



## The Use of Rating Scales With Children Who Have Language Impairments

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Several reports suggest that socioemotional disorders and language impairments frequently co-occur in children receiving special education services. One explanation for the high levels of co-occurrence is that limitations inherent to linguistic deficiencies are frequently misinterpreted as symptomatic of underlying socioemotional pathology. In this report, five commonly used behavioral rating scales are examined in light of language bias. Results of the review indicated that children with language impairments are likely to be overidentified as

having socioemotional disorders. An implication of these findings is that speech-language pathologists need to increase their involvement in socioemotional evaluations to ensure that children with language impairments as a group are not unduly penalized for their language limitations. Specific guidelines for using ratings with children with language impairments are provided.

**Key Words:** language impairments in children, behavioral rating scales, ADHD, emotional behavioral disorders, reliability and validity

Socioemotional disorders such as Attention Deficit Hyperactivity Disorder (ADHD) and Emotional/Behavior Disorders (EBD) represent some of the most common reasons students are referred for professional evaluation. For many of these disorders, expressive and receptive language skills are primary behavioral categories considered in the diagnosis. However, speech-language pathologists are rarely involved in the assessment teams identifying socioemotional disorders. This is problematic, because the failure to consider the potential role of language disorders in the evaluation process places children at risk for misdiagnosis of socioemotional disorder when in fact their limitations are language based. Consequently, these children may not receive the appropriate services from speech-language pathologists and may be expected to make changes in response to behavioral or pharmacological intervention when in reality they may not be able to comply with expectations because of language processing problems.

The purpose of this paper is to discuss the content of five behavioral rating scales that are frequently used to identify socioemotional disorders in children, and to illustrate how these scales may lead to over-identification when used with children who have language impairments. A protocol for addressing the potential threat of language bias to the valid assessment of socioemotional disorders is presented.

### *Language and Socioemotional Disorders*

Over the last decade, there has been a growing concern that the expressive and receptive language problems of children with socioemotional disorders have not been adequately addressed by current assessment practices (cf. Cohen, Davine, Horodezky, Lipsett & Isaacson, 1993; Cohen, Vallance, Barwick, Im, Menna, & Horodezky, 2000; Gallagher, 1999; Prizant, Audet, Burke, Hummel, Maher, & Theodore, 1990). This concern has been motivated in part by two alarming and complementary findings. On the one hand, investigators have consistently found high levels of untreated language deficits in children diagnosed with socioemotional disorders (Baltaxe & Simmons, 1988; 1990; Camarata, Hughes, & Ruhl, 1988; Chess & Rosenberg, 1974; Cohen, Davine, & Meloche-Kelly, 1989; Cohen, Vallance, Barwick, Im, Menna, Horodezky, & Isaacson, 2000; Gualiteri, Koriath, Van Bourgonien, & Saleeby, 1983; Javorsky, 1995; Love & Thompson, 1988; Tirosh & Cohen, 1998). In a recent study illustrative of this line of research, Tirosh and Cohen (1998) used epidemiological sampling methods to study the relationship between language impairments and ADHD. Out of a cohort of 3,208 children from 6 to 11 years old, 101 children were identified as having ADHD by clinical interviews and standardized behavioral rating scales completed by their teachers. Standardized language tests were then administered to the group of children with

ADHD to assess receptive and expressive language skills. The results indicated that about half (45%) of the children in the ADHD group also demonstrated moderate-to-severe levels of language impairment (defined as more than 1 *SD* below the mean on at least one language test). Common areas of difficulty for the children with ADHD and language impairment included their reading achievement, verbal memory, vocabulary skills, and sentence comprehension. Follow up comparisons between the two groups of children with ADHD revealed that the mean IQ scores of the children with ADHD and language impairments were significantly lower than the mean IQ scores of children with ADHD only.

On the other side of the language/behavior relationship, studies of the socioemotional difficulties of children with primary language impairments have also found high levels of problems in these groups (Baker & Cantwell, 1982, 1985; Beitchman, Hood & Inglis, 1990; Beitchman, Nair, Clegg, Ferguson, & Patel, 1986; Benasich, Curtis, & Tallal, 1993; Cantwell & Baker, 1985; Paul, Cohen, & Carpulo, 1983; Redmond & Rice, 1998; in press; Stevenson & Richman, 1978; Tallal, Dukette, & Curtis, 1989; Tomblin, Zhang, Buckwalter, & Catts, 2000). In a recent epidemiological study illustrative of this line of research, Tomblin et al. (2000) evaluated the relationship between behavioral disorders, reading disability and language impairment among 581 second grade children, including 164 children with language impairment. A battery of standardized reading and language tests was used to evaluate children's reading comprehension, word recognition, and receptive and expressive language skills. Standardized parent and teacher rating scales were used to assess levels of behavioral disturbance. Results indicated that reading disability was found in 52% of the children with language impairments and in 9% of the children without language impairments. Clinical levels of behavior disorder were found in 29% of the children with language impairment and 19% of the children without language impairments. Common areas of difficulty for the children with language impairments and behavior disorders included attention problems and aggressive behavior problems. An analysis of the co-occurrence of reading disability, language impairment, and behavior disorder uncovered an important interaction across the three disorder categories. Results indicated that the association between language impairment and behavior disorder was largely mediated through the presence of reading disability. In other words, the presence of behavior disorders in this sample of children with language impairments appeared to be dependent upon the presence of reading difficulties/academic failure.

### ***Causation or Concurrence?***

Several hypotheses about the interrelationships between socioemotional disorders and language impairments have been advanced which guide current research (see reviews by Donahue, Hartas, and Cole, 1999; Gallagher, 1999; Windsor, 1995). One prominent hypothesis is that common neurological substrates cause both socioemotional disorders and language impairments to develop in children (e.g.,

Beitchman et al. 1986; Goodyer, 2000; Locke, 1994; Melamed & Wozniak, 1999; Tallal, Dukette, & Curtis, 1989). Support for this hypothesis comes from studies that have found associations between specific measures of language and behavior and general measures of cognitive/perceptual development. For example, in a study of preschool children with language impairments, Tallal et al. (1989) found significant correlations between specific behavioral problems and performance on a variety of tasks assessing nonverbal areas of attention, perception, and motor skills. These authors concluded that the socioemotional disorders identified in their sample of children with language impairments were probably related to primary delays in perceptual and motor functioning.

Another hypothesis for the overlap between language impairments and socioemotional disorders suggests that linguistic deficits may develop in children with socioemotional disorders as a consequence of their problems in social and emotional development. Love and Thompson (1988) evaluated the language skills and socioemotional problems of 116 children referred to a clinic for suspected serious psychiatric problems (age range: 2–7 years). Eighty-five children were diagnosed as having ADHD and most of the children with ADHD (75%) received a dual diagnosis of speech/language disorder. Given the extremely high rate of speech/language deficits in this group, these authors suggested that language delays develop in children with ADHD because deficits in information processing and social referencing interfere with social interactions that support language learning.

A third hypothesis suggests that socioemotional disorders may develop in children with language impairments as a compensatory reaction to repeated episodes of peer rejection and academic failure which often accompany language impairments, (e.g., Beitchman, Brownlie, & Wilson, 1996; Redmond & Rice, 1998, 2002; Rice, 1993; Tomblin et al. 2000). Redmond and Rice collected teacher and parent ratings on a sample of 17 children with specific language impairment (SLI) at the end of their kindergarten, first grade, and second grade years, and compared them to a control group of 20 age-matched typically developing peers. Results indicated that teachers, particularly kindergarten teachers, reported significantly more attention problems and social withdrawal in the group of children with SLI than in the control group. No differences were observed between the two groups on any of the parent ratings. These results suggest that the behavior problems reported by teachers were to some extent dependent upon the academic and communicative demands of the classroom environment.

In sum, the nature of the interrelationships between language and socioemotional disorders is unknown and as the results of recent studies illustrate, these associations are probably complex and mediated by additional factors. The available data are insufficient to address basic questions in this area. For example, how often do language impairments and socioemotional disorders co-occur? What types of language impairments are associated with different kinds of socioemotional disorders? Co-occurrence rates have varied widely across studies due to differences across samples in terms of age, additional conditions (e.g., mental

retardation) and the assessment procedures used (cf. Donahue et al., 1999; Gallagher, 1999; Windsor, 1995).

### *Need for Services*

In spite of significant empirical and conceptual obstacles, the research adds urgency to the modification of current clinical practices. It seems that a significant number of children with language impairments are not receiving the comprehensive services they need. Gallagher (1999) has offered a number of suggestions, including increasing collaboration with mental health care professionals, expanding speech-language pathologists' involvement in treatment teams for children with socioemotional disorders, and instituting routine screenings of children with language impairments for socioemotional disorders.

In order for speech-language pathologists to adequately implement these suggestions, however, a working familiarity with the methods and content of socioemotional assessment procedures is essential. This includes an appreciation of the psychometric issues involved in these procedures as well as a critical evaluation in light of their appropriateness for assessing children with language impairments. Just as the assessment of I.Q. in children with language impairments requires a careful evaluation of the contributions of verbal and nonverbal performance to overall test scores, the determination of socioemotional pathology in children with suspected language impairments should be checked against the limitations inherent in having a language impairment.

This may be easier said than done. It is not always clear where the boundaries are between linguistic competence and socioemotional competence. Behavioral symptoms representing limitations inherent to deficits in language processing may easily be misinterpreted as symptomatic of socioemotional pathology. For example, consider the appropriate interpretation of commonly reported behavior problems in children, such as "has difficulties following classroom directions," or "has difficulties staying on task," or "is easily distracted." Should these problems be considered in light of potential difficulties in regulating attention or self-control, or should they problems be considered as possible indications of difficulties processing the semantic content or syntactic forms of classroom discourse? Is it possible that these difficulties are caused by a combination of limitations in both areas? Likewise, many socioemotional symptoms could be classified in linguistic terms as deficits in different aspects of pragmatic competence (e.g., appropriate interactions with peers). Unfortunately, the implications of overlapping symptoms between language impairments and socioemotional disorders have received very little attention (see Camarata & Gibson, 1999 for an exception).

In the following sections of this report, classification systems and methods commonly used to assess socioemotional pathology in children are described. Special focus is placed on the behavioral rating scale methodology because of its prominence in the research literature and its growing presence in clinical assessments. Potential threats to the validity of the rating scale method for assessing children with language impairments are identified. A protocol for collaborative assessment of language and

behavioral impairments that minimizes the risk of over-identification is presented.

### *Classification of Socioemotional Disorders in Children*

A substantial body of information on the assessment of socioemotional disorders in children exists, and it is beyond the scope of this discussion to review it here. Instead, a few key issues pertinent to the assessment of children with language impairments are presented briefly below. Much of the discussion presented in this section is based on Merrell (1999) and Gresham and Noell (1993), in which the interested reader can find additional information regarding the historical, conceptual, and practical issues involved in diagnosing socioemotional pathology.

Perhaps the most confusing aspects for professionals like speech-language pathologists who operate outside of the purview of mental health services is the variety of diagnostic labels used to classify socioemotional problems. For example, children experiencing significant difficulties controlling their anger and following classroom expectations of appropriate behavior could be described as having a "conduct disorder," a "severe emotional/behavior disorder," or an "externalizing behavior disorder." Furthermore, all three diagnoses can exist within the context of an individual service delivery plan without any inherent contradiction. This is because different professionals involved in the diagnostic process are often required to use different classification schemes.

### *Diagnostic and Statistical Manual for Mental Disorders*

The first and most frequently used classification system is based on the Diagnostic and Statistical Manual for Mental Disorders (DSM). The DSM system has undergone five major revisions since first appearing in 1952 and the current version, the DSM IV-TR represents the third revision of the DSM system in the past 14 years. Preferred by psychiatrists and clinical psychologists, the DSM scheme is based on a medical model that views socioemotional problems in the context of potential disease processes. The DSM uses a multidimensional approach to diagnosis, meaning that individuals are classified across five different dimensions or axes rather than given a single diagnosis. The first two axes contain the classification of abnormal behavior and include 27 different general categories of disorders representing various types of psychological/psychiatric disorders (e.g., schizophrenia, personality disorders). Also included on these axes are categories more familiar to speech-language pathologists such as categories for various communication disorders, mental retardation, pervasive developmental disabilities, learning disabilities, and ADHD.

Diagnosis under the DSM system is not based on mutually exclusive categories, which reflects the reality that disorders in this taxonomy frequently co-occur. It is possible to have multiple diagnoses on both axes I and II. For example, a child could be diagnosed as having Attention Deficit Hyperactivity Disorder and Phonological

Disorder on axis I and Mental Retardation and Antisocial Personality Disorder on axis II. The remaining three axes are not required to make a DSM diagnosis but focus on information that should be considered during assessment. The third and fourth axes refer to general medical conditions (e.g., asthma) and psychosocial problems (e.g., homelessness). The fifth axis represents a rating of an individual's overall level of adaptive functioning on a scale of 1–100 (severe–superior).

The strengths of the DSM system include its ability to classify a broad range of problems and its potential to provide a common framework for communication among professionals. The scope of problems representing potential DSM symptoms is extensive, and virtually any moderate-to-severe socioemotional problem experienced by children can be placed into a DSM category.

There is no shortage, however, of criticism against the DSM approach. For example, although the DSM currently provides inclusionary and exclusionary criteria for each disorder, none of the criteria are wedded to particular assessment techniques. This is problematic because it leaves the determination of such critical issues as the frequency, severity, or developmental appropriateness of specific symptoms up to the clinician's judgement (Merrell, 1999). Perhaps the most significant criticism against the DSM classification system since its inception has been its limitations in the areas of reliability and validity (e.g., Achenbach, 1982; Gresham & Gansle, 1992). It has not been uncommon to find reported levels of inter-rater reliability for some disorders no better than "chance." However, these concerns appear to have been mitigated somewhat by the most current version of the system (Merrell, 1999).

### ***Individuals With Disabilities Education Act***

A second commonly used system for identifying children with socioemotional disorders is based on the IDEA guidelines for provision of special education services (see Table 1). Unlike the DSM classification system, educational classification systems do not distinguish among different kinds of socioemotional disorders. Instead, a general diagnostic label based on the IDEA definition of "Emotionally Disturbed" is assigned to children, and the specific type of services a student receives is based on the nature and severity of their disability.

Very little consistency exists across states and local educational agencies in their adaptations of the federal definition. For example, concerns about the stigmatizing connotations of "Emotionally Disturbed" have led to the adoption of alternative terms across states and local educational agencies (e.g., "Behaviorally Disordered," "Emotionally Impaired," "Behaviorally-Emotionally Handicapped"). Likewise, different states specify different assessment procedures and different criteria for determining whether the problems have exhibited "over a long period of time and to a marked degree" (Merrell, 1999). In contrast to the DSM system, educational classification systems exist solely for determining eligibility and the provision of services and provide no information about the

etiology, prevalence, differential diagnosis, or the prognosis of particular socioemotional disorders.

### ***Behavioral Dimensions Approach***

Over the last two decades, various systems based on statistical approaches to classification have been gaining prominence in clinical assessments. This general approach to classification has been referred to as the "Behavioral Dimensions Approach" by Merrell (1999) and as the "Empirical Classification Approach" by other authors (e.g., Achenbach, 1982; Gresham & Noell, 1993). In contrast to the DSM and Educational classification systems which relies on a priori definitions, the Behavioral Dimensions Approach defines disorders on the basis of behavioral problem clusters, identified through statistical procedures such as factor analysis and structural equation modeling. These analyses have been based primarily on standardized checklists and rating scales completed by parents and teachers.

Not surprisingly, different instruments have provided different results in the number and types of socioemotional disorders (cf. Gresham & Noell, 1993). Thus, a limitation of the Behavioral Dimensions Approach is that there is as yet no agreed upon taxonomy of disorders. However, some important consistencies have appeared across different analyses. For example, several investigations have documented the existence of broadband, or second order, syndromes that represent large general behavioral clusters for many types of related socioemotional problems (c.f. Merrell, 1999). Specifically, a dichotomy can be made between behavioral extremes. On one end of the continuum we can place behaviors that represent extremes of "over-controlled" or "internalizing behavior problems," such as anxiety, depression, and social withdrawal. On the other end, we can place behaviors that represent extremes

**TABLE 1. P.L. 94-142's definition of "seriously" emotionally disturbed.**

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| <p>(i) The term means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree, which adversely affects educational performance:</p> <ul style="list-style-type: none"> <li>(a) An inability to learn which cannot be explained by intellectual, sensory, or health factors;</li> <li>(b) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers;</li> <li>(c) Inappropriate types of behaviors or feelings under normal circumstances;</li> <li>(d) A general pervasive mood of unhappiness or depression or,</li> <li>(e) A tendency to develop physical symptoms or fears associated with personal school problems</li> </ul> <p>(ii) The term includes children who are schizophrenic. The term does not include children who are socially maladjusted, unless it is determined that they are seriously emotionally disturbed.</p> |
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of “under-controlled” or “externalizing behavior problems,” such as aggressive behavior, delinquent behavior, and hyperactivity.

## Assessment Methods

A variety of methods and procedures are used to identify socioemotional disorders in children. Many methods such as clinical interviews, self-reports, and projective techniques rely heavily on children’s verbal responses to make inferences about their underlying socioemotional competence. Other methods, such as sociometric procedures and behavioral-rating scales utilize the judgements of others to make evaluative statements about the appropriateness of children’s behaviors. Regardless of the assessment methods used, professionals need to take children’s linguistic proficiency into account.

### *Clinical Interviews, Self-Reports, and Projective Techniques*

The oldest and most venerated method of assessing socioemotional competence is the clinical interview. This method includes a wide range of formats, from the streams-of-consciousness type conversations associated with common media stereotypes to the more formalized interview schedules currently used to make specific DSM diagnoses. During the clinical interview, information about the type, duration, and the severity of problems children are experiencing is collected in an essentially open-ended conversational format from parents, teachers, and the children themselves. The strengths of this approach include its flexibility and the opportunities it presents for establishing rapport and trust. Merrell (1999) also points out that clinical interviews allow the clinician to observe first hand important client characteristics such as insight, defensiveness, and willingness to cooperate.

The weaknesses of this assessment method are also associated with its flexibility, and they include concerns about reliability, consistency, and clinician bias (Merrell, 1999). Self-reports scales represent extensions of clinical interviews that address some of these concerns by including standardized protocols that increase reliability and provide normative information about the appropriateness of children’s responses. Self-report scales vary considerably in their levels of reliability and validity (cf. Webster, Brown-Triolo, & Griffith, 1999).

Projective techniques, such as sentence completion tasks (e.g., *I usually get mad when...*), the “Draw-A-Person Technique,” and Rorschach ink blots are all based on the assumption that children’s expressions under loosely structured contexts reveals important information about their unconscious needs, motives, and conflicts. Merrell (1999) points out that projective techniques continue to be some of the most widely used of all psychological assessment methods in spite of long-standing concerns about their psychometric integrity and the psychodynamic assumptions they are based on.

In addition to the well-documented concerns about reliability and validity regarding the use of clinical inter-

views, self-reports and projective techniques to assess socioemotional pathology there are additional concerns specific to the challenge of assessing children with language impairments. Webster et al. (1999) surveyed 8 standardized self-report instruments and 3 projective techniques that are used to identify personality disorders in children and found implicit linguistic demands figured prominently in these procedures. These included fluent retrieval for words, accurate comprehension, and production of complex syntax, the interpretation of figurative language and understanding of temporal adverbs. These authors also noted that most of these instruments require a minimum 5th grade reading and vocabulary level—a requirement that places many children with language disabilities at a distinct disadvantage.

In conclusion, clinical interviews, self-report, and projective techniques all place a premium on complex verbal expression. Inefficient communication filled with hesitations, inaccurate statements, and off-target responses resulting from language impairments may easily be misinterpreted as symptoms of underlying socioemotional pathology. As Webster et al. (1999) point out, it is inappropriate and unethical to use these procedures with children who have language impairments without first making reasonable accommodations to their limitations.

### *Sociometric Procedures*

Sociometric procedures measure important dimensions associated with socioemotional pathology such as children’s popularity, peer acceptance, leadership ability, and social awkwardness. Under this assessment format, information about individual children is obtained directly from members of their peer group through the use of ratings and rankings. Sociometric procedures allow clinicians to tap into important ongoing social dynamics and, when collected on children with socioemotional problems, have proven to be highly predictive of later negative outcomes such as school dropout and delinquency (Merrell, 1999). There are considerable practical limitations that limit the usefulness of sociometric procedures for the routine assessment of socioemotional pathology. The collection of sociometric information is time-consuming and requires the full participation of children’s classmates and other peer groups. More importantly, individual school districts may not allow the use of these procedures. Merrell (1999) points out that in the past several years, school boards and professional organizations have raised serious concerns about the appropriateness of using negative peer nominations and other pejorative aspects of the sociometric method.

### *Behavioral Rating Scales*

According to several reviews on the topic, behavioral rating scales may represent the best option for the routine evaluation of children. Rating scales are an objective, norm-based method of assessment that is less expensive and considerably more reliable than other methods (Elliott, Busse, & Gresham, 1993; Gresham & Noell, 1993; Martin, Hooper, & Snow, 1986; McConaughy, 1992; Merrell, 1999). For these reasons, behavioral ratings scales are currently the

“gold standard” in the research literature and are becoming increasingly prominent in the qualification criteria used by state education agencies (Merrell, 1999). Furthermore, because an overt verbal response is not required, rating scales represent a particularly attractive method for assessing children with verbal deficits.

Even though substantial differences in format and content exist across different behavioral rating scales, there are several properties shared by all rating scales. As a general assessment procedure, behavioral rating scales represent summaries of judgements about a child’s behaviors or characteristics collected from an informant familiar with the child. Informants are commonly parents and teachers, but under some circumstances other individuals who interact with the child on a daily basis, such as a school counselor, aide, or even a peer, may be asked to complete a rating scale.

Rating scales use one of two formats for soliciting responses from informants. In a dichotomous response format, informants are asked to simply indicate the presence or absence of behaviors or characteristics from a checklist. In a multiple-step response format, informants are asked to further indicate the levels of severity, frequency, or duration associated with the problem behavior. The levels of response scaling used represent more than an aesthetic consideration on the part of test developers because important measurement tradeoffs may be involved (Edelbrock, 1983). On the one hand, dichotomous response formats may be limited, because many problem behaviors, such as *Short attention span*, *Impulsivity*, or *Difficulty following directions*, are present in at least some degree in all children some of the time. Dichotomous responses are limited in that they cannot capture important information about the rate or severity of particular problem behaviors. On the other hand, fine-grained distinctions about the frequency, severity, duration, or intensity may be difficult for parents and teachers to make and as the complexity of the rating procedure increases, the ratings may become less reliable.

Regardless of the response format used, the number of reported behavior problems and/or their levels of severity are summed and combined into empirically determined factors or syndrome scales, such as Internalizing, Hyperactivity, or Conduct Disorder. Across these scales, higher values indicate the presence of more behavior problems, and clinical status can be determined by comparing obtained values to ratings collected on a normative sample.

There are some important psychometric differences between rating scales and other standardized instruments that may be more familiar to speech-language pathologists, such as achievement, cognitive, and language tests. Foremost among these differences is that it is rare for scores reflecting behavioral deviancy to be normally distributed. Instead, distributions are usually skewed toward the lower end of the scales (see Merrell, 1999). Consistent with the Behavioral Dimensions Approach, factor analyses and other statistical procedures are then used to identify those particular symptoms that maximally differentiate groups of normally developing children from clinical groups. Thus, floor effects are built into these

scales because normally developing children should display only a small number of clinical symptoms.

The practical consequence of these floor effects is that rating scales have very limited differentiation of scores within the normal range of performance. This may seem like a fine technical point best left to statisticians or test designers and tangential to the issue of assessing children with language impairments, but there are two important clinical implications here. First, the presence or absence of a single item can have dramatic effects on the placement of a particular child’s ratings relative to clinical cut-off values. If children with language impairments are assessed with a rating scale that contains language items, they are *prima facie* at risk for having a socioemotional disorder. Second, describing children’s performance on a rating scale as “borderline,” “near clinical,” or “high-normal” is technically inaccurate and misleading—although frequently done in both clinical practice and within the scientific literature on children with language impairments. Comparative statements of this sort can only be made when the distribution of performance on a measure meets the assumptions associated with the symmetric bell-shaped normal curve.

### ***Potential Threats to Validity of Behavioral Ratings Scales***

*Halo Effects.* It is widely recognized that rating scales are vulnerable to various forms of rater bias, such as negative halo effects. That is, informants may rate a child in a negative manner simply because they possess a negative characteristic not related to the rated items—such as obesity, physical unattractiveness, or membership in a particular ethnic or cultural community (Elliott et al. 1993; Martin et al. 1986; Merrell, 1999). Given the negative connotations frequently associated with speech and language impairments (Bryan & Perlmutter, 1979; DeThorne & Watkins, 2001; Ebert & Prelock, 1994; Rice, Hadley, & Alexander, 1993), we should probably add these conditions to the list.

As a measure intended for general use, rating scales are preferred over other socioemotional procedures because they are cheaper, easier to administer and score, and demonstrate higher levels of reliability. These considerations probably outweigh the limitations. Furthermore, problems of over-diagnosis resulting from negative halo effects are often mitigated in clinical assessments by requiring confirmation of behavior problems from multiple sources and instruments (Elliott et al. 1993; McConaughy, 1992; Merrell, 1999). Another solution is to include validity indexes or control items within behavioral inventories that are designed to check for excessively negative judgements—a common feature of many adult self-report scales.

*Language Bias.* Behavioral inventories and the interpretation of differences provided by test manuals reflect the preconceptions of test developers, including their perspectives on the clinical value of language differences. These perspectives need to be checked for language bias in order to arrive at an appropriate interpretation of the results. For example, Tallal et al. (1989) performed a discriminant analysis on the 1983 version of the Child Behavior Checklist (Achenbach & Edelbrock, 1983) and found two

types of items differentiated their sample of children with language impairment from the control group of typically developing children 93% of the time. The first type were direct judgements of children's language skills (e.g., *Speech problems; Won't talk; Confused*) and the second type represented interpretations of children's neurodevelopmental integrity (e.g., *Acts young; Clumsy, Accident-prone*). On this particular rating scale, these items loaded onto the Immaturity and Social Withdrawal subscales. Specifically, *Speech problems* loaded onto both subscales revealing this instrument's implicit assumption that speech/language deficiencies are necessarily symptomatic of immaturity and social withdrawal.

In a more recent investigation of parent/teacher differences using the 1991 versions of the Child Behavior Checklist and the related Teacher Report Form, Redmond and Rice (1998) found that teachers rated more children with specific language impairment as having clinical levels of socioemotional pathology than the normally developing control children. In contrast, differences were not observed between parental ratings of the two groups. To investigate whether language and learning items were punitively raising teacher ratings of the children with specific language impairment, three linguistic/academic items were removed from the teacher rating scales. With this slight modification, the majority of group differences in teacher ratings were rendered nonsignificant.

The results of Tallal et al. (1989) and Redmond and Rice (1998) illustrate an important caution in the use of rating scales with children with language impairments. On many behavioral inventories, items that would be interpreted primarily as symptoms of language or learning impairments by speech-language pathologists, such as *Speech problems, Refuses to talk* or *Has difficulty following directions*, are often considered to be symptoms of underlying socioemotional pathology. As noted earlier, this is particularly problematic because the presence of language symptoms may be sufficient to place some children with language impairments over clinical thresholds.

### Survey of Selected Behavior Rating Scales

In this section, five behavioral rating scales widely used to identify socioemotional disorders in children are evaluated in light of potential bias against children with language impairments. The motivation for the survey was not to identify "the best" instrument for assessing children with language impairments but rather to present a diverse set of procedures currently in use in order to provide a context for discussion. The selection of rating scales was not intended to be exhaustive but was based on each instrument's commercial availability for clinical applications and their presence in the research literature. Importantly, each of the selected behavior scales represents a general-purpose instrument for identifying problem behaviors across a variety of settings (e.g., home, school, and community). Each scale was designed to assess a wide range of social, emotional, and behavioral problems that are considered to be clinically significant.

Included in the survey are the Louisville Behavior Checklist-Revised (Miller, 1984), the Revised Behavior Problems Checklist (Quay & Peterson, 1987), the Child Behavior Checklist (Achenbach, 1991a) and the related Teacher Report Form (Achenbach, 1991b), the Behavior Assessment System for Children (Reynolds & Kamphaus, 1992) and the Parent and Teacher Scales from the Conners' Rating Scales-Revised (Conners, 1997a; 1997b). Presentations of the syndrome scale structure and the psychometric properties of each rating scale are followed by an examination of the instrument's content in light of sources of potential language bias.

Four aspects of each scale were highlighted: (1) the representation of children with speech/language impairments in the standardization samples; (2) the presence of speech, language, or learning items within the behavioral inventories; (3) the specification of procedures for identifying inordinately punitive ratings; and (4) the specification of guidelines or accommodations for administering the instrument to children with language impairments. Table 2 presents an overview of the selected socioemotional rating scales.

#### *Louisville Behavior Checklist-Revised*

The oldest rating scale included in this survey is the Louisville Behavior Checklist-Revised (LBC-R; Miller, 1984). The LBC-R is included in this survey because it is one of the first instruments based on the Behavioral Dimensions approach to classification schemes and is a good example of the kind of items that were typically included in earlier rating scales.

According to the manual, the LBC-R was designed to "provide the mental health care worker with an overview of a child's deviant behavior" (p. 1). A dichotomous response format is used in which parents or teachers are asked to mark items as being "true" or "false" as applied to the child. The 164-item checklist is intended to identify significant social and emotional problems in children and adolescents in twenty different areas reflecting empirically motivated narrow-band and broad-band syndromes (see Table 2). Factor analyses identified three second order or broad-band syndromes, Aggression (Infantile Aggression; Hyperactivity; Antisocial Behavior), Inhibition (Social Withdrawal; Sensitivity; Fear), and Cognitive Disability (Intellectual Deficit; Immaturity).

Although the distribution across socioeconomic levels was comparable to census data available at the time of test construction, the geographic distribution and ethnic composition of the LBC-R standardization sample was limited. The manual provides no information about the representation of children with speech, language, or learning disabilities in the sample. In addition to general norms to be used for screening behavioral disorders, the manual provides separate norms derived from a clinically ascertained sample of children receiving psychiatric services. Test-retest reliability coefficients ranged from poor to good across the different syndrome scales (*r*-value range: .42-.92), with lower levels of reliability reported for Inhibition and its related subscales.

The LBC-R contains a large number of items that either directly or indirectly represent estimations of speech,

**TABLE 2. Overview of selected socioemotional rating scales.**

| Instrument                                | Age        | Normative Sample                              |  | Scales   | Speech/Language Items  |
|---|------------|---|--|--|--|
|   |            | N   | Representation of S/LI and LD children                             |  |  |
| Louisville Behavior Checklist–Revised     | 3–17 years | 1,066 parent ratings                          | No information provided  | Infantile Aggression<br>Hyperactivity<br>Antisocial Behavior<br>Social Withdrawal<br>Sensitivity<br>Fear<br>Intellectual Deficit<br>Immaturity<br>Prosocial Deficit<br>Rare Deviance<br>Neurotic Behavior<br>Psychotic Behavior<br>Somatic Behavior<br>Sexual Behavior | Can't talk; Doesn't speak clearly;<br>Finds it hard to talk to others;<br>Speech handicap; Acts immature;<br>Responds to questions; Puts two sentences together; Talks and acts silly; Seems dull; Uses words like "yesterday" correctly; Recites the alphabet; Tells jokes and riddles; Tells where he/she lives by street number; Names the days of the week |
| Revised Behavior Problem Checklist        | 5–23 years | 248 parent ratings<br>972 teacher ratings     | Clinical norms for a sample of 158 children with LD available      | Conduct Disorder<br>Socialized Aggression<br>Attention-immaturity<br>Anxiety-Withdrawal<br>Psychotic Behavior<br>Motor Excess  | Incoherent speech; Has trouble following directions; Slow and not accurate; Acts childish  |
| Achenbach System (CBCL and TRF)           | 3–18 years | 2,113 parent ratings<br>1,391 teacher ratings | Children receiving special services excluded from sample           | Aggressive Behavior<br>Anxious/Depressed<br>Attention Problems<br>Delinquent Behaviors<br>Social Problems<br>Somatic Complaints<br>Thought Problems<br>Withdrawn   | Acts young; Speech problems; Won't talk; Has difficulty following directions; Has difficulty learning  |
| Behavioral Assessment System for Children | 4–18 years | 3,174 parent ratings<br>2,068 teacher ratings | Children with speech/language disorders represented 1.9% of sample | Hyperactivity<br>Aggression<br>Conduct Problems<br>Anxiety<br>Depression<br>Somatization<br>Atypicality<br>Withdrawal<br>Leadership<br>Social Problems<br>Study Skills<br>Learning Problems<br>Attention Problems  | Refuses to talk; Says "nobody understands me;" Listens to directions; Begins conversations appropriately; Responds when spoken to  |
| Conners Rating Scales–Revised             | 3–17 years | 4,908 parent ratings<br>3,870 teacher ratings | Children receiving special services excluded from sample           | Oppositional<br>Cognitive Problems<br>Hyperactivity<br>Anxious-Shy<br>Perfectionism<br>Restless-Impulsive<br>Emotional Lability<br>ADHD Index  | Difficulty doing homework; Forgets things he/she has learned; Fails to finish things; Does not follow instructions; Does not seem to listen; Needs close supervision to get through assignments  |

language, or learning abilities that are likely to penalize children with impairments in these areas (see Table 2). These items are included in the Social Withdrawal, Intellectual Deficit, and Immaturity syndrome scales and are thus regarded by this instrument as symptomatic of these syndromes. Procedures for identifying informant bias are not included in the manual. The manual provides no guidelines for making accommodations to meet the needs of children with language impairments.

**Revised Behavior Problems Checklist**

The Revised Behavior Problems Checklist (RBPC: Quay & Peterson, 1987) represents a screening instrument for the identification of behavior disorders in children, adolescents, and young adults. Parents or teachers are asked to indicate whether items apply to the child “never,” “sometimes,” or “always.” The 77 items on the RBPC were identified through factor-analytic procedures from a larger set of clinical symptoms and selected because these problems



loaded most onto six factors identified as Conduct Disorder, Anxiety/Withdrawal, Attention Deficit/Immaturity, Socialized Aggressive Disorder, Psychotic Behavior and Motor Tension-Excess. Limited information on the racial and ethnic composition of the normative sample is provided.

Levels of test-retest reliability and inter-rater reliability on the parent and teacher rating scales ranged from poor to adequate ( $r$  value ranges: .49–.83 and .52 to .85 respectively). The authors note that low correlations were due primarily to lower scores during the second administration and this finding “may reflect a settling-in of the children, an increasing teacher tolerance for deviance, simple regression toward the mean, or some combination of all three” (p. 4). The lowest levels of interrater reliability reported were for the Anxiety-Withdrawal and Attention Problems-Immaturity scales.

The RBPC contains a few items that could be regarded as primarily measuring speech, language, or learning skills (see Table 2). All of these items are included in the Attention Problems/Immaturity scale. Guidelines for identifying rater bias are not included in the manual. The RBPC recognizes that norms based on a random representative sample of children “may not always be the most appropriate single reference point for making decisions about individual children” (p. 12) and provides additional norms for various clinical populations, including a normative sample of 158 children with learning disabilities. Given the presence of language items on the Attention-Problems/Immaturity scales, the clinical norms would be more appropriate for identifying significant behavior problems in these areas for children with language and learning disabilities.

### ***Child Behavior Checklist and Teacher Report Form***

The Child Behavior Checklist (CBCL; TRF: Achenbach, 1991a, 1991b) and the Teacher Report Form (TRF) are part of a comprehensive assessment framework for identifying socioemotional disorders in children. The Achenbach System of Empirically Based Assessment, developed by Thomas Achenbach and his colleagues, includes a battery of behavioral ratings, clinical interviews, and behavioral observation measures. The CBCL and TRF represent the two most widely used instruments in developmental psychopathology research, and over the last decade, more than 3,000 investigations have used the CBCL or TRF as either dependent or independent variables (Achenbach, 1999). The CBCL and TRF are quickly becoming the international standards for assessing children since versions of the instruments have been translated into more than 50 languages.

Like the RBPC, both the CBCL and the TRF use a three-point rating scheme. The CBCL and the TRF share a common inventory of 115 items and the two instruments are intended to be used together to establish cross-informant syndromes with the diagnosis of socioemotional disturbance in children and adolescents requiring validation from multiple informants. Both scales share the same syndrome-scale structure composed of eight syndrome scales: Aggressive Behavior, Anxious/Depressed, Attention Problems, Delinquent Behaviors, Social Problems,

Somatic Complaints, Thought Problems, and Withdrawn. There is also an Other Problems category, which includes behaviors that do not represent problems consistent with the content of the other scales but which contribute to a general deviancy score. Two second-order or broad-band scales are available for assessment, the Internalizing and Externalizing scales, which represent composite groupings of the syndrome scales (Internalizing = Withdrawn, Somatic Complaints, Anxious/Depressed; Externalizing = Delinquent Behavior and Aggressive Behavior).

The normative samples used to standardize the CBCL and TRF were geographically, socioeconomically and ethnically diverse. However, children receiving special education services, which would include speech and language services, were excluded from the normative sample. The psychometric properties of the CBCL and TRF range from adequate to excellent. Test-retest reliability ranged from .80 to .95 across the different syndrome scales on both instruments, and several independent studies exploring concurrent and predictive validity likewise report high levels in these areas. Reports of inter-rater reliability were more modest, ranging from .42 to .72, with lower levels reported for the set of syndrome scales comprising the Internalizing set of behavior problems (Withdrawn, Somatic Complaints, Anxious/Depressed).

Earlier versions of the CBCL included an Immaturity syndrome scale, which included *Speech problems* as a primary symptom of deficit in this area. The 1991 versions of the CBCL and TRF no longer include an Immaturity syndrome subscale. They continue, however, to incorporate several items into their inventories (see Table 2) that could be interpreted as primary speech, language, or learning items. The item *Speech problems* currently appears on the Other Problems scale and thus contributes to the overall deviancy score but does not contribute to any of the syndrome scales. The rest of the items are included in the Withdrawn, Social Problems, and Attention Problems syndrome scales. The manuals provide guidelines for establishing syndrome scores based on the coordination of parent and teacher ratings but does not explicitly provide guidelines for identifying rater bias. Likewise, neither the manuals nor any of the related materials provided to school-based practitioners (e.g., Achenbach, 1991c; Achenbach & McConaughy, 1998) address the issue of potential inflation due to language impairments.

### ***Behavioral Assessment System for Children***

The Behavioral Assessment System for Children (BASC: Reynolds & Kamphaus, 1992) like the Achenbach System of Empirically Based Assessment, represents a comprehensive assessment system composed of multiple components: a parent rating scale, a teacher rating scale, a student self-report of personality, a structured developmental history, and a behavioral observation form. The BASC was designed to assess learning, emotional and behavior disorders, and personality constructs of children and adolescents. A four point rating scale is used (“not true at all,” “just a little true,” “pretty much true,” “very much true”) and three sets of rating scales are available for children in the following age ranges:

4–5, 6–11, and 12–18 years. The parent rating scales contain 126–138 items, the teacher rating scales contain 109–148 items, and all scales share a common syndrome scale structure that includes Hyperactivity, Aggression, Conduct Problems, Anxiety, Depression, Somatization, Atypicality, Withdrawal, Leadership, Social Problems, Study Skills, Learning Problems, and Attention Problems. Second order, or broad-band scales, similar to those provided by the CBCL and TRF are also available: Externalizing Problems (composed of Hyperactivity, Aggression, and Conduct Problems) and Internalizing Problems (composed of Anxiety, Depression, and Somatization). A third broad-band score is also available on the teacher report form, School Problems, which is composed of Attention Problems, Study Problems, and Learning Problems. Because little overlap exists between the items used on the parent and teacher scales, ratings from these different informants are not directly comparable as they are with the CBCL and TRF.

The standardization samples of the BASC teacher and parent rating scales were ethnically, socioeconomically, and geographically diverse. In contrast to many of the other rating scales reviewed here, children with special education classifications, including children with learning disabilities and speech/language disorders, were represented in the BASC standardization. The representation of children with speech/language disorders at 1.9%, however, falls considerably short of current prevalence estimates of these disorders which places them closer to 6–8% of the general population (Tomblin, Records, Buckwalter, Zhang, Smith, & O'Brien, 1997; Johnson et al. 1999). Like the RBPC, the BASC provides separate norms for children with learning disabilities which allow practitioners to identify elevated levels of behavioral problems in children relative to other children with a similar clinical profile.

Test-retest reliability for the parent and teacher rating scales of the BASC ranged from poor to excellent ( $r$  value ranges: .41–.94 and .59–.96 respectively) with most correlations around the low nineties. Inter-rater reliabilities were more modest and ranged from .35 to .76 for the parent rating scale and from .29 to .89 for the teacher rating scale. Some of the lowest values reported were for the Internalizing behavior scales.

The teacher rating scale of the BASC contains several language and learning items that appear on the Learning Problems and Study Skills scales, which are designed specifically to screen for problems in these areas. However, the Attention Problems, Withdrawal, Depression, and Social Skills scales also contain items that could be considered language and/or learning items that could penalize children with language impairments (see Table 2). BASC is the only scale from the set of instruments evaluated here that incorporates explicit procedures for identifying inordinately negative ratings. The BASC uses an “F index,” included on both the teacher and parent rating scales, that measures a respondent’s tendency to be excessively negative about the child’s behaviors. This feature of the BASC is highly appropriate for the assessment of children with language impairments who, due to their limited verbal proficiency, are likely to receive

pejorative judgements about their social competence from adults. *Never completes homework*, *Always refuses to join group activities*, and *Has no sense of humor* are examples of items included on this index.

### **Conners’ Rating Scales–Revised**

Various versions of the Conners’ Rating Scales, which currently includes two parent, two teacher, and two adolescent self-report scales, have been in use since the 1960s. The main clinical application of this system has been the assessment of ADHD. However, both the parent and teacher rating scales “contain subscales for the assessment of conduct problems, cognitive problems, family problems, emotional problems, anger problems, and anxiety problems” (p. 5) and have been used to assess problems in these areas. The most current version of the system, the Conners’ Rating Scales–Revised (CRS-R: Conners, 1997a; 1997b) contains short and long forms of the parent and teacher rating scales, with the number of items ranging from 27–80. Because earlier versions of the CRS contained different numbers of items, a common way of referring to these scales has been to include these numbers as abbreviations (e.g., *CTRS-39*, for the version of the Conners’ Teacher Rating Scale containing 39 items). The parent and teacher rating scales share a common four-point rating scale similar to the one used by the BASC. Although differences across the items included in the parent and teacher inventories are quite pronounced, excluding direct comparisons, the four rating scales of the CRS-R share a common syndrome structure: the short forms contain an Oppositional, Cognitive Problems/Inattention, Hyperactivity, and an ADHD Index. The long forms contain three additional scales: Anxious/Shy, Perfectionism, Social Problems, and Psychosomatic. Two DSM-IV Symptoms subscales are also available on the long forms for differentiating ADHD predominately inattentive type from the predominately hyperactive-impulsive type.

Earlier versions of the CRS still enjoy wide currency and school-based practitioners are likely to encounter these tools. There are some psychometric differences between earlier and later versions of the scales, and practitioners should consult the appropriate test manuals. In the interest of brevity, this section of the review will focus on the most recent versions of the parent and teacher rating scales. The normative sample of the CRS-R is large, representing an ethnically diverse pool of children and contained over 200 data collection sites in the United States and Canada. The technical manual provides separate norms for African American children. Children receiving special education services, which would again necessarily include children with speech and language impairments, were excluded from the sample.

Test-retest reliability coefficients range from poor to good ( $r$  values range: .47–.92), with the lowest values reported for the Cognitive Problems/Inattention, Anxious/Shy, and DSM-IV hyperactive Impulsive subscales. Inter-rater reliability examining consistency between parents (i.e. mothers versus fathers) or between different teachers is not reported. However, correlations between parents and teachers across the different subscales indicate that very limited levels of agreement can be expected ( $r$  values: .12–.47).

The items *Speech problems*, *Uses baby talk*, *Hard to understand*, and *Childish and immature*, included in the 1990 versions of the CRS have been removed from the current CRS-R inventories (Conners, 1990; Conners 1997a). However, several items remain on the CRS-R that could be considered primary measures of linguistic competence. For example, all of the items that appear on the Cognitive Problems/Inattention fit this description. In addition, some items that appear on the ADHD symptom indexes could also be interpreted in this way (See Table 2).

Potential problems with integrating discrepant reports from different informants are discussed and follow-up assessment is recommended in these situations, including assessments for learning disabilities (Conners, 1997a, p.49). Specific procedures for identifying rater bias, however, are not provided. Likewise, the CRS-R recognizes that ADHD often co-occurs with other disorders, including language and learning disabilities, but provides no guidance for accommodating the tools to the assessment of children with speech/language impairments.

### **Summary of Selected Behavioral Rating Scales**

There are a number of generalizations that emerge from this review that directly affect our interpretations of the research literature and which also have consequences for efforts to modify current assessment procedures. Considering the scales in chronological order, there appears to be a general trend away from the use of “social maturity/immaturity” as a meaningful socioemotional construct where speech and language impairments are regarded as symptomatic. Thus, results from early studies reporting considerable overlap between language impairments and deficits in “social maturity” need to be interpreted cautiously.

Although items measuring linguistic proficiency appear with less frequency on more current instruments, all of the scales reviewed here contained items that could potentially bias measurement in a way that children with language impairments would be over-identified. The subscales most likely to contain language items were those representing immaturity, internalizing, attention, and social problems. A consistent finding across several research reports is that children with language impairments are most likely to score higher in these areas than their typically developing peers (Beitchman et al. 1996; Fujiki, Brinton, Morgan, & Hart, 1999; Redmond & Rice, 1998, 2002; Tallal et al. 1989). It is important to stress here that, across the different subscales reviewed, the lowest levels of test-retest reliability and inter-rater reliability were consistently for these particular subscales. In fact, the majority of subscales measuring immaturity, internalizing, attention, and social problems did not meet acceptable levels of reliability. Our ability to interpret current co-occurrence rates offered by the research literature is directly affected by these limitations. Observed inconsistencies across studies in the amount of overlap between language impairments and these types of behavior problems may simply reflect common limitations in the reliability and construct validity of current socioemotional instruments.

None of the scales provided explicit instructions for administering the tool to children with language impairments. All of the test manuals recognized the potential problems of rater bias but only one scale, the BASC, provided a procedure for identifying negative halo effects. On the other hand, all of the manuals recognized the danger of over-interpreting results obtained from a single measure and recommended corroboration across multiple measures before a diagnosis is made. This position reflects a general consensus among many mental health care associations that comprehensive assessments using multiple measures collected from multiple sources across multiple settings represents best practice (cf. American Psychological Association, 1992; Council for Children with Behavioral Disorders, 1991; Merrell, 1999). Unfortunately, these procedures have not been applied in studies of the co-occurrence of language and socioemotional impairments and it is reasonable to expect that substantial reductions in the amount of overlap would occur if these practices were applied in future investigations. The clinical implication here is that speech-language pathologists and mental health care professionals cannot rely on the research literature to set their clinical hypotheses on how often socioemotional disorders should occur in children with language impairments.

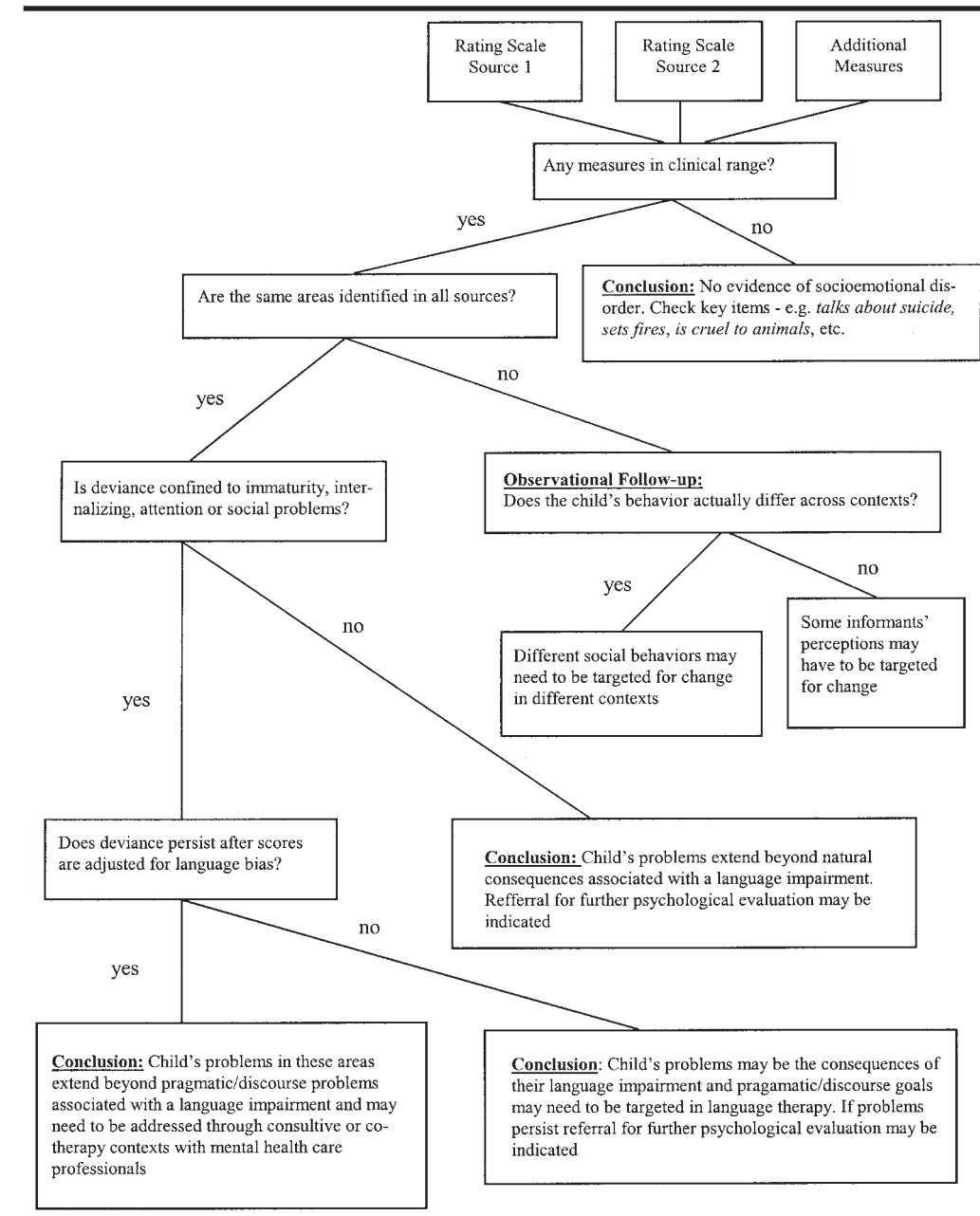
Three of the rating scales excluded children receiving speech/language services from their standardization and none of the scales included appropriate levels of representation of children with language impairments. This limitation renders the available norms, on which current estimates of co-occurrence are based, inappropriate for clinical use. By excluding children with language impairments, the norms provided by these rating scales do not reflect the general population but in effect represent a “super-normal” range of performance (see McFadden, 1996 for a discussion on the limitations of using standardized instruments with truncated norms). This is not a small issue for clinicians trying to interpret results obtained from these rating scales because, as recent epidemiological evidence indicates, children with speech/language impairments represent a significant portion of the general population (Johnson et al. 1999; Tomblin et al. 1997).

### ***Suggested Guidelines for Using Rating Scales With Children Who Have Language Impairments***

Although the interrelationships between language impairments and socioemotional disorders continue to pose empirical problems and work clearly needs to continue toward the development of more reliable, valid, and language-neutral instruments, this review of socioemotional rating scales revealed important directions for improving current assessment practices. That is, speech-language pathologists do not need to wait for better tools or a definitive estimate of the co-occurrence of language impairments and socioemotional disorders before they can collaborate with mental health care professionals and participate in the socioemotional assessments of children with language impairments.

Children suspected of having either a socioemotional

**FIGURE 1.** Suggested decision tree for using rating scales with children who have language impairments.



disorder or a language impairment should receive a comprehensive evaluation by an assessment team composed of speech-language pathologists and mental health care professionals. The issue of potential language bias should be addressed by school-based assessment teams at every phase of the assessment process. Figure 1 displays a suggested decision tree that could be used by speech-language pathologists in collaboration with mental health care professionals during assessment planning, test selection, and test interpretation. The decision tree incorporates mechanisms currently regarded as best practice by mental health care organizations as well as specific modifications to accommodate the needs of children with language impairments.

1. *Collect standardized measures of socioemotional integrity from multiple informants.* Information should be collected from multiple sources regarding the child's behavior across different settings (e.g., parents, teacher; home, school) using standardized rating scales. It may also be appropriate, depending on the child's age, literacy level, and verbal comprehension skills, to collect additional measures, such as self-reports or structured interviews at this time. Using standardized norms as a reference point, a determination is then made as to whether any of the measures place the child's performance within the clinical range. If not, the conclusion is that a socioemotional disorder is not present. Key items, such as *Talks about*

*suicide, Sets fires, or Is cruel to animals*, that represent potential areas of concern in and of themselves should be checked and evaluated further by the mental health care professionals on the team.

2. *Consider discrepancies between informants in light of differences across situations.* If any of the measures collected place the child's behaviors within the clinical range, the stability of problems across settings and informants should then be considered. When multiple informants report concerns in the same areas this suggests that the behavior problems may be severe enough to warrant the diagnosis of a socioemotional disorder. However, when informants disagree, interpretation is more complicated. For example, the child's behavior may not actually be different across contexts, but differences between ratings may be due to differences between informant expectations or biases. Some informants may have unrealistic expectations about the ability of children with language impairments to process complex verbal information or may make inappropriate assumptions about the causes of their language impairments. In this situation, assessment teams may need to provide informants with information about the social and academic consequences associated with language impairments. Another explanation for differences between informants is that the child's behavior may in fact be dramatically different across different settings. For children with language impairments we might expect behavior problems to appear more frequently when the situation demands more linguistic proficiency. When informants disagree, an ecobehavioral assessment allows the assessment team to tease out conditions that elicit and maintain behavioral difficulties (see Merrell, 1999 for a variety of suggested procedures).

3. *Consider the reported behavior problems in light of instrument bias.* The assessment team also needs to consider the complication the child's language impairment presents to the valid measurement of socioemotional deviance. Language items most frequently appear on scales measuring immaturity, internalizing, attention, and social problems. Special consideration should be given, therefore, to scores obtained in these areas and adjustments should be made in cases when language bias is evident. For example, language items should be removed from the calculation of standard scores in these areas before the diagnosis of behavioral deviance is made. When dramatic difference exist between children's adjusted and non-adjusted scores, behavior problems should be interpreted as a consequence of children's language impairments, and specific pragmatic/discourse skills may need to be targeted in language therapy. Alternatively, problems in the areas of immaturity, internalizing, attention, and social problems may still be apparent after children's scores are adjusted for language bias. In these situations, follow-up evaluations by the assessment team might indicate the presence of additional behavior problems that may need to be addressed in consultative or co-therapy contexts (see Ishii-Jordan & Maag, 1999 for the strengths and weaknesses of both approaches).

4. *Collect local norms.* Whenever feasible, the assessment team should collect local norms. This would be particularly important for those professionals working with populations

representing a different ethnic or cultural group than those reflected in test manuals or a more circumscribed age range (e.g., kindergarten screenings). An inclusion of children with language impairments into these local norms at rates that more closely approximate levels in the general population would also improve the representativeness of the standard by which all children are evaluated.

## Summary and Concluding Remarks

Several lines of evidence suggest that a significant portion of children receiving services for socioemotional disorders have unidentified language impairments. One reason that language impairments may go unidentified in these children is that the everyday manifestations of receptive and expressive language problems may be misinterpreted as symptoms supporting the diagnosis of underlying socioemotional pathology. Many of the assessment methods used to identify socioemotional disorders in children require sophisticated verbal skills and appear to place children with language impairments at a distinct disadvantage. Behavioral rating scales represent an attractive assessment method because they are norm-referenced, more reliable, and more valid than other methods—and because they do not require a verbal response from young children.

Rating scales, however, are not “risk-free” when used with children who have language impairments. In this report, five behavioral rating scales were evaluated in light of potential language bias. All five rating scales were shown to contain items that could be interpreted as directly or indirectly tapping into receptive and expressive language skills. In addition, none of the scales included children with speech and language impairments in their standardization samples at appropriate levels, and only one scale included a procedure for identifying inordinately punitive ratings. A protocol was presented to ensure the valid assessment of socioemotional behaviors that coordinates the expertise of speech-language pathologists and mental health care professionals.

It is becoming increasingly evident that the educational needs of children with language impairments are frequently overlooked. This is most clearly illustrated by the results of two recent large-scale studies. Johnson et al. (1999) followed the academic outcomes of 114 children with language impairments over a 14-year period (ages 5–19 years). These investigators found that only half of these children ever received speech-language pathology services over the course of their academic career. Language deficits were reported to be particularly stable in the non-treated group. Similarly, Zhang and Tomblin's (2000) found that only 25% of their epidemiologically ascertained sample of kindergarten children with language impairments were receiving services at the time of their study. These results suggest that current methods of identifying children with language impairments for services are grossly insufficient and that an unacceptably large number of children with language deficits are being overlooked.

On the other hand, socioemotional problems are not likely to go unnoticed by parents, teachers, and other

professionals. Ironically, the risk here for children with language impairment is probably one of over-identification rather than under-identification. Children with language impairments may easily be misdiagnosed as having a socioemotional disorder as a consequence of the highly verbal nature of socioemotional assessments and the psychometric limitations associated with commonly used testing instruments. The most appropriate framework for school based assessment teams investigating socioemotional disorders seems to be a disconfirmatory one. In other words we should assume, until proven otherwise, that all children suspected of having a socioemotional disorder have underlying language impairments contributing to their difficulties.

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Received June 20, 2001  
 Accepted October 20, 2001  
 DOI: 10.1044/1058-0360(2002/013)

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*Am J Speech Lang Pathol* 2002;11;124-138

DOI: 10.1044/1058-0360(2002/013)

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