are still in development and when using an extended combined Dutch and American sample. The American syndrome Anxious/Depressed has 5 items in common with the Anxious syndrome reported in this study but shares all but one item with the syndrome Lonely found in this study. The American

syndrome Anxious consisting of observation items has no counterpart in this study. The syndrome Immature found in this study has no counterpart in the original American syndromes.

The Family Problems syndrome shares a core of similar items with the American syndrome. The Withdrawn syndrome shares its complete content with the American syndrome, the only difference being the two extra items on the American syndrome.

The Aggressive Behavior syndrome shares all but three items with the American syndrome. The Attention problem syndrome has 4 items in common with the American syndrome. The Syndrome Strange has all but 3 items in common with the American syndrome and the Resistant syndrome has 12 items in common with the American syndrome.

Whether these similarities and differences account for trends indicating more or less replicable syndromes over time, populations and nationalities remains uncertain with the quantity of the data used for these studies. The syndromes found in this study consequently cannot be considered definitive but can guide further research.

Reliability of the SCICA

Introduction

Several designs can be used to study reliability. The designs vary from straightforward, less strict designs that will give higher estimates of reliability to others that are more strict and tend to give lower estimates. Several designs to study reliability are available: ratings of written case vignettes, ratings of videotaped interviews, ratings completed by an interviewer and an observer working with a patient and test-retest studies with patients over shorter (hours to days) or longer (months) intervals. In the assessment of reliability, it is desirable to use more than one design if possible because different designs have different strengths and weaknesses and complement one another (Grove et al., 1981). Because gained knowledge of using two different reliability studies is greater than the sum of separate studies, in studying the reliability of the SCICA we opted to use the test-retest design and the interrater design using videotaped interviews.

Test-Retest Reliability

To assess the test-retest reliability of the SCICA syndrome-scales, SCICA interviews were performed by two different interviewers on two different occasions in counterbalanced order. This test-retest design is the most stringent test of diagnostic reliability. Three important sources of variance are thus introduced. The first source is variations in the child's self-reports and behaviors over the two interview occasions. The second source reflects variations in personal style by the different interviewers. The third source is a true change of the child's emotional and behavioral problems over time. The first two sources of variation can be examined separately. However, the longer the interval between the occasions, the more likely it is a true change in the child's emotional and behavioral problems has occurred, limiting the

time frame in which the retest can be performed.

For our test-retest a total of 35 children, aged 6 to 16 years, were interviewed by two different interviewers at different moments in time with the same interview, the SCICA. The mean interval period was 12 days (SD= 6 days). The two interviewers were rotated over the first and second interviews to be able to examine possible effects by interviewer style and time. With this design we determined the reliability coefficients, Pearson correlations (r), for the SCICA scale scores. All r s for the SCICA syndrome scores were significant at a level of $p < .0001$ (see Table 6.1).

Test-retest r s for the SCICA syndrome scores were .80 for the Resistant scale, .87 for the Withdrawn scale, .71 for the Immature scale, .86 for the Strange scale, .87 for the Attention Problem scale, .74 for the Aggressive Behavior scale, .74 for the Lonely scale, .66 for the Anxious scale and .75 for the Family Problems scale. Paired t-test analyses revealed no significant differences in sizes of these syndrome scores over time.

The Pearson correlations were also significant for the Internalizing, Externalizing and Total Observations and Total Self-Reports scales at a level of $p < 0.0001$ except for Internalizing ($p = 0.001$). The r s were .54 for the Internalizing scale and .90 for the Externalizing scale, this difference in reliabilities could indicate a difference in stability between externalizing and internalizing behaviors over time. No real difference in test-retest reliabilities were found between observations and self-reports, .81 for Total Observations scale and .84 for the Total Self-Reports scale. To compare the mean scores for the test and retest for significant differences t tests were performed. No significant differences were found in mean scale scores over time.

Repeated measures MANOVA's were performed to reveal possible interviewer and interviewer versus time effects. One significant interviewer effect was found for the Anxious scale, interviewer 1 scoring significantly higher than interviewer 2 for this scale. Two significant effects were found for interviewer versus time, for the Anxious scale and for the Family Problems scale. This indicates a difference in scores that might be attributed to an interaction between an interviewer and the slot in which that interviewer took the interview.

Overall acceptable levels of concordance were found for the SCICA scales except for the Anxiety scale and the Internalizing scale. In a study comparing test-retest reliabilities over different structured diagnostic interviews, Hodges (1993) found that overall poorer values were found for diagnoses of anxiety. Whether anxiety scores are less reliable to assess or prone to real change over relatively short periods of time needs further research.

Table 6.1 Test-retest reliability of the SCICA scale scores

Scale	<i>r</i>
Immature ^{ob}	.71
Lonely ^{sr}	.74
Anxious ^{sr}	.66
Withdrawn ^{ob}	.87
Family Problems ^{sr}	.75
Resistant ^{ob}	.80
Strange ^{ob}	.86
Attention Problems ^{ob}	.87
Aggressive Behavior ^{sr}	.81
Internalizing	.55 ^a
Externalizing	.90
Total Observations	.81
Total Self-reports	.84
Mean	.80

Note. All *rs* significant at $p < 0.0001$ except ^a $p = 0.001$

Interrater Reliability

To assess the inter-rater reliability of the SCICA syndrome-scales, 24 videotaped SCICA interviews from one interviewer were scored by a trained observer without any other information on the interviewed child or adolescent than the videotaped interview. Ratings were obtained from one interviewer and one videotape observer.

Analyses were performed comparing the ratings for the SCICA interview

from the initial interviewer and the videotape observer. Thus both mean scores from the interviewer and observer and correlation coefficients were obtained and compared to indicate inter-rater reliability. Pearson's correlations ranged from .49 for the Attention Problems scale and .54 for the Immature scale to .83 for the Anxious and .85 for the Withdrawn scale (See Table 6.2).

A slight difference can be noticed between the reliability for the Internalizing scale .66 and Externalizing scale .74. Better performance for interrater reliability on the externalizing scale could indicate that the observations and self-reports comprising this scale are more overt to both interviewer and video rater compared to observations and self-reports on the internalizing scale

Another difference can be found between the observation and self-reported items. The reliability for the Total Observations scale (.61) is much lower than for the Total Self-report scale (.79). Explanations can be sought in the difference in quality of observations between the actual interview situation and the reproduction on videotape, this could be an indication of the lowest interrater reliabilities being found for scales consisting of observation items, .49 for the Attention Problems and .54 for the Immature scales, although this effect cannot be totally accountable because the highest reliability was also found for a scale consisting of observation items, .85 for the Withdrawn scale. Whether these differences reflect true differences in reliability between self-report and observation items or indicate a loss of quality in registration of certain observation items due to videoregistration cannot be concluded from these data.

An indication for the differences between "live" interview scores and videotape observations also comes forward comparing the mean scores. Dependent *t* tests showed that for all but one syndrome (Aggressive) the interviewer scored higher than the observer with three significant differences ($p < 0.01$), i.e. for the Immature, Internalizing and Total observation score. These differences are also larger for the Total observation than the Total Self-report scale and for the Internalizing scale versus the Externalizing scale. Testing an observationally based rating scale for affective symptomatology,

Kaminer et al. (1990) reported fair to good reliability when two raters observed the same patients.

Comparing video observations with observations from one-way screen observations from the same interview could reveal if differences are accounted for by differences in observing the interview or a observing video recording.

Table 6.2 lists the interrater reliability and mean scores for both interviewer and observer ratings.

Table 6.2 *Interrater reliability, mean scores for Interviewer and observer ratings*

Scale	r^s	Interviewer mean	Observer mean
Immature ^{ob}	.54 ³	9.6	5.5
Lonely ^{sr}	.69 ¹	6.0	4.8
Anxious ^{sr}	.83 ¹	6.7	5.3
Withdrawn ^{ob}	.85 ¹	7.4	6.0
Family Problems ^{sr}	.65 ²	3.8	3.2
Resistant ^{ob}	.64 ²	5.6	3.8
Strange ^{ob}	.77 ¹	6.5	4.5
Attention Problems ^{ob}	.49 ³	4.9	4.0
Aggressive Behavior ^{sr}	.82 ¹	6.0	7.6
Internalizing	.66 ²	22.0	15.5
Externalizing	.74 ¹	22.7	20.5
Total Observations	.61 ²	44.5	31.7
Total Self-reports	.79 ¹	34.9	33.6
Mean	.71		

Note. ^s Significant at ¹ $p < .001$, ² $p < .01$, ³ $p < .05$

Internal consistency of the SCICA Scales

Another characteristic that sometimes is referred to as reliability is internal

consistency. This is the aggregated correlation each of the scales items and the scale total based on all other items. To study the internal consistency of the SCICA scales Cronbach's *alpha* was computed and reported in table 6.3. Adequate reliabilities ($\alpha > .70$; Nunally) were found for all scales except for Anxious and Family Problems.

Table 6.3 *Cronbach's Alpha; Internal consistency coefficients for the SCICA Syndrome*

Scale	α
Immature ^{ob}	0.78
Lonely ^{sr}	0.74
Anxious ^{sr}	0.68
Withdrawn ^{ob}	0.90
Family Problems ^{sr}	0.61
Resistant ^{ob}	0.87
Strange ^{ob}	0.78
Attention Problems ^{ob}	0.82
Aggressive Behavior ^{sr}	0.78
Internalizing	0.80
Externalizing	0.90
Total Observations	0.88
Total Self-Reports	0.78

Conclusion

In the absence of laboratory tests or other objective indicators of psychiatric illness, identification of psychopathology rests primarily with the clinical interview. The reliability of the interview is therefore crucial (Helzer et al., 1977). If clinicians cannot agree, at least a majority of the time, about the presence or absence of symptoms, diagnostic instruments to measure psychopathology are of little use.

Tests of interview reliability fall broadly into two methodological types. In the interviewer-observer design all raters are basing their judgments on the same set of interactions between interviewer and subject. Their independent ratings are then compared to determine the degree of agreement. This method provides an index of reliability of independent rates to apply the rating rules to one set of responses and observations. The Inter-rater reliability for the SCICA syndromes was acceptable for almost all scales except the Immature and Attention Problems scales with a mean of .71 over all scales.

The second type of design is the test-retest method in which subjects are interviewed by different raters at different times. Instead of independent ratings of the same interview, two separate interview situations are created. In this design the first and second interview are conducted in close succession, assuming that the psychopathology being measured is relatively stable. This method provides an index of reliability to determine whether the interview instrument is unambiguous enough that different interviewers can arrive at similar judgments about the presumably stable psychopathology. The test-retest reliability for the SCICA was generally adequate except for the Anxious and Internalizing scales with a mean of .80 over all scales.

Generally, a structured interview for clinical and research purposes is useful only if it can be used for reliable measures of psychopathology when given by a variety of interviewers in a variety of situations. The results of the studies discussed in this chapter give confidence that the SCICA is a reliable interview.

Validity of the SCICA

Measures of validity

Validity refers to the extent to which an instrument achieves the specific goals it is aimed at, or in other words, assesses what it is assumed to assess. The SCICA is designed to assess children's and adolescents' observed and self-reported problems during a semistructured clinical interview.

Several types of validity can be relevant to the effectiveness of an instrument, including content validity, criterion-related validity, and construct validity.

Content validity refers to what extent an instrument's content represents what it is intended to assess. In other words, are items addressing observations and self-reported problems by the SCICA a reliable sample of behavioral and emotional problems in children and adolescents. As explained in chapter 3, the SCICA items were based on CBCL/4-18 and TRF items that were deemed to be appropriate to the interview situation.

Whenever possible, the original wording of the CBCL items was retained. The CBCL yielded 50 items for the SCICA Observation Form and 81 items for the SCICA Self-Report Form. The TRF yielded 12 items for the Observation Form and 6 items for the Self-Report Form. Achenbach and McConaughy developed the rest of the items from reviews of the literature, during clinical work and pilot research on the SCIC. Details on the content validity of these two instruments are discussed in the manuals for these instruments (Achenbach, 1991b,c). To what extent the SCICA Observation and Self-report items truly represent problem behavior of children and adolescents remains a subjective issue. This type of validity for the SCICA is not addressed in the present study.

Criterion-related validity reflects the extent to which a measure concords with one or more independent criteria of what is being measured. The criterion-related or predictive validity is important in determining if a

measurement can predict a certain outcome for instance caseness, as a criterion. For example, if an instrument is intended to detect psychiatric cases in the general population, the accuracy with which these cases can be detected on basis of the instrument's scores is called criterion-related validity. In the present study, referral to mental health services was chosen as the criterion for caseness to study this aspect of validity of the SCICA.

Construct validity refers to the relationship of an instrument to theories and related concepts and constructs. Data obtained from the SCICA are intended to be meshed with data from other sources, particularly the CBCL and TRF. Testing correlations is an important method to test construct validity. By testing agreement between different indicators of the same construct the *convergent validity* can be tested.

In this chapter, the convergent validity will be reported by the relation of the SCICA to other instruments on the basis of associations of the SCICA scores with the CBCL, TRF and YSR scores.

Construct validity can also be examined by studying the consistency across different methods. The relationship with DSM-III-R diagnoses generated by the DISC-P and DISC-C will be reported as part of the construct validity.

Criterion-related validity

To assess the ability of SCICA Observation and Self-report items and SCICA syndromes to discriminate between referred and nonreferred children, analyses of variance were performed to test the differences in scores for referred versus non-referred children. These analyses were performed for all item scores and syndrome scores with referral status, age, sex and SES as independent variables.

The samples for the analyses included 185 children and adolescents referred to mental health services and 86 nonreferred children and adolescents. The mean age for the referred sample was 10.7 years of age (*s.d* = 2.9) and 11.3 years of age (*s.d* = 3.0) for the nonreferred sample.

The referred sample consisted of 61% boys and 39% girls. The nonreferred sample was composed of 48% boys and 52% girls.

The mean SES was 3.4 ($s.d = 1.7$) for the referred sample and 4.2 ($s.d = 1.6$) for the nonreferred sample on a 6-point scale (6 = highest score) according to Van Westerlaak (1975).

Three observation items (118-120) and seven self-report items (220-226) were excluded from the analyses because these items were recent additions to the SCICA protocol that had not been scored yet during the whole study-period. Table 7.1 lists the percentages of variance accounted for by effects of referral status, age, sex and SES.

Referral status differences between SCICA Observation and Self-Report items

Eighty SCICA items discriminated significantly ($p < .05$) between referred and nonreferred children and adolescents. Forty-nine of these items were Observation items and 31 were Self-report items. All effects could be considered small. According to Cohen's criteria (1988) effects accounting for 2% to 13% of the variance are considered small; effects accounting for 13% to 26% of the variance are considered medium, and effects accounting for more than 26% are considered large. The referred subjects scored higher than the nonreferred subjects on all items that showed significant effects for referral status except for the observation item 41. *Gives long, complex verbal responses* on which nonreferred children scored higher.

The items with the highest percentages of variance were: 4. *Acts too young for age*, 46. *Problems remembering facts or details*, 93. *Stubborn, sullen or irritable*, 107. *Unhappy, sad or depressed*, 147. *Reports being unhappy, sad or depressed*, 163. *Reports fears of going to school*, 168. *Reports feelings that others are out to get him/her*, 192. *Reports problems getting along with peers*, 193. *Reports problems making or keeping friends*, 205. *Reports temper tantrums or hot temper*, indicating which items differentiated most between the referred and the nonreferred sample on the basis of what could be observed or was self-reported in the interview with the child or adolescent.

McConaughy and Achenbach (1994) tested the criterion-related validity of the U.S. version of the SCICA in a group of 106 subjects, aged 6-12 years,

matched for sex, age and SES. They found 79 SCICA items that discriminated significantly between their nonreferred and referred samples. They found one item that accounted for a large effect, 6 that showed medium effects, and 72 items that showed small effects. Comparing the items that discriminated between referred and nonreferred in both studies revealed 37 concordant items. Further research is needed to investigate to what extent the differences between the two studies reflect differences in sampling, differences in referral patterns in each country or other cross-cultural differences.

Age differences

For 48 items, age differences were found. All differences reflected small effects, with percentages of variance ranging from 2% to 8%. For 27 items younger children (6-12 years) were scored significantly higher ($p < .05$) than adolescents (12-17 years) with the largest differences for items; 32. *Doesn't sit still, restless or hyperactive*, 38. *Fidgets*, 67. *Out of seat*, 126 *Reports being beaten up*, all indicating higher scores for younger children.

Older children were scored significantly higher on 21 items, with the items 189. *Reports preferring kids older than self* and 227. *Reports use of alcohol/drugs* showing largest effects. Most of the significant effects (75%) for differences between the two age groups for the observation items reflected higher scores for younger children than adolescents. While for the self-report items the opposite effect was seen, 70% of the significant age effects for the self-reported items were accounted for by adolescents being scored higher than younger children.

Sex differences

Small effects for sex differences were found for 31 items. Sixteen items were scored higher for girls than for boys with the largest effect for item 165. *Reports feeling (he)/she must be perfect* accounting for the largest effect. On 15 items boys were scored higher than girls with the largest effect for item 173. *Reports getting into physical fights* accounting for the greatest difference between boys and girls. There was no indication that there were differences between the observation and self-report items for the differences between the sexes.

Table 7.1 Percentage of variance accounted for by significant ($p < .05$) effects of referral status, age, sex and SES in SCICA item scores for referred ($N=185$) and nonreferred ($N=86$) samples aged 6-17 years

SCICA items (observations)	Referral ¹	Age ²	Sex ³	SES ⁴
1. Acts overly confident	-	-	-	-
2. Acts seductively	-	-	-	-
3. Giggles too much	2	-	2 ^e	-
4. Acts too young for age	7	2 ^y	-	-
5. Apathetic or unmotivated	3	2 ^o	-	-
6. Argues	3	-	-	-
7. Asks for feedback on performance	-	-	-	-
8. Attempts to leave room; other than toilet	-	-	-	-
9. Avoids eye contact	3	2 ^o	-	-
10. Irresponsible, destr. or dangerous behavior	-	4 ^y	-	-
11. Behaves like opposite sex	-	-	-	-
12. Bites fingernails	-	-	-	-
13. Bizarre or unusual language	2	-	-	-
14. Blames difficulty on task or interviewer	-	-	-	-
15. Bragging, boasting	-	-	4 ^b	-
16. Burps or farts without apology	-	-	-	-
17. Can't get mind off certain thoughts; obsessions	4	-	-	-
18. Chews or sucks on clothing	-	-	-	-
19. Complains of being bored by interview or tests	2	-	2 ^b	-
20. Complains of dizziness, headaches or som. prob	2	-	-	-
21. Complains of tasks being too hard	2	-	4 ^b	-
22. Concrete thinking	2	-	-	-
23. Confused or seems to be in a fog	2	-	-	-
24. Contradicts or reverses own statements	-	-	-	-
25. Cries	-	-	-	-
26. Daydreams or gets lost in thoughts	2	-	-	-
27. Defiant, talks back, or sarcastic	2	-	-	-
28. Demands must be met immediately	2	-	-	-
29. Difficulty following directions	4	-	-	-
30. Disjointed or tangential conversation	-	4 ^y	-	-
31. Doesn't concentrate or pay attention	3	-	-	-
32. Doesn't sit still, restless or hyperactive	3	7 ^y	-	-
33. Easily distracted by external stimuli	-	2 ^y	-	-
34. Erases or crosses out a lot in writing or drawing	-	-	-	-
35. Exaggerates or makes up things	2	-	-	-
36. Explosive and unpredictable behavior	-	-	-	-
37. Feels too guilty	-	-	-	-
38. Fidgets	3	7 ^y	-	-
39. Fine motor difficulty	2	4 ^y	-	-
40. Frequently off-task	-	-	-	-

Chapter 7

Table 7.1 Contd.

SCICA items (observations)	Referral ¹	Age ²	Sex ³	SES ⁴
41. Gives long, complex verbal responses	2 ^a	-	-	-
42. Gross motor difficulty or clumsy	4	3 ^y	-	-
43. Guesses a lot; doesn't think out answers	-	-	-	-
44. Has difficulty expressing self verbally	3	-	-	-
45. Has difficulty understanding language	-	-	-	-
46. Has problems remembering facts or details	6	-	-	-
47. Hears things that aren't there during session	-	-	-	-
48. Impatient	-	4 ^y	2 ^b	-
49. Impulsive or acts without thinking	-	3 ^y	-	-
50. Is afraid of making mistakes	-	-	-	-
51. Jokes inappropriately or too much	-	-	-	-
52. Lacks self confidence;self-deprecating remarks	-	3 ^o	-	-
53. Lapses in attention	-	2 ^y	2 ^b	-
54. Laughs inappropriately	2	-	-	-
55. Leaves room during session to go to toilet	-	2 ^y	-	-
56. Limited conversation	3	-	-	-
57. Limited fantasy or imagination	4	-	-	-
58. Lying or cheating	-	-	-	-
59. Makes odd noises	-	-	-	-
60. Messy work	-	-	-	-
61. Misbehaves, taunts or tests the limits	-	2 ^y	-	-
62. Mouth movements while writing or drawing	-	4 ^y	-	-
63. Needs coaxing	-	-	-	-
64. Needs repetition of questions	3	-	-	-
65. Nervous, high-strung or tense	-	-	-	-
66. Nervous movements, twitching, tics	4	-	-	-
67. Out of seat	-	7 ^y	-	-
68. Overly anxious to please	-	-	-	-
69. Perseverates on a topic	-	2 ^y	-	-
70. Picks or scratches nose, skin, or other parts	-	2 ^y	-	-
71. Plays with own sex parts	-	-	-	-
72. Refuses to talk	2	-	-	-
73. Reluctant to discuss feelings or personal issues	-	-	-	-
74. Reluctant to guess	-	-	-	-
75. Repeats certain acts over and over; comp.	2	-	-	-
76. Resistant or refuses to comply	3	-	-	-
77. Says "don't know" a lot	2	-	-	-
78. Screams	-	-	-	-
79. Secretive, keeps things to self	-	2 ^o	-	-
80. Seems overtired or fatigued	2	-	-	-
81. Seems too dependant on interviewer	-	-	-	-
82. Seems unresponsive to humor	2	-	-	-

Table 7.1 Contd.

SCICA items (observations)	Referral ¹	Age ²	Sex ³	SES ⁴
83. Self-conscious or easily embarrassed	-	2 ^o	-	-
84. Shows off, clowns or acts silly	4	2 ^y	-	-
85. Shy or timid	-	-	-	-
86. Slow to respond verbally	2	-	-	-
87. Slow to warm up	3	-	-	-
88. Speech problem	2	2 ^y	-	-
89. Stares blankly	-	-	-	-
90. Stares intensely at interviewer	-	-	-	-
91. Strange behavior	5	-	-	-
92. Strange ideas	2	-	-	-
93. Stubborn, sullen or irritable	8	-	-	2 ^h
94. Sucks fingers or thumb	-	-	-	-
95. Sudden changes in mood or feelings	2	-	-	-
96. Sulks	-	-	3 ^s	-
97. Suspicious	-	-	-	-
98. Swearing or obscene language	-	-	-	-
99. Talks aloud to self	-	-	-	-
100. Talks too much	-	-	2 ^s	-
101. Temper tantrums, hot temper or seems angry	-	-	-	-
102. Too concerned with neatness, cleanliness/order	-	-	2 ^s	-
103. Too fearful or anxious	4	-	-	-
104. Tremors in hands or fingers	-	-	-	-
105. Tries to control or manipulate interviewer	-	2 ^y	-	-
106. Underactive or slow moving	2	3 ^o	-	-
107. Unhappy sad or depressed	7	2 ^o	-	-
108. Unhappy pitch or tone of voice	-	-	-	-
109. Unusually changeable behavior	-	3 ^y	-	-
110. Unusually loud	-	-	-	-
111. Unusually quiet voice	-	-	-	-
112. Wants to quit or does quit tasks	2	-	-	-
113. Whines	-	-	-	-
114. Withdrawn, doesn't get involved	3	-	-	-
115. Works quickly and carelessly	-	-	-	-
116. Worries	-	-	-	-
117. Yawns	-	-	-	-
118. Denies responsibility or blames others	NA	NA	NA	NA
119. Flat affect	NA	NA	NA	NA
120. Overly dramatic	NA	NA	NA	NA

Chapter 7

Table 7.1 Contd.

SCICA items (self-report)	Referral ¹	Age ²	Sex ³	SES ⁴
122. Reports acts of cruelty, bullying or meanness	-	-	3 ^b	-
123. Reports arguing or fighting with siblings	-	-	-	-
124. Reports arguing or verbal altercations	-	3 ^y	-	2 ^l
125. Reports behaving like opposite sex	-	-	-	-
126. Reports being beaten up by others	-	6 ^y	2 ^b	3 ^l
127. Reports being bored in situations	-	5 ^o	-	-
128. Reports being confused or in a fog	2	-	-	-
129. Reports being cruel to animals	-	-	-	-
130. Reports being disobedient at home	5	-	-	-
131. Reports being disobedient at school	-	-	4 ^b	-
132. Reports being impulsive	-	-	-	-
133. Reports being jealous of others	-	5 ^o	-	-
134. Reports being lonely or left out	3	-	-	-
135. Reports being physically harmed by parent	-	-	-	-
136. Reports being punished a lot at home, spanking	2	4 ^y	-	2 ^l
137. Reports being self-conscious or embarrassed	-	3 ^o	-	-
138. Reports being sexually abused	-	-	2 ^f	-
139. Reports being shy or timid	-	-	-	-
140. Reports being suspicious	-	-	-	4 ^l
141. Reports being too fearful or anxious	2	-	-	-
142. Reports being treated unfairly at home	2	-	-	-
143. Reports being treated unfairly at school	-	-	-	-
144. Reports being unable to concentrate	-	-	-	-
145. Reports being unable to sit still, hyperactive	-	-	-	-
146. Reports being underactive, slow, no energy	-	-	-	-
147. Reports being unhappy, sad or depressed	8	-	-	-
148. Reports bowel movements outside toilet	-	-	-	-
149. Reports compulsive acts	-	-	-	-
150. Reports concern about family problems	-	2 ^o	-	-
151. Reports concerns with neatness or cleanliness	-	-	-	-
152. Reports crying a lot	4	-	5 ^f	-
153. Reports daydreaming or lost in thoughts	-	-	-	-
154. Reports deliberately harming self or suicide	2	-	-	-
155. Reports destroying own property	-	-	-	-
156. Reports destroying property bel. to others	-	-	2 ^b	-
157. Reports difficulty following directions	2	-	-	-
158. Reports difficulty learning	-	-	-	-
159. Reports disliking school or work	3	-	-	-
160. Reports fear of making mistakes	4	-	-	2 ^b
161. Reports fearing he/she might think bad	2	-	-	-
162. Reports fears of certain people, animals	-	-	-	-
163. Reports fears of going to school	6	-	-	-

Table 7.1 *Contd.*

SCICA items (self-report)	Referral ¹	Age ²	Sex ³	SES ⁴
164. Reports feeling guilty	-	3 ^o	-	-
165. Reports feeling he/she must be perfect	2	-	6 ^s	-
166. Reports feeling hurt when criticized	5	3 ^o	2 ^s	-
167. Reports feeling nervous or tense	-	-	3 ^s	2 ^b
168. Reports feeling other are out to get him/her	6	-	-	-
169. Reports feeling overtired	-	2 ^o	2 ^s	-
170. Reports feeling that no one loves him/her	4	-	-	-
171. Reports feeling worthless or inferior	-	2 ^o	3 ^s	-
172. Reports getting hurt a lot, being accident-prone	-	-	-	-
173. Reports getting into physical fights (- siblings)	2	2 ^y	6 ^b	-
174. Reports getting teased or picked on, + siblings	4	5 ^y	-	-
175. Reports hanging around others in trouble	-	-	3 ^b	-
176. Reports hating or disliking brother or sister	-	-	-	-
177. Reports hating or disliking mother or father	-	2 ^o	-	-
178. Reports hating or disliking teacher/boss	-	-	-	-
179. Reports having nightmares	-	3 ^y	-	-
180. Reports hearing things that aren't there	-	-	-	-
181. Reports lack of attention from parents	-	-	-	-
182. Reports lacking guilt after misbehaving	-	-	-	-
183. Reports lying or cheating	-	-	-	-
184. Reports neglect of basic needs by parent	-	-	-	-
185. Reports not being liked by peers	-	-	-	-
186. Reports not getting along with mother or father	4	-	-	-
187. Reports obsessive thoughts	2	-	2 ^s	-
188. Reports physically attacking people, + siblings	-	-	-	-
189. Reports preferring kids older than self	-	6 ^o	-	-
190. Reports preferring to be alone	-	-	3 ^s	-
191. Reports preferring kids younger than self	-	-	-	-
192. Reports getting along with peers	6	-	-	-
193. Reports problems making or keeping friends	7	-	-	-
194. Reports problems with school work or job	2	4 ^o	-	-
195. Reports running away from home	-	-	-	-
196. Reports screaming	2	-	-	-
197. Reports seeing things that aren't there	-	-	-	-
198. Reports setting fires	-	-	2 ^b	-
199. Reports showing off or clowning	-	-	-	-
200. Reports stealing at home	-	-	-	-
201. Reports stealing outside of home	-	-	-	-
202. Reports storing up things he/she doesn't need	-	-	2 ^s	-
203. Reports sudden changes in mood and feelings	-	2 ^o	-	-
204. Reports teasing others, including siblings	-	-	2 ^b	-
205. Reports temper tantrums or hot temper	7	-	-	-

Table 7.1 *Contd.*

SCICA items (self-report)	Referral ¹	Age ²	Sex ³	SES ⁴
206. Reports thinking about sex a lot	-	-	3 ^b	-
207. Reports threatening other people	-	-	-	-
208. Reports trouble sleeping	-	-	2 ^f	-
209. Reports truancy, skipping school or job	4	4 ^o	-	4 ^h
210. Reports vandalism	-	-	-	-
211. Reports wetting bed	-	-	-	-
212. Reports wetting self during day	-	-	-	-
213. Reports wishing to be of the opposite sex	-	-	-	-
214. Reports worrying	-	-	-	-
215. Talks about death, incl. animals, family	-	-	-	-
216. Talks about deliberately harming self / suicide	2	-	-	-
217. Reports sexual problems or excessive activity	-	-	-	-
218. Talks about phys. attacking, hurting, killing	-	-	-	-
219. Talks about war or generalized violence	-	-	-	-
220. Talks about getting revenge - phys. attack	NA	NA	NA	NA
221. Reports being mad or angry	NA	NA	NA	NA
222. Reports strange behavior	NA	NA	NA	NA
223. Reports conflict with family; plans work/edu.	NA	NA	NA	NA
224. Reports conflict with family; social activities	NA	NA	NA	NA
225. Reports problems sexual identity/homosex.	NA	NA	NA	NA
226. Reports problems in relations with opp. sex	NA	NA	NA	NA
227. Reports alcohol/drug use without permission	-	8 ^o	3 ^B	-
228. Reports aches or pains	2	-	-	-
229. Reports headaches	-	-	-	-
230. Reports nausea, feeling sick	-	-	-	-
231. Reports overeating	-	-	4 ^f	-
232. Reports problems with eyes	2	-	-	-
233. Reports rashes, skin problems	-	-	-	-
234. Reports stomachache, cramps	-	-	-	-
235. Reports vomiting, throwing up	-	-	-	-

Note. ¹ = All significant differences reflect higher scores for referred children, except ² = where scores for non-referred children are higher.

² = ^y Younger children had significantly higher scores than older ones,

^o older children had significantly higher scores than younger ones.

³ = ^b Boys had significantly higher scores than girls,

^f girls had significantly higher scores than boys.

⁴ = ¹ Significantly higher scores for lower SES,

^h significantly lower scores for higher SES.

NA = Not applicable; recent additions to SCICA protocol, not scored during the whole study-period.

Referral status, age, sex and SES differences for SCICA syndromes and Total Observations and Total Self-Report scores.

Analyses of variance were also performed on the SCICA syndromes and total observation and self-report scores to reveal their ability to discriminate between referred and non-referred children, different age groups, boys and girls and different levels of socio-economic status. The effects found for referral status were larger than those for age, sex and SES, supporting the divergent validity of the SCICA.

Table 7.2 shows the percentage of variance accounted for by significant associations with referral status, age, sex and SES for each syndrome and total observation and self-report scores.

Referral Status

The ability of the SCICA syndromes to discriminate between referred versus non-referred children was higher than for the SCICA syndromes than for the individual SCICA items. Except for the Anxious Syndrome all syndromes, Total Observation and Total Self-Report scores discriminated significantly, with referred children getting higher scores than non-referred children.

The Lonely, Withdrawn, Family Problems, Strange, Attention Problems, Aggressive Behavior, Externalizing and Total Self-Report scales accounted for small effects whereas the Immature, Internalizing and Total Observations scores accounted for medium effects.

Age

Younger children had significantly higher scores on the Resistant, Attention Problems, Externalizing and Total Observations scales, all accounting for small effects. Older children had significantly higher scores on the Family Problems and Total Self-report scales, also accounting for small effects. The syndromes on which younger children had significantly higher scores than older ones consist primarily of observation items, whereas the syndrome on which older children had significantly higher scores consist of self-report items. This difference was also reflected in the significant differences for Total Observations and Total Self-reports.

Sex

Significant differences reflected sex effects with higher scores for boys than girls on the Immature, Attention Problems, Aggressive Behavior, Externalizing and Total Observation scales.

The only scale on which girls had significantly higher scores was the Anxious scale. All differences found for sexes revealed small effects.

Whether these differences reflect a true difference in problembehavior between boys and girls cannot be concluded from these data.

SES

The four differences found for socio-economic status indicated that children with lower SES had higher scores for the syndromes Immature, Internalizing, Total Observations and Total Self-Reports. These differences could indicate an overall higher level of pathology in children with a lower socio-economic background.

Table 7.2 Percentage of variance accounted for by significant ($p < .05$) effects of referral status, age, sex and SES in SCICA Syndrome and total observation and self report scores for referred ($N=185$) and nonreferred ($N=86$) samples aged 6-17 years

SCICA Syndromes	Referral ¹	Age ²	Sex ³	SES ⁴
Immature ^{ob}	14	-	2 ^b	7 ¹
Lonely ^{sr}	10	-	-	-
Anxious ^{sr}	-	-	4 ^g	-
Withdrawn ^{ob}	7	-	-	-
Family Problems ^{sr}	5	5 ^u	-	-
Resistant ^{ob}	6	2 ^y	-	-
Strange ^{ob}	2	-	-	-
Attention Problems ^{ob}	7	5 ^y	4 ^b	-
Aggressive Behavior ^{sr}	6	-	7 ^b	-
Internalizing	15	-	-	9 ¹
Externalizing	8	2 ^y	3 ^b	-
Total Observations	18	2 ^y	1 ^b	4 ¹
Total Self-reports	12	2 ^u	-	4 ¹

Note. ¹ = All significant differences reflect higher scores for referred children.

² = ^y Younger children had significantly higher scores than older ones,

^u Older children had significantly higher scores than younger ones

³ = ^b Boys had significantly higher scores than girls,

^g Girls had significantly higher scores than boys.

⁴ = ¹ Significantly higher scores for lower SES,

^{ob} = SCICA Observation item(s)

^{sr} = SCICA Self-Report Item(s)

Construct Validity

To determine the construct validity of the SCICA, Pearson correlations between the SCICA syndromes scores and CBCL, YSR and TRF syndrome scores were computed. Correlations between SCICA and CBCL (table 7.3), YSR (Table 7.4) and TRF (Table 7.5) scores can be regarded as indications of construct validity of the SCICA. Relations between the SCICA and YSR scores represent the best approximation to construct validity sharing construct

and informant, only differing in method, i.e. self-report vs interview and observation.

Correlations with CBCL Scores

Table 7.3 lists the significant correlations between SCICA syndrome scores and CBCL syndrome scores with correlations ranging from .14 to .59.

The SCICA syndrome Anxious correlated highest with CBCL syndromes Somatic Complaints and Anxious/Depressed, both correlations were .27. The SCICA syndromes Lonely and Immature, both correlated highest with CBCL syndrome Social Problems with correlations of .42 and .37 respectively.

The SCICA syndrome Withdrawn correlated highest with the CBCL syndrome Withdrawn (.37). The SCICA Syndrome Family problems correlated significantly with all CBCL syndromes with the highest correlation (.37) with the CBCL Syndrome Delinquent.

Although the SCICA syndrome Attention Problems correlated significantly with the CBCL syndrome Attention Problems (.34) a higher correlation of .41 was found with CBCL syndrome Aggressive Behavior.

The SCICA syndromes Resistant and Strange correlated highest with the CBCL Externalizing scale, with respectively correlations of .36 and .28. The SCICA syndrome Aggressive Behavior also correlated highest with the CBCL Externalizing scale (.59) and correlated .55 with the CBCL syndrome Aggressive Behavior.

The SCICA Internalizing scale correlated highest (.40) with CBCL syndrome Social Problems and with the CBCL Internalizing scale (.36). The SCICA syndrome Externalizing correlated highest (.50) with the CBCL Externalizing scale .

The SCICA total Observations correlated highest (.39) with the CBCL syndrome Attention Problems and .37 with CBCL Total Problem score. SCICA total Self-reports correlated highest, .50 with CBCL Total Problem score.

Correlations with YSR Scores.

As expected, the correlations between SCICA syndrome scores and YSR

syndrome scores were overall higher than for the CBCL syndromes, especially for the SCICA Self-Reports.

The SCICA syndrome Anxious correlated highest (.38) with the YSR syndromes Internalizing and Anxious/Depressed but the SCICA syndrome Lonely correlated even higher with these syndromes, .54 and .56, respectively. Besides those correlations The SCICA syndrome Lonely correlated significantly with all other YSR syndromes too.

The SCICA syndrome Immature correlated highest (.33) with the YSR syndrome Attention Problems. SCICA syndrome Withdrawn correlated significantly with CBCL syndromes Withdrawn and Internalizing, .18 and .17, respectively. The SCICA syndrome Family Problems correlated with all YSR Syndromes but highest (.38) with YSR Total Problems.

The SCICA syndrome Attention Problems correlated with the YSR syndrome Attention Problems (.24). Only correlations of this SCICA syndrome with the YSR syndromes Aggressive Behavior and Externalizing were higher (.33) for both. For the YSR syndrome Resistant only 3 significant correlations with YSR syndromes were found, with the YSR syndromes: Thought Problems, Externalizing and Total Problem Score, all .19. The YSR Thought Problems also correlated with SCICA syndrome Strange (.31).

Except for the YSR syndrome Somatic Problems, the SCICA syndrome Aggressive Behavior correlated with all YSR syndromes, with highest correlations for Aggressive Behavior (.41), Delinquent Behavior (.43) and Externalizing (.45).

The SCICA syndrome Internalizing correlated highest with YSR syndrome Anxious/Depressed (.54) and with the YSR Internalizing scale (.53). The highest correlation for SCICA syndrome Externalizing was with the YSR Externalizing scale (.36).

The YSR Anxious/Depressed scale correlated highest with both SCICA Total Observations and Total Self-reports, .38 and .64 respectively. SCICA Total Self-Report also correlated high with YSR syndrome Internalizing and the YSR Total Problem scale, .61 and .62, respectively.

Correlations with TRF

Fewest significant correlations with SCICA syndromes were found for the TRF syndromes, but interestingly some of the highest correlations with specific SCICA syndromes (Attention Problems, Resistant, Externalizing and Total SCICA Observations) were accounted for by TRF syndromes.

For the SCICA syndrome Anxious no significant correlations were found with any of the TRF syndromes. The SCICA syndrome Lonely correlated highest (.38) with TRF syndrome Social Problems. For the SCICA syndrome Immature highest correlations were found with the TRF syndromes Thought Problems and Attention Problems (.36) both. The only significant correlation found for the SCICA syndrome Withdrawn was with the TRF syndrome Withdrawn (.26). The SCICA syndrome Family problems correlated only with two TRF Syndromes, Social Problems (.23) and Delinquent Behavior (.25).

For the SCICA syndrome Attention Problems the highest correlation (.40) was found for TRF syndrome Attention Problems. The SCICA syndrome Resistant correlated highest (.38) with both TRF syndromes Aggressive Behavior and Externalizing. The SCICA syndrome Strange correlated highest (.29) with the TRF Total Problem scale. The SCICA syndrome Aggressive Behavior correlated significantly with the TRF syndrome Aggressive Behavior (.45) but even higher with TRF syndromes Externalizing (.49) and Delinquent Behavior (.54).

The SCICA syndrome Internalizing correlated highest (.30) with TRF syndrome Thought Problems. The SCICA syndrome Externalizing correlated highest (.49) with the TRF Externalizing scale. Total SCICA Observations correlated highest (.39) with the TRF Total Problem scale and Total SCICA Self-Report correlated highest (.27) with the TRF syndrome Delinquent Behavior.

The significant correlations of the SCICA syndrome scores with the CBCL syndrome scores appear in Table 7.3, with the YSR syndrome scores in Table 7.4, and with TRF syndrome scores in Table 7.5.

Table 7.3

Significant correlations between SCICA Syndrome scores and CBCL Syndrome scores

	WTH	SOM	AXD	SOC	THT	ADD	DEL	AGG	INT	EXT	TBP
<u>SCICA Syndromes</u>											
Anxious	-	.27 ³	.27 ³	-	.14 ¹	-	-	-	.25 ³	-	-
Lonely	.27 ³	.15 ¹	.35 ³	.42 ³	.27 ³	.33 ³	.20 ²	.28 ³	.33 ³	.27 ³	.37 ³
Immature	.21 ²	-	.20 ²	.37 ³	.23 ³	.35 ³	-	.20 ²	.22 ¹	.17 ²	.28 ³
Withdrawn	.31 ³	-	.14 ¹	.16 ¹	-	-	-	-	.19 ²	-	-
Family Problems	.25 ³	.15 ¹	.30 ³	.15 ¹	.21 ²	.23 ¹	.37 ³	.29 ³	.29 ³	.33 ³	.32 ³
Attention Problems	-	-	-	.25 ³	.21 ²	.34 ³	.26 ³	.41 ³	-	.39 ³	.31 ³
Resitant	-	-	-	.21 ²	.20 ²	.27 ³	.29 ³	.35 ³	-	.36 ³	.30 ³
Strange	-	-	-	.14 ¹	.20 ²	.17 ²	.24 ³	.27 ³	-	.28 ³	.24 ³
Aggressive Behavior	-	-	-	.26 ³	.28 ³	.33 ³	.57 ³	.55 ³	-	.59 ³	.43 ³
Internalizing	.27 ³	.23 ³	.36 ³	.40 ³	.31 ³	.35 ³	-	.20 ²	.36 ³	.18 ²	.36 ³
Externalizing	-	-	.16 ²	.28 ³	.28 ³	.35 ³	.42 ³	.49 ³	.13 ¹	.50 ³	.40 ³
Total Observations	.22 ³	-	.22 ³	.36 ³	.29 ³	.39 ³	.22 ³	.34 ³	.22 ³	.33 ³	.37 ³
Total Self-Report	.28 ³	.28 ³	.46 ³	.33 ³	.41 ³	.36 ³	.43 ³	.41 ³	.43 ³	.44 ³	.50 ³

Note. Correlations significant at ¹ $p < 0.05$, ² $p < 0.01$, ³ $p < 0.001$.

CBCL Syndromes: WTH=Withdrawn; SOM=Somatic Complaints; AXD=Anxious/Depressed; SOC=Social Problems;

THT=Thought Problems; ADD=Attention Problems; DEL=Delinquent Behavior; AGG=Aggressive Behavior;

INT=Internalizing; EXT= Externalizing; TBP=Total CBCL Problem Score.

Table 7.4
Significant correlations between SCICA Syndrome scores and YSR Syndrome scores

	WTH	SOM	AXD	SOC	THT	ADD	DEL	AGG	INT	EXT	TBP
<u>SCICA Syndromes</u>											
Anxious	.28 ²	.27 ²	.38 ³	.18 ¹	.26 ²	-	-	-	.38 ³	-	.27 ²
Lonely	.53 ³	.24 ²	.56 ³	.54 ³	.31 ³	.33 ³	.20 ¹	.31 ³	.54 ³	.30 ²	.52 ³
Immature	.24 ²	-	.27 ²	.30 ²	.20 ²	.33 ³	-	.18 ¹	.26 ²	-	.27 ²
Withdrawn	.18 ¹	-	-	-	-	-	-	-	.17 ¹	-	-
Family Problems	.26 ²	.17 ¹	.35 ³	.26 ²	.28 ²	.23 ²	.28 ²	.34 ³	.32 ³	.35 ³	.38 ³
Attention Problems	-	-	.20 ¹	-	-	.24 ²	.25 ²	.33 ³	.18 ¹	.33 ³	.28 ²
Resistant	-	-	-	-	.19 ¹	-	-	-	-	.19 ¹	.19 ¹
Strange	-	-	.21 ¹	-	.31 ³	-	-	.22 ¹	.20 ¹	.22 ¹	.24 ²
Aggressive Behavior	.21 ¹	-	.23 ²	.18 ¹	.18 ¹	.27 ²	.43 ³	.41 ³	.23 ²	.45 ³	.36 ³
Internalizing	.48 ²	.30 ²	.54 ³	.47 ³	.33 ³	.38 ³	-	.24 ²	.53 ³	.21 ¹	.48 ³
Externalizing	-	-	.25 ²	-	.29 ²	.22 ¹	.31 ²	.34 ³	.23 ²	.36 ³	.33 ¹
Total Observations	.27 ²	.20 ¹	.38 ³	.28 ²	.27 ²	.30 ²	-	.22 ²	.35 ³	.21 ¹	.35 ³
Total Self-Report	.54 ³	.33 ³	.64 ³	.43 ³	.47 ³	.38 ³	.31 ³	.41 ³	.61 ³	.41 ³	.62 ³

Note. Correlations significant at ¹ $p < 0.05$, ² $p < 0.01$, ³ $p < 0.001$.

YSR Syndromes: WTH=Withdrawn; SOM=Somatic Complaints; AXD=Anxious/Depressed; SOC=Social Problems;
THT=Thought Problems; ADD=Attention Problems; DEL=Delinquent Behavior; AGG=Aggressive Behavior;
INT=Internalizing; EXT= Externalizing; TBP=Total YSR Problem Score.

Table 7.5
Significant correlations between SCICA Syndrome scores and TRF Syndrome scores

	WTH	SOM	AXD	SOC	THT	ADD	DEL	AGG	INT	EXT	TBP
<u>SCICA Syndromes</u>											
Anxious	-	-	-	-	-	-	-	-	-	-	-
Lonely	-	-	-	.38 ³	-	.23 ¹	.18 ¹	-	-	.18 ¹	.25 ²
Immature	-	-	.19 ¹	.26 ²	.36 ³	.36 ³	-	.22 ¹	.19 ¹	.21 ¹	.35 ³
Withdrawn	.26 ²	-	-	-	-	-	-	-	-	-	-
Family Problems	-	-	-	.23 ²	-	-	.25 ²	-	-	-	-
Attention Problems	-	-	-	.20 ¹	.19 ¹	.40 ³	.22 ¹	.38 ¹	-	.36 ³	.34 ³
Resistant	-	-	-	.24 ²	-	.30 ²	.30 ²	.38 ³	-	.38 ³	.32 ³
Strange	-	-	-	.19 ¹	.27 ²	.28 ²	.27 ²	.27 ²	-	.28 ²	.29 ²
Aggressive Behavior	-	-	-	.27 ²	.25 ²	.39 ³	.54 ³	.45 ³	-	.49 ³	.45 ³
Internalizing	-	-	.19 ¹	.33 ³	.30 ²	.28 ²	-	-	.19 ¹	-	.29 ²
Externalizing	-	-	-	.31 ²	.28 ²	.44 ³	.44 ³	.48 ³	-	.49 ³	.45 ³
Total Observations	-	-	-	.29 ²	.34 ³	.38 ³	.23 ²	.33 ³	-	.33 ³	.39 ³
Total Self-Report	-	-	-	.31 ³	.18 ¹	.18 ¹	.27 ²	-	-	-	.22 ¹

Note. Correlations significant at ¹ $p < 0.05$, ² $p < 0.01$, ³ $p < 0.001$.

TRF Syndromes: WTH=Withdrawn; SOM=Somatic Complaints; AXD=Anxious/Depressed; SOC=Social Problems; THT=Thought Problems; ADD=Attention Problems; DEL=Delinquent Behavior; AGG=Aggressive Behavior; INT=Internalizing; EXT= Externalizing; TBP=Total TRF Problem Score.

Relations with DSM diagnostic categories

As part of the validity studies of the SCICA, the relationship between SCICA syndromes and DSM Diagnoses as generated by DISC interviews was studied. 175 Parents of subjects were interviewed with the parent version of the Diagnostic Interview Schedule for Children (DISC-P) and 44 children and adolescents were interviewed with the child version (DISC-C). Analyses of variance were performed on the SCICA syndromes and total observation and self-report scores for different DSM diagnoses as generated by DISC-P and DISC-C interviews to reveal significant differences in SCICA syndromes scores for DSM diagnostic categories. These analyses revealed significant relations between SCICA syndromes and DSM diagnostic categories generated by DISC-P (table 7.6) and DISC-C (table 7.7) interviews.

Relations with DISC-P generated DSM diagnoses

SCICA syndrome Anxious showed significant relations with DSM Diagnoses Any Anxiety, Any Mood and Any Disruptive Disorder generated by the DISC interview with the parent, with the highest *F* value for Any Anxiety Disorder. SCICA syndrome Lonely showed significant relations with Any Disruptive and Any DSM Disorder. SCICA syndrome Immature didn't show a relation with any of the DSM diagnoses. The SCICA syndrome Withdrawn showed a significant relation with Any DSM disorder.

The SCICA syndrome Family Problems showed significant relationships with Any Mood and Any Disruptive Disorder. The SCICA syndromes Attention Problems, Resistant and Strange all showed significant relations with Any Disruptive Disorder. The SCICA syndrome Aggressive Behavior also showed a significant relationship with Any Disruptive Disorder besides accounting for the highest *F* value, and also with Any DSM Disorder.

The SCICA Internalizing scale showed a significant relation with Any Anxiety disorder and SCICA Externalizing scale showed a significant relation with Any Disruptive disorder.

Total SCICA Observations showed no significant relation with any of the DSM Diagnostic categories whereas Total SCICA Self-Reports showed significant relationships with all the the DSM Diagnostic categories, with the

highest F value for Any Mood disorder.

Relations with DISC-C generated DSM diagnoses

Forty-four children were not only interviewed with the SCICA but also with the DISC-C to reveal relationships between SCICA syndromes and DSM diagnoses generated by child interview information.

Of the SCICA syndromes only Lonely showed a significant relations with DSM diagnoses Any Anxiety disorder and Any Mood disorder as generated by the DISC interview with the child or adolescent.

The SCICA Internalizing scale showed significant relations with Any Anxiety and Any Mood disorder. The SCICA Externalizing on the other hand showed a significant relation with Any Disruptive disorder.

SCICA Total Observations showed significant relations with all the DSM diagnostic categories, with the highest F value for Any DSM disorder. SCICA Total Self-Reports showed significant relations with Any Anxiety and Any Mood Disorder.

Table 7.6 Percent of variance accounted for by significant ($p < .05$) effects of present DISC-P generated DSM-III-R diagnoses in SCICA syndrome scale scores for referred ($N=175$) sample.

DSM-III-R Diagnoses	Any Anxiety Disorder N=91 (52%)	Any Mood Disorder N=52 (30%)	Any Disruptive Disorder N=76 (43%)	Any Disorder N=145 (83%)
<u>SCICA Syndromes</u>				
Anxious ^{sr}	5.1 ($F=9.28$) ²	3.7 ($F=6.67$) ¹	2.4 ($F=4.21$) ¹	-
Lonely ^{sr}	-	-	4.7 ($F=8.60$) ²	3.0 ($F=5.30$) ¹
Immature ^{ob}	-	-	-	-
Withdrawn ^{ob}	-	-	-	2.4 ($F=4.24$) ¹
Family Problems ^{sr}	-	4.6 ($F=8.32$) ²	5.1 ($F=9.23$) ¹	-
Attention Problems ^{ob}	-	-	6.5 ($F=11.76$) ²	-
Resistant ^{ob}	-	-	7.0 ($F=12.89$) ³	-
Strange ^{ob}	-	-	2.5 ($F=4.41$) ¹	-
Aggressive Behavior ^{sr}	-	-	16.0 ($F=26.52$) ³	4.2 ($F=7.68$) ²
Internalizing	3.0 ($F=5.19$) ¹	-	-	-
Externalizing	-	-	13.6 ($F=8.29$) ²	-
Total Observations	-	-	-	-
Total Self-Reports	2.7 ($F=4.76$) ¹	8.5 ($F=16.01$) ³	4.6 ($F=8.29$) ²	5.5 ($F=10.14$) ²

Note. F Values significant at ¹ $p < 0.05$, ² $p < 0.01$, ³ $p < 0.001$.

Table 7.7 Percent of variance accounted for by significant ($p < .05$) effects of present DISC-C generated DSM-III-R diagnoses in SCICA syndrome scale scores for referred ($N=44$) sample.

DSM-III-R Diagnoses	Any Anxiety Disorder N=16 (36 %)	Any Mood Disorder N=11 (25%)	Any Disruptive Disorder N=5 (11%)	Any Disorder N=31 (70%)
<u>SCICA Syndromes</u>				
Anxious ^{af}	-	-	-	-
Lonely ^{af}	15.7 ($F=7.83$) ³	12.8 ($F=6.17$) ¹	-	-
Immature ^{ob}	-	-	-	-
Withdrawn ^{ob}	-	-	-	-
Family Problems ^{af}	-	-	-	-
Attention Problems ^{ob}	-	-	-	-
Resistant ^{ob}	-	-	-	-
Strange ^{ob}	-	-	-	-
Aggressive Behavior ^{af}	-	-	-	-
Internalizing	11.0 ($F=5.20$) ¹	9.3 ($F=4.32$) ¹	-	-
Externalizing	-	-	10.0 ($F=4.46$) ¹	-
Total Observations	10.0 ($F=4.66$) ³	11.8 ($F=5.6$) ¹	11.7 ($F=5.58$) ¹	17.7 ($F=9.01$) ²
Total Self-Reports	12.2 ($F=5.85$) ³	12.1 ($F=5.81$) ¹	-	-

Note. F Values significant at ¹ $p < 0.05$, ² $p < 0.01$, ³ $p < 0.001$.

Conclusion

The studies as reported in this chapter can be seen as evidence for validity of the SCICA, with better results for construct validity than for criterion related validity. Construct validity is generally regarded as one of the most important indices of the utility of a diagnostic measure, and in principle, the comparison of the construct validity for different diagnostic instruments should provide an objective guide to the relative merits of these measures.

Testing the construct validity of the SCICA syndromes, the syndrome Anxious correlated significantly with the similar syndrome on the CBCL and YSR and with Any Anxiety DSM Disorder as generated by the DISC-P. The SCICA syndrome Lonely correlated significantly with related syndromes Withdrawn and Social Problems on the CBCL, YSR and TRF, and Any Anxiety DSM Disorder as generated by the DISC-C. The SCICA syndrome Immature correlated significantly with related syndrome Social Problems on the CBCL and YSR. The SCICA syndrome Withdrawn correlated significantly with the similar syndrome on the CBCL, YSR and TRF. The SCICA syndrome Family Problems, for which no equivalent exists on the other instruments, correlated significantly with the Delinquent syndrome on the CBCL and Any Disruptive DSM Disorder as generated by the parent interview, and the Total Problem score for the YSR. The SCICA syndrome Attention Problems correlated significantly with the similar syndrome on the CBCL, YSR and TRF, and with Any Disruptive DSM Diagnoses (containing the Attention Deficit and Hyperactivity Disorder) as generated by the DISC-P. The SCICA syndrome Resistant, for which no equivalent exists on the other instruments, correlated significantly with the Externalizing syndromes on the CBCL, YSR and TRF and with Any Disruptive DSM Diagnoses as generated by the DISC-P. The SCICA syndrome Strange correlated significantly with the related syndrome Thought Problems on the YSR. The SCICA syndrome Aggressive Behavior correlated significantly with the similar syndrome on the CBCL, YSR and TRF and with the related syndrome Delinquent on the same instruments, and with Any Disruptive DSM Diagnosis (containing Conduct Disorder).

The SCICA Internalizing scale correlated significantly with the similar

scale on CBCL and YSR and with Any Anxiety DSM Disorder generated by the DISC-C and DISC-P and with Any Mood DSM Disorder as generated by the DISC-P. The SCICA syndrome Externalizing correlated significantly with the same syndrome on the CBCL, YSR and TRF, and with Any Disruptive DSM Disorder as generated by the DISC-C and DISC-P.

The SCICA Total Observations and Total Self-Report scores correlated significantly with the related Total Problem scores on CBCL, YSR and TRF, and SCICA Total Self-Report with Any DSM Disorder as generated by the DISC-C and SCICA Total Observation with Any DSM Disorder as generated with the DISC-P.

In view of the lower criterion-related validity of the SCICA, the evidence for the construct validity of the SCICA scales and Total Observation and Total Self-Report scores is very important in the validation process of the SCICA. The construct validity is proven by significant correlations between almost every SCICA scale scores and scores on similar or related scales of instruments with ratings by parents, teachers or self-reports. The construct validity of the SCICA is further supported by significant relations between the SCICA syndromes and DSM diagnostic categories as generated by structured interviews with both parents and children and adolescents.

CHAPTER 8

Discussion

The aim of this study was the development of the Dutch version of a semi-structured clinical interview to assess psychopathology in children and adolescents and the testing of its psychometric properties. In this chapter the main conclusions of the study and some suggestions for implementation in clinical and research settings will be discussed.

Starting with the efforts of Rutter and Graham (1968) substantial effort has been devoted to designing and improving psychiatric assessment procedures for behavioral and emotional disorders in children and adolescents. A broad diversity of assessment techniques have been employed, including self-report measurements, structured interviews, psychological testing, observations and peer reports.

With regard to improving reliability and validity of psychiatric assessment (Cantwell and Baker, 1988; Hodges, 1993; Young et al., 1987) development of structured clinical interviews is important for clinical and research purposes. Besides acknowledgment of the strengths of structured clinical interviews currently in use, there is a growing recognition of some limitations for clinical and research purposes. One limitation is the imbalance between a strict interview format and children's developmental level. Connected to this limitation is the over-reliance on interview data, without using other types of information, like observations during the interview. Another limitation is the fact that despite recognizing low agreement between children and parents on specific diagnoses (Achenbach et al., 1987; Bird et al., 1992; Hodges et al., 1990; Jensen et al., 1995; Verhulst et al., 1997; Welner et al., 1990), most instruments have algorithms that apart from providing diagnoses based on informants independently also aggregate data obtained from both informants. Further limitations emerge in these instruments key to nosological systems like the Diagnostic and Statistical manual of Mental disorders (DSM). Nosological systems operationalize disorders as categorical phenomena,

whereas most child psychiatric disorders can be regarded quantitative phenomena. Thresholds of symptomatology determined by the existing nosology to differentiate between presence or absence of a disorder, are mostly arbitrary and not based on empirical data.

Including the advantages of structured and semi-structured clinical interviews, the Semistructured Clinical Interview for Children and Adolescents (SCICA) (McConaughy and Achenbach, 1994) was developed in an attempt to overcome these limitations. The SCICA was designed to provide a standardized clinical interview for children and adolescents providing quantitative scores for observed behavior and self-reported problems on empirically derived syndromes to be used for clinical and research purposes. To provide a basis for comparing data from the interview with the child to data from other sources the SCICA was developed as one component of multi axial empirically based assessment.

The semi-structured interview format allows the interviewer to choose probes and topics within content areas to accommodate the interview to the child's interest and interaction style contrary to the strict format and formulation of questions in structured interviews like CAS, DICA and DISC. This makes the interview more suitable to be used with children in general and especially with younger children than those other interviews. The contents and tasks that should be explored during the interview as well as examples of questions for each content are described on the SCICA Protocol Form.

The scoring of the interview is done quantitatively on standardized scoring forms, one to score observations done by the interviewer during the interview (SCICA Observation Form) and one to score self-reports from the child or adolescent during the interview (SCICA Self-Report Form).

Scores on both SCICA Observation and Self-Report Forms from clinically referred children and adolescents can be used to construct an empirically based profile consisting of syndrome scales for observation and self-report items. This quality is unique to the SCICA compared to other semi-structured and structured interviews that generate DSM or ICD diagnoses.

SCICA Syndrome scales

In this study, 185 referred and 86 non-referred children and adolescents, ages 6-16 were interviewed with the Dutch version of the SCICA to test the psychometric properties of that version and to explore the possibilities of the interview for clinical and research use.

Interview scores for 6-12 year old children of the referred Dutch sample (N=128) and for an American referred sample (n=168) were combined to perform principal components analyses to construct SCICA scales for ages 6-12 years.

The syndrome scales derived from the resulting factors with observation items were labeled Resistant, Withdrawn, Immature, Strange and Attention Problems. Syndrome scales derived from these factors with self-reported items were labeled Aggressive Behavior, Lonely, Anxious and Family Problems. Second-order analysis provided support for two broadband groupings of these syndrome scales that were labeled Internalizing and Externalizing.

Internalizing	Neither Internalizing nor Externalizing	Externalizing
Immature ^{OB}	Withdrawn ^{OB}	Resistant ^{OB}
Lonely ^{SR}	Family Problems ^{SR}	Strange ^{OB}
Anxious ^{SR}		Attention Problems ^{OB}
		Aggressive Behavior ^{SR}

^{OB} = SCICA Observation items; ^{SR} = SCICA Self-Report items

Comparing these syndromes to the syndromes derived from the original American sample (McConaughy and Achenbach, 1994), four of the five observations scales were similar enough to merit the same names: Resistant, Withdrawn, Strange and Attention Problems. The original American observation scale Anxious could not be replicated and for the observation scale Immature as found in this study there was no counterpart in the original American sample. For the self-report scales two were similar enough to merit

the same names, Aggressive Behavior and Family Problems. The American self-report scale Anxious/Depressed could not be replicated but shares items with both self-report scales Lonely and Anxious as found in this study.

These differences found in factor structure can be anticipated in the development of empirically based assessment and reflect the nature of research rather than an essential flaw in the instrument. The factor structure found in this study should also be considered preliminary until replicated with larger groups of referred patients. This reflects the importance of the instrument in obtaining empirical data on psychopathologic phenomena and its use in efforts to gain knowledge by further investigation and expanding data.

Psychometric properties of the Dutch SCICA

Internal consistency coefficients for the SCICA scales were quite adequate ranging from .68 to .90, with exception of the Family Problems scale (.61). However this measure of reliability is no guarantee that a scale will give the same results for repeated assessments even when target phenomena remain constant. Moreover, a perfect internal consistency could be reached if a scale was composed of a repetition of the same item instead of scale composed of several items describing different aspects providing more information despite lower internal consistency. More adequate measures of reliability in this case may be interrater and test-retest reliability.

To study inter-rater reliability 24 videotaped SCICA interviews were scored by an independent rater. Correlations for the scales were also acceptable and ranged from .49 to .85 with a mean of .71.

To study test-retest reliability 35 children and adolescents were interviewed by different interviewers. Test-retest correlation coefficients for the different scales were generally adequate and ranged from .55 to .90, with a mean of .80. No significant difference in scores was found between the different interviewers. Since observations in the test-retest are independent, these reliabilities give confidence that different interviewers can get similar results.

Adequate reliability of a clinical interview is not only important from a

research perspective. It can also enhance the quality of data obtained in clinical practice. Research has indicated that the mere use of structured interviews improves reliability by increasing the number of clinical observations and the amount of relevant patient information recorded (Cox et al., 1981; Helzer, 1982).

This study also underscores the reliability of children's self-reports in the assessment of psychopathology, which is of great concern to both researchers and clinicians (Herjanic et al., 1975; Fallon and Schwab-Stone, 1994).

A reliable clinical interview also provides opportunities for use in training. The SCICA interview with its semi-structured protocol and standardized scoring forms can be of great help in training students interviewing and observational skills using videotaped SCICA interviews and SCICA scores from clinicians as guidelines.

To study the criterion-related validity (testing the ability of the SCICA items and syndromes to discriminate between referred and non-referred subjects), 86 non-referred children were interviewed with the SCICA and their scores were compared to those of the referred subjects. In criterion-related or predictive validity the relation between the scores on the instrument and one or more criterion variables are tested. This type of validity is important for instruments used in epidemiological studies to determine "caseness", needed to assess the prevalence of psychiatric disorder and to study children and adolescents and their needs. The criterion-related validity of the SCICA is limited, with most items and syndromes only minimally discriminating between referred and non-referred subjects. Only the Immature, Internalizing and Total Observations scales showed discriminative ability of importance. The SCICA was developed strictly as a clinical interview and the ability to discriminate between referred and non-referred subjects is not one of its assumptions. However, one might expect higher scores on a clinical interview for referred than for non-referred subjects. Since no indications of selectiveness for the non-referred group were found, we must conclude that SCICA items apply to both referred and non-referred children's behaviors and self-report during the interview. A point of

consideration is that the criterion of referral might be more related to information obtained from the person referring the child, often the parent, teacher or another health care professional, than from the child itself. The same tendency for a lower criterion related validity was found for adolescents' self-report scores on the YSR versus parent reports on the CBCL (Achenbach, 1991d).

By studying the relation between the SCICA interview and outcomes from other instruments the construct validity was confirmed. Significant correlations were found between CBCL syndrome scores and SCICA syndrome scores. Total Problem Scores on the CBCL as scored by the parents correlated (.37) with SCICA total observations and (.50) with SCICA total self-reports. These correlations are much higher than the average .22 found between children's self-ratings and parent informants reported in meta-analyses by Achenbach et al. (1987).

Significant correlations were also found between SCICA syndrome scores and YSR syndrome scores, which might be the purest way to study the construct validity of the SCICA, omitting informant and situational variation. Total Problem score on the YSR correlated (.62) with SCICA Total Self-Reports. The average correlation found between similar informants in Achenbach's (1987) meta-analyses was (.60).

Lower but still significant correlations were also found between TRF syndromes scores and SCICA syndrome score. Total Problem score on the TRF as scored by the teachers correlated (.22) with SCICA total self-reports, approximating the (.20) found by Achenbach et al., however this score correlated (.39) with SCICA Total Observations. SCICA Total Observations also correlated (.33) with Externalizing problems as scored by the teachers, indicating the importance of observations in the assessment especially of externalizing behaviors.

Significant relations were also found for SCICA syndromes with DSM diagnoses as generated by the DISC interview with the parents, especially between SCICA syndrome Aggressive Behavior with Any Disruptive Disorder and SCICA Total Self-Reports with Any Mood Disorder.

In addition significant relations were found for the SCICA syndromes with DSM diagnoses generated by the DISC interview with the child or adolescent, especially between the SCICA Total Self-Reports and Any Anxiety and Any Mood Disorder and SCICA Total Observations and Any Disruptive Disorder and Any Disorder.

The relations found between SCICA syndromes and DSM diagnoses are not only important in the validity study of the SCICA. This study can also be placed in the context to establish relations between the medical approach and the psychometric approach. Other studies (Edelbrock and Costello, 1988; Gould et al, 1993; Hudziak et al, 1997; Jensen et al, 1993; Kasius et al., 1997) have shown strong associations between empirically derived syndromes and specific DSM diagnoses. However, the SCICA data are unique in giving these associations data from interviews with children and adolescents.

Testing the psychometric properties of the SCICA illustrates the reliability and validity of the instrument. The demonstrated reliability and validity illustrate possibilities to use the SCICA to assess psychopathology in children and adolescents for diagnostic and research purposes.

Recommendations for future research

The SCICA factor solution as presented in this thesis cannot be viewed as the definite description of psychopathology in children and adolescents by direct assessment of the child or adolescent. Further studies examining the factor structure in clinically referred and nonreferred children and adolescents are required. Including larger samples for the U.S. and the Netherlands, exploratory and confirmatory factoranalyses should be employed to test cross-cultural generalizability of the SCICA syndromes.

Further studies investigating adolescents are needed to extend the age range of SCICA syndrome profile to 6-18 years.

The concurrent validity of the SCICA constructs should be further investigated against DSM diagnoses generated by semi-structured interviews.

Further reliability studies are indicated to test for differences in reliability between SCICA observation and reliability items and in different age groups.

The SCICA interview in view of its aims

The SCICA provides a standardized child interview. Experience during the study with the interview learned that the semi-structured format worked elegantly with children and adolescents of all ages and different cognitive levels. Topics as indicated on the protocol form, 1. Activities, School, Job, 2. Friends, 3. Family relations, 4. Fantasies, Self Perception and Feelings, 5. Parent/Teacher-Reported problems, agree with both clinical interests and children's experiences. The possibilities to gear these topics towards interest of the child, gives the interview a lively nature while on the other hand the requirement to cover all topics guarantees a standardized coverage. The interviewer is not forced to ask standardized questions but allowed liberty in phrasing and timing. The average length of the interview in this study was 75 minutes, including the time for the incorporated achievement test.

Scoring of the interview is standardized and includes both self-reported problems by the children and adolescents and behaviors observed during the interview by the interviewer. In this unique way problems that might be better assessed by observation than direct questioning are covered as well. Scoring of observed behaviors on the items of the SCICA Observation form and children's self reported problems on the items of the SCICA Self-Report form after completing the interview took an average of 30 minutes.

Scores on the empirically derived SCICA syndromes form a quantitative representation of the interview with the child. These scores provide a basis for comparing interview data with data from other sources based on standardized assessment procedures.

SCICA results can be used on an individual level in a clinical process, not only in the initial diagnostic phase as direct assessment of the child or adolescent but also during treatment planning and evaluation. SCICA results can also be used in epidemiology and treatment research on psychopathology in children and adolescents. However, to profit from the good psychometric properties of the SCICA interviewers using the SCICA for research purposes should be clinically experienced and adequately trained.

In view of these results the development of the Dutch SCICA successfully

fulfills all expectations, combining the good reliability and validity of structured interviewing in a non-rigid easy format that appeals to both interviewer and subject. Liberty to adapt the interview to the child's or adolescent's interests without compromising a full coverage of topics raises possibilities to interview both younger children and adolescents in ways that will appeal to their sense of importance in the diagnostic process. SCICA scores provide the opportunity to score both self-reported and observed behaviors reliably with proven correlations to reports from parents and teachers. The Dutch SCICA therefore forms a sound addition in structured assessment of psychopathology in children and adolescents.

We encourage every mental healthcare professional to use the SCICA. To profit from the many hours put into the development by both the investigator and the hundreds of participating subjects and to discover the usefulness and benefits of this wonderful instrument.

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**SEMISTRUCTURED CLINICAL INTERVIEW FOR CHILDREN AND ADOLESCENTS AGED 6-18
PROTOCOL FORM**

					ID#
SUBJECT'S NAME	First	Middle	Last	DATE	INTERVIEWER

The SCICA uses a standard series of topics and tasks to sample functioning in 9 broad areas: 1) Activities, school, job; 2) Friends; 3) Family relations; 4) Fantasies; 5) Self perception, feelings; 6) Parent/teacher-reported problems; 7) Achievement tests (optional); 8) For ages 6-12: Screen for fine and gross motor abnormalities (optional); and 9) For ages 13-18: Somatic complaints, alcohol, drugs, trouble with the law. The interviewer should try to cover all areas appropriate for the subject's age. The sequence of questions and topics in Sections 1-5 may be altered to follow the natural flow of the subject's conversation. The wording should be adapted to the subject's level. For Sections 1-5, open-ended questions and probes are appropriate. Sections 6-9 should be covered after Sections 1-5. An assistant (or, if necessary, the interviewer) should insert six CBCL or TRF problems in Section 6 as instructed on the protocol. The interview should be audio or video taped if possible. Notes regarding the interviewer's observations and subject's self reports can be written in the columns provided. The interviewer should score the subject on the SCICA Observation and Self-Report Form immediately after the interview.

The interviewer begins by saying: *"We are going to spend some time talking and doing things together, so that I can get to know you and learn about what you like and don't like. This is a private talk. I won't tell your parents or your teachers what you say unless you tell me it is OK. The only thing I might tell is if you said you were going to hurt yourself, hurt someone else, or someone has hurt you."* (If a tape recorder is used: *"We are going to record our talk on this tape recorder to help remember our time together."*) The interviewer then addresses the first topic area or other areas initiated by the subject. Play materials can be used with young children who are reluctant to talk or participate in drawing activities. The topics are then addressed by incorporating questions into discussion during play. The following play materials should be available for preadolescents: wooden blocks; doll family with mother, father, boy, girl, baby, and other adult figures; doll house furniture. Specific questions for ages 13-18 are indicated on the protocol.

I. ACTIVITIES, SCHOOL, JOB	OBSERVATIONS	SELF-REPORTS
Activities What do you like to do in your spare time, like when you're not in school? Do you participate in any sports/hobbies/clubs? What is your favorite TV show/star/band/TV or story character? What do you like about that show/star/band/character? School (If age ≥ 16: Do you go to school?) What school do you go to? What grade are you in? What do you like best in school? What do you like about ____? What do you like least in school? What don't you like about ____?		

SCICA Protocol Form

1. ACTIVITIES, SCHOOL, JOB, cont.	OBSERVATIONS	SELF-REPORTS
<p>School, cont.</p> <p>How about your teachers. Which teacher do you like best? What do you like about _____?</p> <p>Which teacher do you like least? What don't you like about _____?</p> <p>How much homework do you have? When do you do your homework? Does anyone help you? Tell me how that works out, having _____ help you. What subjects do you have trouble with? Do you get any special help?</p> <p>Do you ever get in trouble in school? Do you ever worry about school?</p> <p>If you could change something about school, what would it be?</p> <p>Job (ages 13-18)</p> <p>Do you have a job? How do you feel about your job/boss?</p> <p>Do you have other ways to earn money?</p> <p>Do you get an allowance?</p>		
<p>2. FRIENDS</p> <p>How many friends do you have? Do you think that is enough friends? Are your friends boys or girls? How old are your friends?</p> <p>What do you do with your friends? Do they come to your house? Do you go to their house? How often?</p> <p>Tell me about someone you like. What do you like about _____?</p> <p>Tell me about someone you don't like. What don't you like about _____?</p>		

2. FRIENDS, cont.	OBSERVATIONS	SELF-REPORTS
<p>Do you ever have problems getting along with other kids? What kinds of problems do you have? What do you try to do about _____?</p> <p>Do you ever feel lonely or left out of things? What do you do when that happens?</p> <p>Do you ever get into fights or arguments with other kids? Do the fights involve yelling or hitting? Does that happen with one other kid or with a group? What usually starts the fights? How do they usually end? What are some other ways you could solve that problem, besides fighting?</p> <p>Additional re: Friends (ages 13-18)</p> <p>How do you feel about dating/dances/parties? Do you have a girlfriend/boyfriend? How does your family feel about your social life?</p>		
<p>3. FAMILY RELATIONS</p> <p>Who are the people in your family? Who lives in your home?</p> <p>In your home, do the kids have separate rooms? How do you like having separate rooms/sharing a room with _____?</p> <p>Who makes the rules in your home? What happens when kids break the rules? Do you think the rules are fair or unfair?</p> <p>What are the punishments in your home? Who punishes you when you do something wrong? Do you think the punishments are fair or unfair?</p> <p>How do your parents get along? Do they have arguments? (If yes) What are the arguments about? How do you feel when they argue like that?</p> <p>If you could change something in your family or home, what would it be?</p>		

SCICA Protocol Form

3. FAMILY RELATIONS, cont.	OBSERVATIONS	SELF-REPORTS
<p>Kinetic Family Drawing (ages 6-12; optional for ages 13-18) Provide pencil and paper. Ask S to "draw a picture of your family doing something together." The questions below are asked about the drawing once it is completed. Each family member is discussed.</p> <p>What are they doing? What kind of a person is ____? Tell me three words to describe ____. How does ____ feel in that picture? What is ____ thinking? Who do you get along with best/least? What is going to happen next in your picture?</p> <p>Description of Family (ages 13-18) (If no drawing is requested.) Tell me about the people in your family. What kind of a person is ____? Who do you get along with best/least? Does your family set a time for you to be in at night? How do you feel about that?</p>		
<p>4. FANTASIES</p> <p>If you had 3 wishes, what would you wish? Reasons for each? What would you like to be when you're older? If you could change one thing about yourself, what would it be?</p>		
<p>5. SELF PERCEPTION, FEELINGS</p> <p>Tell me a little more about yourself. What makes you happy? What makes you sad? What do you do when you're sad? What makes you mad? What do you do when you're mad? What makes you scared? What do you do when you're scared?</p> <p>What do you worry about? How do you feel most of the time? What do you need the most?</p> <p>Have you had any strange experiences or things happen that you don't understand? (Pursue any indication of suicidal or strange thoughts.)</p>		

6. PARENT/TEACHER-REPORTED PROBLEMS	OBSERVATIONS	SELF-REPORTS
<p>Problems are selected from those scored 2 on a CBCL or TRF Profile scale where <i>S</i> has a high score, or other problems that are of concern. Six problems are recorded below before the interview.</p> <p>Introduce problems to <i>S</i> by saying: <i>"I want to talk to you about problems kids sometimes have and hear your opinion about them. Some kids have problems with _____. Is that a problem for you?"</i></p> <p>1. _____</p> <p>2. _____</p> <p>3. _____</p> <p>4. _____</p> <p>5. _____</p> <p>6. _____</p>		
<p>7. ACHIEVEMENT TESTS (Optional)</p> <p>Two user-selected standardized tests are administered. Total time 15-20 minutes.</p> <p>Mathematics test Reading Recognition test</p>		
<p>8. FOR AGES 6-12: SCREEN FOR FINE & GROSS MOTOR ABNORMALITIES (Optional)</p> <p>Writing Sample <i>S</i> is asked to write 3 sentences about something <i>S</i> likes or to write the alphabet if <i>S</i> cannot write sentences.</p> <p>Gross Motor Screening <i>S</i> is asked to move to the opposite end of the room to "do some things on left and right and play catch." Check whether <i>S</i> passes each item below.</p> <p>Show right hand _____, left foot _____, left hand _____, right foot _____. Hop on one foot, left _____, right _____. Catch ball with two hands _____, right hand _____, left hand _____.</p>		

SCICA Protocol Form

9. FOR AGES 13-18: SOMATIC COMPLAINTS, ALCOHOL, DRUGS, TROUBLE WITH LAW

Subjects aged 13-18 should be questioned directly about the problems listed below. Record responses and use as basis for scoring the items listed on page 5 of the SCICA Self-Report Form. Introduce problems to S by saying: "Now I want to ask you about some specific types of problems. Over the past 6 months have you had ____? Was there a physical or medical cause for it? How often did you have ____?"

	<u>Refused</u>	<u>No</u>	<u>Yes</u>	<u>If yes, caused by?</u>	<u>How often? (Probe for <once/mo.; once/wk. to once/mo.; >once/wk.)</u>
228. Aches or pains?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
229. Headaches?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
230. Nausea, feeling sick?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
231. Overeating?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
232. Problems with eyes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
233. Rashes, skin problems?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
234. Stomachache, cramps?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
235. Vomiting, throwing up?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
236. Numbness, tingling?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
237. Heart pounding?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
238. Trouble falling asleep?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
239. Waking too early?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
240. Other physical problems?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____

"Now I want to ask you about some other things. Over the past 6 months, have you ____?"

	<u>Refused</u>	<u>No</u>	<u>Yes</u>	<u>Response</u>	<u>If yes, how often? (Probe for <once/mo.; once/wk. to once/mo.; >once/wk.)</u>
241. Drunk beer, wine, or liquor? Been drunk from alcohol?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
242. Been stoned or high on drugs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
243. Had strong urge for more drugs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
	<u>Refused</u>	<u>No</u>	<u>Yes</u>	<u>Response</u>	<u>If yes, how often? (Probe for <once/day; 1-5 times/day; >5 times/day)</u>
244. Used tobacco?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
	<u>Refused</u>	<u>No</u>	<u>Yes</u>	<u>Response</u>	<u>If yes, how often? (Probe for once; 2-3 times; >3times)</u>
245. Received traffic tickets? (exclude parking)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____
246. Been in other trouble with the police or law?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____

SEMISTRUCTURED CLINICAL INTERVIEW--OBSERVATION FORM

ID# _____

SUBJECT'S FULL NAME	<input type="checkbox"/> Boy	AGE _____	DATE Mo. _____ Day _____ Yr. _____	Fa. occup. _____
First _____				Mo. occup. _____
Middle _____	<input type="checkbox"/> Girl	GRADE _____	BIRTH Mo. _____ Day _____ Yr. _____	Interviewer _____
Last _____			ETHNIC GRP. _____	Rater _____

For each item that describes the subject's behavior during the interview, circle:

Scoring ages: 6-12 13-18

- 0 if there was no occurrence
 1 if there was a very slight or ambiguous occurrence
 2 if there was a definite occurrence with mild to moderate intensity and less than 3 minutes duration
 3 if there was a definite occurrence with severe intensity or 3 or more minutes duration

The 3-minute duration is a guideline for choosing between ratings of 2 and 3. Italicized numbers to the left of items indicate the scales on which the item is scored. *Score only the item that most specifically describes a particular observation.*

- | | | | |
|-----------|---|-----------|---|
| 7-0 1 2 3 | 1. Acts overly confident | 0 1 2 3 | 25. Cries |
| 0 1 2 3 | 2. Acts seductively (describe) _____ | 7-0 1 2 3 | 26. Day-dreams or gets lost in thoughts |
| 7-0 1 2 3 | 3. Giggles too much | 8-0 1 2 3 | 27. Defiant, talks back, or sarcastic |
| 6-0 1 2 3 | 4. Acts too young for age | 8-0 1 2 3 | 28. Demands must be met immediately |
| 4-0 1 2 3 | 5. Apathetic or unmotivated | 2-0 1 2 3 | 29. Difficulty following directions |
| 8-0 1 2 3 | 6. Argues | 7-0 1 2 3 | 30. Disjointed or tangential conversation |
| 8-0 1 2 3 | 7. Asks for feedback on performance (describe) _____ | 6-0 1 2 3 | 31. Doesn't concentrate or pay attention for long on tasks, questions, topics |
| 0 1 2 3 | 8. Attempts to leave room for reasons other than toilet | 6-0 1 2 3 | 32. Doesn't sit still, restless, or hyperactive |
| 4-0 1 2 3 | 9. Avoids eye contact | 6-0 1 2 3 | 33. Easily distracted by external stimuli |
| 8-0 1 2 3 | 10. Irresponsible, destructive, or dangerous behavior (describe) _____ | 0 1 2 3 | 34. Erases or crosses out a lot in writing or drawing |
| 0 1 2 3 | 11. Behaves like opposite sex | 7-0 1 2 3 | 35. Exaggerates or makes up things |
| 0 1 2 3 | 12. Bites fingernails | 8-0 1 2 3 | 36. Explosive and unpredictable behavior |
| 0 1 2 3 | 13. Bizarre or unusual language (e.g., echolalia, babbling, nonsense words, neologisms; describe) _____ | 0 1 2 3 | 37. Feels too guilty |
| 8-0 1 2 3 | 14. Blames difficulty on task or interviewer | 6-0 1 2 3 | 38. Fidgets |
| 7-0 1 2 3 | 15. Bragging, boasting | 0 1 2 3 | 39. Fine motor difficulty (describe) _____ |
| 7-0 1 2 3 | 16. Burps or farts without apology | 8-0 1 2 3 | 40. Frequently off-task |
| 7-0 1 2 3 | 17. Can't get mind off certain thoughts; obsessions (describe) _____ | 7-0 1 2 3 | 41. Gives long, complex verbal responses |
| 7-0 1 2 3 | 18. Chews or sucks on clothing | 6-0 1 2 3 | 42. Gross motor difficulty or clumsy |
| 0 1 2 3 | 19. Complains of being bored by interview or tests | 8-0 1 2 3 | 43. Guesses a lot; does not think out answers or strategies |
| 0 1 2 3 | 20. Complains of dizziness, headaches or other somatic problems during session (describe) _____ | 2-0 1 2 3 | 44. Has difficulty expressing self verbally (describe) _____ |
| 8-0 1 2 3 | 21. Complains of tasks being too hard or upset by tasks | 6-0 1 2 3 | 45. Has difficulty understanding language (describe) _____ |
| 6-0 1 2 3 | 22. Concrete thinking | 2-0 1 2 3 | 46. Has problems remembering facts or details |
| 2-0 1 2 3 | 23. Confused or seems to be in a fog | 0 1 2 3 | 47. Hears things that aren't there during session (describe) _____ |
| 6-0 1 2 3 | 24. Contradicts or reverses own statements | 8-0 1 2 3 | 48. Impatient |
| | | 8-0 1 2 3 | 49. Impulsive or acts without thinking |
| | | 2-0 1 2 3 | 50. Is afraid of making mistakes |

SCICA Observation Form

0 = no occurrence
 1 = very slight or ambiguous occurrence

2 = mild to moderate intensity and < 3 minutes
 3 = severe intensity or ≥ 3 minutes

7-0 1 2 3	51.	Jokes inappropriately or too much	6-0 1 2 3	88.	Speech problem (describe)_____
2-0 1 2 3	52.	Lacks self confidence or makes self-deprecating remarks			_____
6-0 1 2 3	53.	Lapses in attention	4-0 1 2 3	89.	Stares blankly
0 1 2 3	54.	Laughs inappropriately	0 1 2 3	90.	Stares intensely at interviewer
7-0 1 2 3	55.	Leaves room during session to go to toilet	7-0 1 2 3	91.	Strange behavior (describe)_____
4-0 1 2 3	56.	Limited conversation			_____
4-0 1 2 3	57.	Limited fantasy or imagination	7-0 1 2 3	92.	Strange ideas (describe)_____
0 1 2 3	58.	Lying or cheating			_____
8-0 1 2 3	59.	Makes odd noises	4-0 1 2 3	93.	Stubborn, sullen, or irritable
8-0 1 2 3	60.	Messy work	0 1 2 3	94.	Sucks fingers or thumb
8-0 1 2 3	61.	Misbehaves, taunts, or tests the limits	8-0 1 2 3	95.	Sudden changes in mood or feelings
0 1 2 3	62.	Mouth movements while writing or drawing	0 1 2 3	96.	Sulks
4-0 1 2 3	63.	Needs coaxing	8-0 1 2 3	97.	Suspicious
6-0 1 2 3	64.	Needs repetition of instructions or questions	7-0 1 2 3	98.	Swearing or obscene language
2-0 1 2 3	65.	Nervous, highstrung, or tense	8-0 1 2 3	99.	Talks aloud to self
6-0 1 2 3	66.	Nervous movements, twitching, tics, or other unusual movements (describe)_____	7-0 1 2 3	100.	Talks too much
			8-0 1 2 3	101.	Temper tantrums, hot temper, or seems angry
6-0 1 2 3	67.	Out of seat	2-0 1 2 3	102.	Too concerned with neatness, cleanliness, or order
2-0 1 2 3	68.	Overly anxious to please	2-0 1 2 3	103.	Too fearful or anxious
0 1 2 3	69.	Perseverates on a topic	2-0 1 2 3	104.	Tremors in hands or fingers
0 1 2 3	70.	Picks or scratches nose, skin, or other parts of body (describe)_____	8-0 1 2 3	105.	Tries to control or manipulate interviewer
7-0 1 2 3	71.	Plays with own sex parts	4-0 1 2 3	106.	Underactive or slow moving
4-0 1 2 3	72.	Refuses to talk	4-0 1 2 3	107.	Unhappy, sad, or depressed
4-0 1 2 3	73.	Reluctant to discuss feelings or personal issues	0 1 2 3	108.	Unusual pitch or tone of voice
4-0 1 2 3	74.	Reluctant to guess	0 1 2 3	109.	Unusually changeable behavior
7-0 1 2 3	75.	Repeats certain acts over and over; compulsions (describe)_____	8-0 1 2 3	110.	Unusually loud
8-0 1 2 3	76.	Resistant or refuses to comply (describe)_____	4-0 1 2 3	111.	Unusually quiet voice
4-0 1 2 3	77.	Says "don't know" a lot	8-0 1 2 3	112.	Wants to quit or does quit tasks
8-0 1 2 3	78.	Screams	0 1 2 3	113.	Whines
4-0 1 2 3	79.	Secretive, keeps things to self	4-0 1 2 3	114.	Withdrawn, doesn't get involved with interviewer
4-0 1 2 3	80.	Seems overtired or fatigued	8-0 1 2 3	115.	Works quickly and carelessly
0 1 2 3	81.	Seems too dependent on interviewer	0 1 2 3	116.	Worries
4-0 1 2 3	82.	Seems unresponsive to humor	0 1 2 3	117.	Yawns
2-0 1 2 3	83.	Self-conscious or easily embarrassed	0 1 2 3	118.	Denies responsibility or blames others
8-0 1 2 3	84.	Shows off, clowns, or acts silly	0 1 2 3	119.	Flat affect
4-0 1 2 3	85.	Shy or timid	0 1 2 3	120.	Overly dramatic
4-0 1 2 3	86.	Slow to respond verbally		121.	Add observed problems or behaviors not already listed:
4-0 1 2 3	87.	Slow to warm up	0 1 2 3		_____
			0 1 2 3		_____
			0 1 2 3		_____

SEMISTRUCTURED CLINICAL INTERVIEW--SELF-REPORT FORM

ID#

For each item that describes the subject's conversation during the session, circle:

0 If there was no occurrence

1 If there was a very slight or ambiguous occurrence

2 If there was a definite occurrence with mild to moderate intensity and less than 3 minutes duration

3 If there was a definite occurrence with severe intensity or 3 or more minutes duration

The interview includes "Parent/Teacher-Reported Problems," where the interviewer asks the subject his/her view of 6 problems scored 2 by the parents/teachers on the CBCL/TRF. Score an item 1 if a subject's *only* mention of a problem is to acknowledge the CBCL/TRF report of it without further elaboration. Score *only the item that most specifically describes a particular self-report*. Do not score self-reported problems that clearly ended more than 6 months prior to the interview.

5-0 1 2 3	122. Reports acts of cruelty, bullying or meanness to others, including siblings	1-0 1 2 3	147. Reports being unhappy, sad, or depressed
0 1 2 3	123. Reports arguing or fighting with siblings	0 1 2 3	148. Reports bowel movements outside toilet
0 1 2 3	124. Reports arguing or verbal altercations (except with siblings)	0 1 2 3	149. Reports compulsive acts (describe)
0 1 2 3	125. Reports behaving like opposite sex	0 1 2 3	150. Reports concerns about family problems (describe)
0 1 2 3	126. Reports being beaten up by others including siblings (exclude parents)	3-0 1 2 3	151. Reports concerns with neatness or cleanliness
0 1 2 3	127. Reports being bored in situations other than current interview	0 1 2 3	152. Reports crying a lot
1-0 1 2 3	128. Reports being confused or in a fog	0 1 2 3	153. Reports daydreaming or getting lost in thoughts
0 1 2 3	129. Reports being cruel to animals	0 1 2 3	154. Reports deliberately harming self or attempting suicide
5-0 1 2 3	130. Reports being disobedient at home	5-0 1 2 3	155. Reports destroying own property
5-0 1 2 3	131. Reports being disobedient at school	5-0 1 2 3	156. Reports destroying property belonging to others (exclude vandalism)
5-0 1 2 3	132. Reports being impulsive or acting without thinking	1-0 1 2 3	157. Reports difficulty following directions in school or work
0 1 2 3	133. Reports being jealous of others (describe)	1-0 1 2 3	158. Reports difficulty learning
1-0 1 2 3	134. Reports being lonely or left out of others' activities	0 1 2 3	159. Reports disliking school or work
3-0 1 2 3	135. Reports being physically harmed by parent or guardian (describe)	1-0 1 2 3	160. Reports fear of making mistakes
3-0 1 2 3	136. Reports being punished a lot at home, including spanking (describe)	0 1 2 3	161. Reports fearing he/she might think or do something bad
1-0 1 2 3	137. Reports being self-conscious or easily embarrassed	1-0 1 2 3	162. Reports fears of certain people, animals, situations, or places other than school (describe)
0 1 2 3	138. Reports being sexually abused (describe)	0 1 2 3	163. Reports fears of going to school
0 1 2 3	139. Reports being shy or timid	1-0 1 2 3	164. Reports feeling guilty
5-0 1 2 3	140. Reports being suspicious	0 1 2 3	165. Reports feeling he/she must be perfect
1-0 1 2 3	141. Reports being too fearful or anxious	0 1 2 3	166. Reports feeling hurt when criticized
3-0 1 2 3	142. Reports being treated unfairly at home	0 1 2 3	167. Reports feeling nervous or tense
3-0 1 2 3	143. Reports being treated unfairly at school	1-0 1 2 3	168. Reports feeling others are out to get him/her
1-0 1 2 3	144. Reports being unable to concentrate or pay attention for long	1-0 1 2 3	169. Reports feeling overtired
5-0 1 2 3	145. Reports being unable to sit still, being restless, or hyperactive	0 1 2 3	170. Reports feeling that no one loves him/her
1-0 1 2 3	146. Reports being underactive, slow, or lacking energy	1-0 1 2 3	171. Reports feeling worthless or inferior
		0 1 2 3	172. Reports getting hurt a lot, being accident-prone
		5-0 1 2 3	173. Reports getting into physical fights (except with siblings)

SCICA Self-Report Form

0 = no occurrence
1 = very slight or ambiguous occurrence

2 = mild to moderate intensity and < 3 minutes
3 = severe intensity or ≥ 3 minutes

1-0 1 2 3	174.	Reports getting teased or picked on, including by siblings	5-0 1 2 3	205.	Reports temper tantrums or hot temper
5-0 1 2 3	175.	Reports hanging around others who get into trouble	0 1 2 3	206.	Reports thinking about sex a lot
0 1 2 3	176.	Reports hating or disliking brother or sister	5-0 1 2 3	207.	Reports threatening other people
3-0 1 2 3	177.	Reports hating or disliking mother or father	0 1 2 3	208.	Reports trouble sleeping (describe)
5-0 1 2 3	178.	Reports hating or disliking teacher, principal or boss	0 1 2 3	209.	Reports truancy, skipping school or job
1-0 1 2 3	179.	Reports having nightmares	0 1 2 3	210.	Reports vandalism
0 1 2 3	180.	Reports hearing things that aren't there during times other than interview (describe)	0 1 2 3	211.	Reports wetting bed
3-0 1 2 3	181.	Reports lack of attention from parents, excluding neglect (describe)	0 1 2 3	212.	Reports wetting self during day
5-0 1 2 3	182.	Reports lacking guilt after misbehaving	0 1 2 3	213.	Reports wishing to be of the opposite sex
0 1 2 3	183.	Reports lying or cheating	1-0 1 2 3	214.	Reports worrying (describe)
0 1 2 3	184.	Reports neglect of basic needs by parent or guardian (describe)	0 1 2 3	215.	Talks about death, including deaths of animals, family members, etc. (describe)
1-0 1 2 3	185.	Reports not being liked by peers	0 1 2 3	216.	Talks about deliberately harming self or attempting suicide (without actually doing so)
3-0 1 2 3	186.	Reports not getting along with mother or father	0 1 2 3	217.	Reports sexual problems or excessive activity (describe)
0 1 2 3	187.	Reports obsessive thoughts (describe)	0 1 2 3	218.	Talks about physically attacking, hurting, or killing people, including siblings (without actually doing so)
5-0 1 2 3	188.	Reports physically attacking people, including siblings	0 1 2 3	219.	Talks about war or generalized violence (describe)
0 1 2 3	189.	Reports preferring kids older than self	0 1 2 3	220.	Talks about getting revenge without physical attack
0 1 2 3	190.	Reports preferring to be alone	0 1 2 3	221.	Reports being mad or angry
0 1 2 3	191.	Reports preferring kids younger than self	0 1 2 3	222.	Reports strange behavior
1-0 1 2 3	192.	Reports problems getting along with peers	0 1 2 3	223.	Reports conflict with family re: plans for work or education
1-0 1 2 3	193.	Reports problems making or keeping friends	0 1 2 3	224.	Reports conflict with family re: social activities
1-0 1 2 3	194.	Reports problems with school work or job (describe)	0 1 2 3	225.	Reports problems in sexual identity or concern about homosexuality
0 1 2 3	195.	Reports running away from home	0 1 2 3	226.	Reports problems in social relations with opposite sex
3-0 1 2 3	196.	Reports screaming	0 1 2 3	227.	Reports alcohol/drug use without parental permission (describe)
0 1 2 3	197.	Reports seeing things that aren't there during times other than interview (describe)	FOR AGES 6-12:		
0 1 2 3	198.	Reports setting fires	<i>Score somatic items only if no known physical cause</i>		
0 1 2 3	199.	Reports showing off or clowning	0 1 2 3	228.	Reports aches or pains in body
0 1 2 3	200.	Reports stealing at home	3-0 1 2 3	229.	Reports headaches
0 1 2 3	201.	Reports stealing outside of home	0 1 2 3	230.	Reports nausea, feeling sick
0 1 2 3	202.	Reports storing up things he/she doesn't need (describe)	0 1 2 3	231.	Reports overeating
0 1 2 3	203.	Reports sudden changes in mood or feelings	0 1 2 3	232.	Reports problems with eyes
0 1 2 3	204.	Reports teasing others, including siblings	0 1 2 3	233.	Reports rashes, skin problems
			3-0 1 2 3	234.	Reports stomachache, cramps
			0 1 2 3	235.	Reports vomiting, throwing up

Go to page 5 for item 247.

FOR AGES 13-18:

Score somatic items 228-240 only if no known physical cause.
Use the following definitions for scoring items 228-246:

<u>No</u>	<u>Less than once/mo.</u>	<u>Once/wk. to once/mo.</u>	<u>More than once/wk.</u>	<u>Item refused</u>	
0	1	2	3	4	228. Reports aches or pains in body
0	1	2	3	4	229. Reports headaches
0	1	2	3	4	230. Reports nausea, feeling sick
0	1	2	3	4	231. Reports overeating
0	1	2	3	4	232. Reports problems with eyes
0	1	2	3	4	233. Reports rashes, skin problems
0	1	2	3	4	234. Reports stomachache, cramps
0	1	2	3	4	235. Reports vomiting, throwing up
0	1	2	3	4	236. Reports numbness, tingling
0	1	2	3	4	237. Reports heart pounding
0	1	2	3	4	238. Reports trouble falling asleep
0	1	2	3	4	239. Reports waking too early
0	1	2	3	4	240. Reports other physical problems
0	1	2	3	4	241. Reports getting drunk on alcohol within last 6 months
0	1	2	3	4	242. Reports getting stoned or high on drugs within last 6 months
0	1	2	3	4	243. Reports strong urge for more drugs
<u>No</u>	<u>Less than once/day</u>	<u>One to 5 times/day</u>	<u>More than 5 times/day</u>	<u>Item refused</u>	
0	1	2	3	4	244. Reports using tobacco
<u>No</u>	<u>Once</u>	<u>2-3 times</u>	<u>More than 3 times</u>	<u>Item refused</u>	
0	1	2	3	4	245. Reports traffic tickets (exclude parking)
0	1	2	3	4	246. Reports trouble with police/law other than traffic tickets
FOR ALL AGES: Score item 247 according to initial criteria.					247. Add other reported problems not already listed.
			0 1 2 3	_____	
			0 1 2 3	_____	
			0 1 2 3	_____	

Describe any problems that may be important, but fail to meet SCICA scoring criteria, e.g., abuse, firesetting, or suicidal behavior that occurred >6 months ago, using back page if necessary.

Factor loadings for SCICA items common to US and Dutch exploratory factors

Sample	US (N=168)	Dutch (N=128)
Resistant (Observation items)		
6. Argues	.79	.61
10. Irresponsible, destructive	.64	.53
14. Blames difficulty on task	.30	.51
27. Defiant, talks back	.74	.65
28. Demands must be met	.85	.75
29. Difficulty following directions	.41	.44
31. Cannot concentrate, pay attention	.65	.61
36. Explosive, unpredictable	.76	.61
40. Frequently off task	.67	.36
48. Impatient	.77	.59
49. Impulsive	.72	.51
51. Jokes inappropriately	.38	.52
61. Misbehaves, taunts limits	.84	.61
76. Resistant, refuses to comply	.64	.53
84. Showing off, clowning	.45	.61
93. Stubborn, sullen or irritable	.41	.55
105. Manipulates interviewer	.42	.54
110. Unusually loud	.64	.51
112. Wants to or does quit task	.63	.48
115. Works quickly, carelessly	.70	.37
Withdrawn (Observation items)		
5. Apathetic or unmotivated	.82	.46
9. Avoids eye contact	.53	.46
56. Limited conversation	.79	.77
57. Limited fantasy	.65	.52
72. Refuses to talk	.60	.58
73. Reluctant to discuss feelings	.47	.46
77. Needs coaxing	.48	.62
79. Secretive keeps things to self	.54	.47
82. Unresponsive to humor	.72	.42
86. Slow to respond verbally	.84	.47
87. Slow to warm up	.83	.52
89. Stares blankly	.48	.50
106. Underactive, slow moving	.71	.34
114. Withdrawn	.84	.61
Anxious (Observation items)		
50. Afraid of making mistakes	.69	.52
52. Lacks self confidence	.67	.58
68. Anxious to please	.62	.47
83. Self-conscious, easily embarrassed	.56	.32
103. Too fearful or anxious	.50	.38

Appendix B

Sample	US (N=168)	Dutch (N=128)
Aggressive (Self-report items)		
122. Reports cruelty, bullying	.64	.42
130. Reports being disobedient at home	.60	.49
131. Reports being disobedient at school	.59	.56
173. Reports getting into fights	.56	.52
178. Reports hating or disliking teacher	.48	.50
182. Reports lacking guilt after misbehaving	.65	.38
188. Reports physically attacking people	.78	.34
192. Reports problems getting along with peers	.37	.58
Anxious/Lonely (Self-report items)		
128. Reports being confused	.37	.39
134. Reports being lonely	.39	.57
141. Reports being too fearful or anxious	.57	.43
160. Reports fear of making mistakes	.59	.37
162. Reports fears	.58	.40
168. Reports feeling others are out to get him	.51	.42
171. Reports feeling worthless or inferior	.44	.37
193. Reports problems making friends	.31	.47
214. Reports worrying	.34	.37

Low frequency items excluded from Principal Components Analyses

Observation Items

- 11. Behaves like opposite sex
- 25. Cries
- 47. Hears things that aren't there during session
- 58. Lying or cheating
- 78. Screams
- 90. Stares intensely at interviewer
- 101. Temper tantrums, hot temper, seems angry
- 118. Denies responsibility or blames others
- 119. Flat affect
- 120. Overly dramatic

Self-Report Items

- 125. Reports behaving like opposite sex
- 129. Reports being cruel to animals
- 138. Reports being sexually abused
- 140. Reports being suspicious
- 146. Reports being underactive, slow, lacking energy.
- 148. Reports bowel movements outside toilet
- 149. Reports compulsive acts
- 154. Reports deliberately harming self or attempting suicide
- 180. Reports hearing things that aren't there during times other than interview
- 184. Reports neglect of basic needs by parent or guardian
- 195. Reports running away from home
- 197. Reports seeing things that aren't there during times other than interview
- 198. Reports setting fires
- 201. Reports stealing outside of home
- 202. Reports storing up things he/she doesn't need
- 206. Reports thinking about sex a lot
- 209. Reports truancy, skipping school or job

- 210. Reports vandalism
- 211. Reports wetting bed
- 212. Reports wetting self during day
- 213. Reports wishing to be of opposite sex
- 216. Talks about deliberately harming self or attempting suicide (without actually doing so)
- 217. Reports sexual problems or excessive activity
- 220. Talks about getting revenge without physical attack
- 221. Reports being mad or angry
- 222. Reports strange behavior
- 223. Reports conflict with family re: plans for work or education
- 224. Reports conflict with family re: social activities
- 225. Reports problems in sexual identity or concern about homosexuality
- 226. Reports problems in social relations with opposite sex
- 227. Reports alcohol/drug use without parental permission
- 230. Reports nausea, feeling sick
- 231. Reports overeating
- 232. Reports problems with eyes
- 233. Reports rashes, skin problems
- 235. Reports vomiting, throwing up
- 236. Reports numbness, tingling
- 237. Reports heart pounding
- 238. Reports trouble falling asleep
- 239. Reports waking too early
- 240. Reports other physical problems
- 241. Reports getting drunk on alcohol within last six months
- 242. Reports getting stoned or high on drugs within last six months
- 243. Reports strong urge for more drugs
- 244. Reports using tobacco
- 245. Reports traffic tickets (exclude parking)
- 246. Reports trouble with police/law other than traffic tickets

Summary

The objective of the studies reported in this thesis was to contribute to the standardized direct assessment of the child by introducing a semi-structured interview in the Dutch language based on the Semistructured Clinical Interview for Children and Adolescents and testing of its psychometric properties.

Chapter 2 reviews structured and semi-structured clinical interviews used in assessing psychopathology in children and adolescents. Clinical interviews are important in diagnosing childhood disorders and formulating treatment plans. Over the past three decades, different interview techniques have been developed to try to fit clinical and research perspectives. Studies with unstructured clinical interviews showed low reliability. In an attempt to reduce information variance and improve reliability and validity of clinical interviews, structured and semi-structured formats were developed.

Two sorts of structured interviews can be distinguished: respondent based, also known as structured interviews, mostly used in epidemiological studies and interviewer based, or semi-structured interviews, mostly used in clinical settings. Six of the better known and used structured and semi-structured interviews were discussed on their features and psychometric properties: Child and Adolescent Psychiatric Assessment (CAPA), Child Assessment Schedule (CAS), Diagnostic Interview for Children and Adolescents (DICA), Diagnostic Interview Schedule for Children (DISC), Interview Schedule for Children (ISC), and Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS).

Limitations of these existing structured and semi-structured interviews on the clinical assessment process prompted the development of a new interview, the Semistructured Clinical Interview for Children and Adolescents (SCICA) of which the aims and history are described in Chapter 3. The SCICA interview is used as basis for observations and structured report, and is designed as one component of multi axial assessment on five axes (parent reports, teacher reports, cognitive assessment, physical assessment and direct assessment). Promising results of the SCICA in the USA prompted the translation of the SCICA into Dutch to complement multi axial assessment with the Dutch versions of the Child Behavior Checklist

(CBCL), Teacher Report Form (TRF) and Youth Self Report (YSR) with an instrument for direct assessment. The chapter continues with a description of the format and forms of the SCICA. The SCICA is designed to sample areas of functioning in ways directed at the cognitive and emotional level of the child or adolescent, using open-ended questions and structured tasks. The format is semi-structured, the Protocol Form allows to administer the standardized procedures in a flexible manner, all topics should be covered but no specific order is prescribed and questions are not standardized. Scoring is done quantitatively on standardized Observation and Self-Report Forms. The SCICA takes 60-90 minutes and should be administered by a professional trained in clinical interviewing and using standardized assessment procedures. Finally, the forms needed to administer and score the SCICA interview are described: The Protocol Form outlines the topics, questions and tasks in a modular fashion. The Observation and Self-Report Forms describe aspects of behavior, affect and interaction style, respectively problems reported during the interview. Items on those forms are scored on 4 points scales ranging from 0 to 3.

The samples and methods of data collection used in the study were described in chapter 4. The referred target sample consisted of 262 children and adolescents, the nonreferred target sample of 148 children and adolescents. The response rates, socioeconomic status and representativeness of the samples were discussed in detail. Furthermore, the other instruments used in the study: the CBCL, the YSR, the TRF and the Diagnostic Interview Schedule for Children to generate DSM diagnoses in interviews with parents (DISC-P) and children (DISC-C) were described and their reliability and validity were discussed.

In chapter 5 the construction of SCICA syndromes through principal components analyses is discussed. Analyses were performed on SCICA data of a combined sample of Dutch and American referred children aged 6-12 years. These syndromes indicate that the observation and self-report items of the SCICA can be used to detect different types of problem behavior in children in the age group 6-12 years. Factor analyses revealed nine syndromes: Immature, Lonely, Anxious, Withdrawn, Family Problems,

Resistant, Strange, Attention Problems and Aggressive Behavior. In second order factor analyses the syndromes Resistant, Strange, Attention Problems and Aggressive Behavior grouped together and were labeled Externalizing, the syndromes Immature, Lonely and Anxious grouped together and were labeled Internalizing.

In Chapter 6 the reliability of the SCICA was explored. Since it is preferable to use more than one design, a test-retest and an interrater design using videotaped interviews were used. Another characteristic that sometimes is referred to as reliability is Internal Consistency. To study the internal consistency of the SCICA scales Cronbach's *alpha* was computed and documented. The internal consistency of the SCICA scales is adequate ranging from .61 for Family Problems to .90 for Withdrawn. To study the test-retest reliability 35 children and adolescents were interviewed by two interviewers on different occasions. The Test-retest reliability was generally adequate except for the Anxious and Internalizing scales with a mean of .80 over all scales. To study the inter-rater reliability 24 videotaped SCICA interviews were scored by an independent rater. The Inter-rater reliability showed more variation but was also acceptable for all scales with a mean of .71. From these studies we can conclude that emotional and behavioral problems in children and adolescents can be reliably assessed by the SCICA.

The validity of the SCICA was studied in chapter 7. The criterion related or predictive validity was studied to assess the ability of SCICA Observation and Self-Report items and syndromes to discriminate between referred and nonreferred children. Analyses of variance were performed on SCICA interview results from 185 referred and 86 nonreferred children and adolescents. The ability of the SCICA to discriminate between referred and nonreferred was higher for the SCICA syndromes than for the individual SCICA items. Except the Anxious syndrome all syndromes discriminated significantly. The scales Lonely, Withdrawn, Family Problems, Strange, Attention Problems, Aggressive Behavior, Externalizing and Total Self-Reports accounted for small effects. The scales Immature, Internalizing and Total Observations accounted for medium effects. To determine the construct validity of the SCICA, Pearson correlations between the SCICA syndrome

Summary

scores and the CBCL, YSR and TRF syndrome scores were computed. Correlations indicating the validity of the SCICA syndromes were found for all SCICA syndrome scores with scores on similar or related syndromes of the CBCL, YSR and TRF. Another part of the validity studies consisted of the determination of the relationship between SCICA syndrome scores and DSM diagnostic categories as generated by interviews with parents or children. Significant relations found in this study also supported the validity of the SCICA.

In chapter 8 conclusion and implications of the study's results were discussed. From the experience with developing and testing the Dutch SCICA it was inferred that this instrument can be used as a semi-structured interview to assess psychopathology with a good reliability and validity. These features make it a useful instrument for both clinical and research purposes. Further conclusions were that the SCICA is easy to use compared to other structured measures and that children and adolescents enrolled in the study responded very well to it. Concluding, mental healthcare professionals were encouraged to use the instrument to discover the instrument's usefulness and benefits.

Samenvatting

Het doel van het in dit proefschrift gerapporteerde onderzoek was om bij te dragen aan gestandaardiseerde directe beoordelingen van kinderen en adolescenten door het introduceren van een semi-gestructureerd interview in het Nederlands gebaseerd op het Semigestructureerde Klinisch Interview voor Kinderen en Adolescenten en het toetsen van de psychometrische eigenschappen van dit instrument.

In hoofdstuk 2 werd een overzicht gegeven van gestructureerde en semi-gestructureerde klinische interviews die gebruikt worden voor de beoordeling van psychopathologie bij kinderen en adolescenten. Klinische interviews zijn belangrijk voor het diagnostiseren van psychische afwijkingen bij kinderen en adolescenten en voor het formuleren van behandelingsplannen. In de afgelopen 30 jaar zijn er verschillende interviewtechnieken ontwikkeld voor klinische doeleinden en researchdoeleinden. Onderzoek met ongestructureerde interviews toonde een lage betrouwbaarheid aan. Gestructureerde en semi-gestructureerde interviews werden vervolgens ontwikkeld in een poging om de variatie in informatie te reduceren en de betrouwbaarheid en validiteit van klinische interviews te verbeteren.

Men kan twee soorten gestructureerde interviews onderscheiden: respondent gebaseerd, ook wel gestructureerd genoemd en meestal gebruikt in epidemiologisch onderzoek en interviewer gebaseerd, ofwel semi-gestructureerd en meestal gebruikt in klinische situaties. Van zes bekende en vaak gebruikte gestructureerde en semi-gestructureerde interviews werden de karakteristieken en psychometrische eigenschappen besproken: Child and Adolescent Psychiatric Assessment (CAPA), Child Assessment Schedule (CAS), Diagnostic Interview for Children and Adolescents (DICA), Diagnostic Interview Schedule for Children (DISC), Interview Schedule for Children (ISC), and Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS).

Beperkingen van deze gestructureerde en semi-gestructureerde interviews op het gebied van het klinische beoordelingsproces leidden tot de ontwikkeling van een nieuw interview, het Semigestructureerde Klinisch Interview voor Kinderen en Adolescenten. Doel en geschiedenis van dit instrument (SCICA) werden besproken in Hoofdstuk 3. Het SCICA interview

wordt gebruikt als basis voor observaties en gestructureerde rapportage en is ontworpen als één van de componenten van een multi-axiale beoordeling op 5 assen (ouderrapportage, onderwijzerrapportage, cognitieve beoordeling, lichamelijk onderzoek en directe beoordeling). Veelbelovende resultaten van het instrument in de Verenigde Staten bewogen tot een Nederlandse vertaling om de multi-axiale beoordeling van de reeds bestaande Nederlandse versies van CBCL (Gedragsvragenlijst voor kinderen van 4-18 jaar), TRF (Gedragsvragenlijst voor kinderen - informatie leerkracht) en YSR (Zelf in te vullen vragenlijst voor meisjes en jongens van 11-18 jaar) met een instrument voor directe beoordeling te complementeren. In het hoofdstuk werd vervolgens de opzet van het instrument en een beschrijving van de formulieren gegeven. Het SCICA is ontworpen om gebieden van functioneren te testen op manieren die gericht zijn op het cognitieve, sociale en emotionele niveau van het kind of de adolescent, gebruik makend van open vragen en gestructureerde taken. De opzet is semi-gestructureerd, het protocolformulier maakt het mogelijk om de gestandaardiseerde procedures op een flexibele manier af te nemen, alle onderwerpen moeten behandeld worden, echter niet in een specifieke volgorde en de vragen zijn niet gestandaardiseerd. Gescoord wordt op een kwantitatieve wijze op gestandaardiseerde formulieren voor observatie en zelfrapportage. Het SCICA neemt 60-90 minuten in beslag, en moet afgenomen worden door een deskundige die getraind is in het afnemen van klinische interviews en het gebruiken van gestandaardiseerde beoordelingen. Vervolgens werden de formulieren die nodig zijn voor afname en scores van het SCICA beschreven: het protocolformulier geeft de onderwerpen, vragen en taken aan op een modulaire wijze. Op het formulier voor observatie en zelfrapportage worden aspecten van gedrag, gevoel en interactiestijl, respectievelijk problemen beschreven die gerapporteerd werden tijdens het interview. Items op deze formulieren worden gescoord op een vierpuntsschaal die loopt van 0 - 3.

De steekproeven en methodes van gegevensverzameling werden beschreven in Hoofdstuk 4. De doelpopulatie voor verwezen kinderen en adolescenten bestond uit 262, de doelpopulatie voor niet- verwezen uit 148 kinderen en adolescenten. De respons, socio-economische status en

representativiteit van de steekproeven werden verder in detail besproken. Verder werden de andere in de studie gebruikte instrumenten beschreven: de CBCL, de YSR, de TRF en het Diagnostisch Interview Schema voor Kinderen (DISC) om DSM diagnoses te stellen op basis van interviews met ouders (DISC-P) of kinderen (DISC-C). De betrouwbaarheid en validiteit van deze instrumenten werd ook besproken.

In Hoofdstuk 5 werd de constructie van SCICA syndromen door principale componenten analyses besproken. Analyses werden uitgevoerd op SCICA gegevens van een gecombineerde steekproef van Nederlandse en Amerikaanse kinderen van 6 tot en met 12 jaar vewezzen naar een GGZ instelling. Deze syndromen gaven aan dat observatie en zelfgerapporteerde items van het SCICA kunnen worden gebruikt om verschillende typen van probleemgedrag bij kinderen van 6 tot en met 12 jaar te beschrijven.

Factoranalyses onthulden negen syndromen: Onrijp, Eenzaam, Angstig, Teruggetrokken, Familieproblemen, Opstandig, Vreemd, Aandachtsproblemen en Agressief Gedrag.

In tweede orde factor analyses vormden de syndromen Opstandig, Vreemd, Aandachtsproblemen en Agressief Gedrag een groep die Externaliseren werd genoemd; de syndromen Onrijp, Eenzaam en Angstig vormden een groep die Internaliseren werd genoemd.

In Hoofdstuk 6 werd de betrouwbaarheid van het SCICA onderzocht. Aangezien het de voorkeur verdiende om meer dan één opzet te kiezen, werd voor een test-hertest opzet en een tussenbeoordelaars opzet, gebruik makend van video opnames van interviews, gekozen. Een andere eigenschap van een instrument die soms als betrouwbaarheid wordt genoemd is de interne consistentie. Om de interne consistentie van de SCICA schalen te bestuderen werd Cronbach's *alpha* berekend. De interne consistentie van de SCICA schalen varieerde van .61 voor Familieproblemen tot .90 voor Teruggetrokken hetgeen adequaat is. Om de test-hertest betrouwbaarheid te bepalen werden 35 kinderen en adolescenten geïnterviewd door twee verschillende interviewers op verschillende tijdstippen. De test-hertest betrouwbaarheid was in het algemeen adequaat, behalve voor de schalen Angstig en Internaliseren. De gemiddelde test-hertest correlatie over alle

schalen was .80. Om de tussenbeoordelaar betrouwbaarheid te bepalen werden 24 video opnames van SCICA interviews gescoord door een onafhankelijke beoordelaar. De tussenbeoordelaar betrouwbaarheid toonde meer variatie maar was ook acceptabel voor alle schalen met een gemiddelde van .71. Uit deze studies concludeerden wij dat emotionele problemen en gedragsproblemen bij kinderen en adolescenten op een betrouwbare manier beoordeeld konden worden door het SCICA.

De validiteit van het SCICA werd bestudeerd in Hoofdstuk 7. De criterium-gerelateerde ofwel voorspellende validiteit werd bestudeerd om het vermogen te onderscheiden tussen verwezen en niet-verwezen kinderen en adolescenten van de SCICA observatie en zelfrapportage items en syndromen te bepalen. Variantie analyses werden uitgevoerd op SCICA resultaten van 185 verwezen en 86 niet-verwezen kinderen en adolescenten. Het vermogen van het SCICA om verwezen van niet-verwezen kinderen te onderscheiden was hoger voor de SCICA syndromen dan voor de individuele SCICA items. Behalve het syndroom Angstig, toonden alle syndromen een significant verschil in scores voor de verwezen versus niet verwezen groep. Voor de schalen Eenzaam, Teruggetrokken, Familieproblemen, Vreemd, Aandachtsproblemen, Agressief gedrag, Externaliseren en Totale zelfrapportage werden kleine effecten gevonden. Voor de schalen Onrijp, Internaliseren en Totale observatie werden middelgrote effecten gevonden. Om de constructvaliditeit van het SCICA te bepalen werden Pearson correlaties tussen de SCICA syndroomcores en de CBCL, YSR en TRF syndroomcores berekend. Voor alle SCICA syndroomcores werden correlaties met gelijke of gerelateerde syndroomcores op de CBCL, YSR en TRF gevonden die de validiteit van de SCICA aantoonde. Een ander deel van het validiteitsonderzoek bestond uit het bepalen van de relatie tussen SCICA syndroomcores en diagnostische categorieën op basis van interviews met ouders en kinderen gestelde DSM diagnoses. De significante relaties die in deze studie gevonden werden ondersteunden ook de validiteit van het SCICA.

In Hoofdstuk 8 werden de conclusies en implicaties van de onderzoeksresultaten besproken. Uit de ervaring met het ontwikkelen en

testen van het Nederlandse SCICA werd geconcludeerd dat de Nederlandse versie gebruikt kan worden als een betrouwbaar en valide semi-gestructureerd interview om psychopathologie van kinderen en adolescenten mee te beoordelen. Deze eigenschappen maken het een bruikbaar instrument voor zowel klinische doeleinden als researchdoeleinden. Verder werd geconcludeerd dat het SCICA vergeleken met andere gestructureerde meetinstrumenten makkelijk is in het gebruik en dat kinderen en adolescenten die aan het onderzoek meededen er goed op reageerden.

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Curriculum Vitae

Marianne C. Kasius werd geboren op 28 februari 1966 te Rotterdam. Zij volgde middelbaar onderwijs aan de Scholengemeenschap Develsteincollege te Zwijndrecht, waar zij haar V.W.O. diploma behaalde in juni 1984. In datzelfde jaar begon zij met de studie Geneeskunde aan de Erasmus Universiteit Rotterdam, waar het doctoraal examen werd behaald in juli 1989. Haar interesse in wetenschappelijk onderzoek ontstond toen zij in het vijfde jaar van haar studie onderzoek deed naar anemie bij schoolkinderen voor het C.M.C Hospital te Vellore in India onder leiding van Prof. Dr. H.A. Valkenburg.

In mei 1991 behaalde zij haar artsexamen (cum laude) en vanaf juni 1991 tot december 1995 was zij als Assistent In Opleiding (AIO) werkzaam op de afdeling Kinder- en Jeugdpsychiatrie van het Academisch Ziekenhuis Rotterdam (hoofd Prof. Dr. F.C. Verhulst) en verrichtte zij het in dit proefschrift beschreven onderzoek. In de zomer van 1995 behaalde zij haar Amerikaanse artsexamen en in januari 1996 startte zij in de Verenigde Staten met haar opleiding tot psychiater aan het Mount Sinai Medical Center te New York, U.S.A. (hoofd Prof. M. Serby M.D.)

