

Language Competence and Social Behavior of Students with Emotional or Behavioral Disorders

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ABSTRACT: This study was designed to explore a model of communicative competence (Abbeduto & Nuccio, 1989) and identify whether its components could (a) predict pragmatic language difficulties for children with emotional or behavioral disorders (E/BD) and (b) describe the semantic, syntactic, and pragmatic language ability as well as the social skills of these children. The Test of Language Development (Newcomer & Hammill, 1997), the Social Skills Rating System (Gresham & Elliot, 1990), and the Test of Pragmatic Language (Phelps-Terasaki & Phelps-Gunn, 1992) were used to assess 61 students. Results indicated that 93.5% of the students scored between one and two standard deviations below the mean in at least one area. Statistical analysis revealed that semantic language, syntactic language, IQ, and social skills—components of the model of communicative competence—predicted pragmatic language competence.

■ One of the most salient and consistently reported characteristics of students with emotional or behavioral disorders (E/BD) is a deficiency in social skills used in developing and maintaining positive social interactions and interpersonal relationships with peers and adults (Brinton & Fujiki, 1993; Center & Wascom, 1987; Hartas & Donahue, 1997; Mathur & Rutherford, 1996; Sutherland, Wehby, & Yoder, 2002). Recent research has also suggested that some children with E/BD have language-based communication problems that may contribute to their difficulties in social skills and interactions (Bain, 2001; Cohen, Davine, Horodezsky, Lipsett, & Isaacson, 1993; Griffith, Rogers-Adkinson, & Cusick, 1997; Trautman, Giddan, & Jurs, 1990; Valance, Cummings, & Humphries, 1998).

Bain (2001) found that in a sample of 37 children identified with attention deficit disorder (ADHD) receiving social skills instruction and cognitive-behavioral therapy, there was evidence of expressive language deficits that were secondarily associated with social competency. Cohen and colleagues (1993) found that in a sample of children receiving outpatient E/BD services, there was evidence of language difficulties that resulted in inappropriate adult-child interactions. These were attributed to difficulties in using and understanding language that are interpreted by adults as non-

compliant and inattentive behaviors (Cohen et al.).

Earlier work by McDonough (1989) supported these findings and suggested that expressive language deficits also may have a significant effect on these children's thought processes, behavior control, and social interaction when interacting with peers and adults. However, most children with E/BD are not assessed in the area of communicative competence, which suggests that language difficulties are frequently overlooked and may be misinterpreted as behavioral problems (Kim & Kaiser, 2000).

It has been estimated that approximately 7% to 10% percent of the school-aged population have a language disability (Damico, Oller, & Storey, 1983). The prevalence rates for children who have co-occurring E/BD and language and/or communication disabilities range from 20% to 65% (Baker & Cantwell, 1987; Brinton & Fujiki, 1993; Griffith et al., 1997; Hummel & Prizant, 1993; Trautman et al., 1990; Warr-Leeper, Wright, & Mack, 1994). Specifically, Griffith and colleagues found that between 55% and 83% of a sample of children served in day and residential treatment centers for children with behavioral disorders scored at least one standard deviation below the norm in pragmatic language ability. Although there has been substantial research in social and behavioral characteristics of stu-

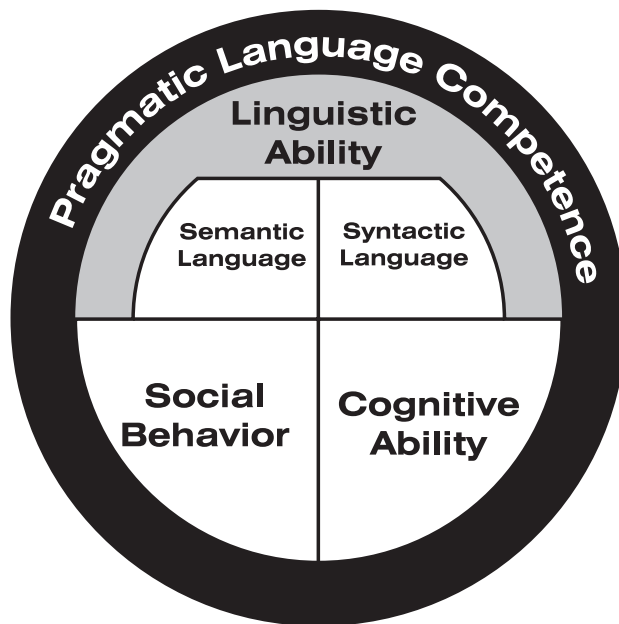


FIGURE 1. The Model of Communicative Competence
(Adapted from Abbeduto & Nuccio, 1989)

dents with E/BD, the research in language and communication characteristics has been limited, especially in school settings.

There is an increasing recognition that all children are active social thinkers who use cognitive, communicative, and linguistic skills simultaneously in social interactions in order to construct social knowledge (Hartas & Donahue, 1997; Prizant & Wetherby, 1990). This has led to the belief that difficulty in social interaction and interpersonal relationships may have to do, at least in part, with problems in language and communication (Rogers-Adkinson & Griffith, 1999; Schoenbrodt, Kumin, & Sloan, 1997). This suggests that a more integrated view of language and social behavior is needed (Prizant & Wetherby). Consequently, social behavior can no longer be studied separately from language since appropriate communication skills are required for social competence.

Previous studies (Vallance et al., 1998; Schoenbrodt, Kumin, & Sloan, 1997) that explored the language and social competence of children with learning disabilities suggested that problems in conversational skills and social interaction are related to poor oral language abilities and reading. These studies suggested that children with language-based learning disabilities disagree less during con-

versation, take a less assertive role, and are less persuasive than their peers without disabilities. Overall, the students were seen to be less competent than their average-achieving classmates in tasks that require social and communication skills.

Abbeduto and Nuccio (1989) developed a model of communicative competence that takes into consideration the areas of linguistic ability, cognitive ability, social behavior, and pragmatic competence. Figure 1 presents an adapted version of their model that was used in this study.

This model uses an interrelated system that predicts pragmatic language competence. Each area of the model provides for one aspect of pragmatic competence. The first area, linguistic ability, requires mastery of the linguistic system and involves choosing appropriate vocabulary and syntax when attempting to obtain a response in a conversation. In other words, a child may code language but uses it in inappropriate ways that do not support the establishment and maintenance of interpersonal relationships.

The second, cognitive ability, refers to mental characteristics such as mental maturity, memory, hypothetical reasoning, and average aptitude that affect effective communication during a social exchange (Abbeduto & Nuc-

cio, 1989). Cognitive ability plays a role in the communication skills an individual must have to link past and present knowledge during conversation in order to anticipate positive feedback and avoid negative reaction from peers and adults.

The third area, social behavior, involves the acquisition of social skills that depend on a student's cognitive awareness of personal social situations (Bain, 2001; Mathur & Rutherford, 1996). For example, *social behavior* refers to skills that let the speaker know about turn taking, pausing, decoding, interpreting verbal and nonverbal social cues, and identifying status difference among others when requesting or readjusting the style in a conversation. Social behavior development is important because children who demonstrate socially competent behavior are more likely to experience desired outcomes such as acceptance by others, better achievement, and higher levels of self-confidence (Phelps-Terasaki & Phelps-Gunn, 1992).

The last area, pragmatic language, involves the acquisition of a categorization process that allows a speaker to perceive and categorize social situations while differentiating and using acceptable forms of speaking in various contexts (Wiig & Semel, 1984). Pragmatic competence involves the ability to use all the tasks (i.e., linguistic ability, cognitive ability, social skills) described above while accommodating to the listener's needs accordingly during social interaction. Abbeduto and Nuccio's (1989) model of communicative competence suggests that these areas of development be assessed as they relate to (a) judging what is required during the context and situation in a conversation; (b) knowing how to begin and maintain a topic during a conversation; (c) accessing relevant prior knowledge and information; and (d) being able to talk about the topic at the level of abstractness and specificity that is required according to age, social status, formality of the situation, and shared knowledge (Abbeduto & Nuccio; Norris, 1995; Phelps-Terasaki & Phelps-Gunn, 1992).

For example, topic maintenance, relating new information to old, and recognizing conversational rules are some of the skills involved in knowing when to use simple or complex language and how to adjust language level to the individual social situation and responses therein. According to Abbeduto and Nuccio (1989), if individuals have poor communication skills, they will have problems

accessing and integrating the four domains (i.e., linguistic, cognitive, social, pragmatic abilities), resulting in reduced communicative competence and less success in many social situations that require the integration of the underlying skills.

Consequently, the purpose of this study was to investigate the interaction of language and social skills of children with E/BD. Using the theoretical model proposed by Abbeduto and Nuccio (1989), I specifically attempted to determine the extent to which pragmatic language competence can be predicted from the communicative competence (semantic, syntactic, social behavior) of students with E/BD.

Method

Participants

The participants in this study were 61 fourth- and fifth-grade students with identified E/BD from seven public elementary schools in an urban area. The students' records were reviewed; all were proficient in English and had not received speech and language services in the past. Ability data were collected from the Wechsler Intelligence Scale for Children-III (WISC-III; Wechsler, 1991). The mean age for the fourth-grade students ($n = 25$) was 10-2 years and for the fifth-grade students ($n = 36$) was 11-6 years. The students were served in self-contained classes for children with E/BD. The demographics of the sample were as follows: 66% Hispanic, 20% African American, and 14.5% White non-Hispanic. All students in the sample were reported to have intellectual functioning within the normal range ($X = 89.83$, $SD = 12.07$), and none required English-as-a-second-language services or speech and language services.

Language and Behavioral Assessments and School Information

A school record information form was used for collecting demographic and ability data. Formal measures administered included the Social Skills Rating System-Teacher Form (SSRS-T; Gresham & Elliot, 1990), the Test of Language Development-Intermediate (TOLD-I:3; Newcomer & Hammill, 1997), and the Test of Pragmatic Language (TOPL; Phelps-Terasaki & Phelps-Dunn, 1992). All of the measures were administered per the instrument protocol.

TABLE 1
Means and Standard Deviations for Fourth- and Fifth-Grade Students
with Emotional or Behavioral Disorders

	<i>WISC-III</i>	<i>TOLD-I:3</i>	<i>TOLD-I:3</i>	<i>TOPL</i>	<i>SSRS-T</i>
		<i>Semantic</i>	<i>Syntactic</i>	<i>Pragmatic</i>	<i>Social Behavior</i>
<i>M</i>	89.83	80.59	83.51	82.02	86.44
<i>SD</i>	12.07	13.98	14.37	12.46	15.12
% below 1 <i>SD</i>	—	74.5%	65.6%	54.0%	50.8%
1 <i>SD</i> below <i>M</i>	0	12	11	9	14
1.5 <i>SD</i> below <i>M</i>	0	19	17	11	9
2 <i>SD</i> below <i>M</i>	0	15	12	13	8

Note. WISC-III = Wechsler Intelligence Scale for Children-III; TOLD-I:3 = Test of Language Development-Intermediate; TOPL = Test of Pragmatic Language; SSRS-T = Social Skills Rating System-Teacher Form; *M* = mean; *SD* = standard deviation.

The SSRS-T is a standardized test that includes three social skills dimensions: cooperation (i.e., helping others, sharing materials, complying with rules and directions), assertion (i.e., asking for information, introducing oneself, responding to the actions of others), and self-control (i.e., in conflict situations responding appropriately to negative situations; in nonconflict situations knowing how to take turns and compromise). The instrument provides a global social skills score with a mean of 100 and a standard deviation of 15.

The TOLD-I:3 was selected as the most frequently reported standardized language test of expressive and receptive language in previous studies involving children with behavioral disorders (Bain 2001; Beitchman, Hood, Rochon, & Peterson, 1989; Camarata, Hughes, & Ruhl, 1989; Griffith et al., 1997; Kim & Kaiser, 2000). The test has been shown to differentiate between children identified as having language difficulties and children with normal language development (Beitchman et al.). From the six subtests, a quotient ($X = 100$, $SD = 15$) was produced for each syntactic and semantic language score.

The TOPL is a standardized test of pragmatic abilities. This test was used to assess pragmatic language skills through expressive and receptive responses to pictorial and verbal stimuli. Probes require students to answer to the picture prompt based on physical context (i.e., setting, event), audience (i.e., relationship, number, given/new information, mood, turn-taking), message related to topic (e.g., requesting, informing, regulating, expressing, ritualizing, organizing tasks). The test did not

measure pragmatic skills in conversation. The TOPL yields a global quotient of pragmatic language based on a mean of 100 and a standard deviation of 15.

Procedure and Scoring

Each student was assessed individually for a single 1.5-hour session. The two language measures, TOLD-I:3 and TOPL, were administered during the session. Teachers completed the SSRS-T forms the week the child was tested. A school record form was used to collect data on race, ethnicity, age, grade, lunch eligibility, IQ, history of ESL services and/or speech and language services. Syntactic and semantic quotients were collected from the TOLD-I:3, a pragmatic quotient was obtained from the TOPL, and a social skills score was obtained from the SSRS.

Results

Descriptive Statistics

Table 1 presents the means and standard deviations for each measure of the TOLD-I:3 Semantic and Syntactic components, the quotient of the TOPL, and the SSRS-T for the sample for gender, grade, socioeconomic status, and ethnicity, as well as for the students' IQ scores as measured by the WISC-III. This table also provides information on the clinical levels of the participants' language deficits. Overall, for semantic language as measured by the TOLD-I: 3, 75.4% of the sample scored

TABLE 2
Means and Standard Deviations for IQ, Semantics, Syntactics, Pragmatics,
and Social Skills by Gender, Grade, Socioeconomic Status, and Ethnicity

	<i>TOLD: I-3</i>	<i>TOLD: I-3</i>	<i>TOPL</i>	<i>SSRS-T</i>	<i>WISC-III</i>
	<i>Semantic</i>	<i>Syntactic</i>	<i>Pragmatic</i>	<i>Social Skills</i>	<i>Full-Scale</i>
	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>
	<i>SD</i>	<i>SD</i>	<i>SD</i>	<i>SD</i>	<i>SD</i>
Group	80.59	83.51	82.02	86.44	89.83
	13.98	14.37	12.46	15.12	12.07
Gender					
Male	90.60	83.88	81.65	87.77	—
(<i>n</i> = 51)	12.04	14.60	12.44	14.78	—
Female	85.60	81.60	83.90	79.10	—
(<i>n</i> = 10)	11.95	13.71	13.10	15.41	—
Grade					
4	78.36	82.44	80.48	82.92	—
(<i>n</i> = 25)	11.84	14.00	14.84	14.97	—
5	82.14	84.24	80.48	88.89	—
(<i>n</i> = 36)	15.26	14.77	10.80	14.93	—
SES					
Eligible	79.78	82.70	86.50	86.36	—
(<i>n</i> = 56)	12.84	13.75	15.12	14.97	—
Ineligible	88.80	92.60	86.00	86.36	—
(<i>n</i> = 5)	23.89	19.65	11.14	6.69	—
Ethnicity					
Anglo	81.33	81.56	89.89	80.56	—
(<i>n</i> = 9)	13.91	8.14	4.94	13.09	—
Hispanic	78.90	83.95	80.35	89.18	—
(<i>n</i> = 40)	11.73	13.89	12.94	12.98	—
African American	85.67	83.50	80.35	81.75	—
(<i>n</i> = 12)	19.95	19.75	14.21	21.09	—

Note. See Table 1 note for definitions of TOLD-I:3, TOPL, SSRS-T, and WISC-III. *M* = mean; *SD* = standard deviation; *SES* = socioeconomic status as indexed by qualification for free and reduced-price lunch.

between one and two standard deviations below the mean. In syntactic language as measured by the TOLD-I: 3, 65.6% of the sample scored between one and two standard deviations below the mean. In pragmatic language as assessed by the TOPL, 54.0% of the sample scored between one and two standard deviations below the mean. Finally, in social skills as measured by the SSRS-T, 50.8% of the sample scored between one and two standard deviations below the mean. The students scoring at least one standard deviation below the mean on each standard scale were considered at risk for semantic, syntactic, and pragmatic

language deficits; those scoring 1.5 standard deviations below the mean on each standard scale were considered as having a mild to moderate deficit; and those scoring 2 standard deviations below the mean on each standard scale were considered as having a moderate to severe deficit.

A series of one-way analyses of variance (ANOVAs) were conducted to determine whether there were any differences in performance on the measures (TOLD-I:3, TOPL, SSRS-T) for gender, grade, socioeconomic status (SES, as indexed by qualification for free and reduced-price lunch), and ethnicity on

TABLE 3
Regression Weights for Regression Models 1 and 2

	<i>b</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Model 1					
IQ Full Scale	.249	.129	.241	1.929	.059
Semantic Quotient	.068	.156	.077	.435	.665
Syntactic Quotient	.320	.159	.368	2.020	.048
SSRS Quotient	.033	.093	.040	.355	.724
Model 2					
IQ Full Scale	.317	.123	.307	2.574	.013
Semantic Quotient	.028	.155	.032	.182	.856
Syntactic Quotient	.340	.156	.390	2.216	.031
SSRS Quotient	.066	.090	.080	.742	.461
Ethnicity1	10.073	4.613	.279	2.184	.034
Ethnicity2	-2.020	3.503	-0.78	.579	.565

each measure. Table 2 presents the means and standard deviations for gender, grade, SES, and ethnicity (i.e., Anglo, Hispanic, African-American).

An analysis for effect size was then conducted on ethnicity and the TOPL since scores did not resemble those published by the TOPL (Phelps-Terasaki & Phelps-Gunn, 1992). Effect size was analyzed for the practical significance of ethnicity on the instruments, and an effect size of $\eta^2 = .10$, interpreted as an r^2 value, was found to represent a medium effect size (Cohen, 1977).

Communicative Competence Model Analysis

To address the primary research question, two regression analyses were performed using the pragmatic language measure as the outcome variable and the semantics, syntax, and social skills measures and ethnicity as predictors of the communicative competence model. The first regression block entered the original model of communicative competence, which theorized that IQ, social skills, and language ability would predict pragmatic language. The second linear regression entered ethnicity in a second block because the comparison analysis established that ethnicity may have practical significance that will account for additional variance in the linear regression model used to test the proposed model of communicative competence.

The results for the first regression analysis revealed a statistically significant relationship, suggesting that the independent variables *semantic language*, *syntactic language*, *IQ*, and *social skills* can predict pragmatic language, $F(4, 54) = 6.89, p < .0001$, with 34% of the variance accounted for, thereby supporting the model of communicative competence (see Table 3). Syntactic language was found to be the strongest predictor ($\beta = .39$) in the model when entered as a set according to the F -statistic.

The second linear regression analysis added ethnicity as a second block in the equation. The results of this analysis revealed a stronger statistically significant relationship, which suggests that a larger percentage of the variance, 44%, was accounted for when ethnicity was entered as an additional factor.

The findings indicate that semantic language, syntactic language, IQ, social skills, and ethnicity can statistically predict pragmatic language functioning for fourth- and fifth-grade students with E/BD served in self-contained special education classrooms, $F(6, 52) = 6.78, p < .0001$. The increase in the percentage of variance accounted for shows that, in addition to language, intellectual ability, and social skills, ethnicity made a significant contribution beyond the other variables to the pragmatic language of students with E/BD in this sample.

Discussion

This study contributes to the understanding of the co-occurrence of language deficits and social skills problems in students with E/BD served in self-contained placements. In addition, it reaffirms the proposed model of communicative competence. Finally, the study represents another step toward detecting the specific language problems and social skills functioning that may interfere with the pragmatic language functioning of students with E/BD.

The detection of specific language problems can be used for better educational assessment and programming aimed at minimizing or preventing the long-term effects that can exacerbate antisocial behaviors in students with E/BD (Kavale & Forness, 1996; Rogers-Adkinson & Griffith, 1999; & Warr-Leeper et al., 1994). In addition, understanding the relationship of language and social skills problems can help teachers develop a language curriculum that emphasizes effective and appropriate social skills.

These results support previous research that found the existence of mild to severe language problems in children with E/BD (Bain, 2001; Kim & Kaiser, 2000; Trautman et al., 1990). In addition, the data approximate the findings of Griffith and colleagues (1997) among children with severe emotional disorders. They found a slightly higher percentage of children scoring below average (83%) on the TOLD-I: 3 semantic and syntactic language quotient and similar results for the TOPL pragmatic language quotient (55%). Language processing and production have a significant impact on thought, behavior, and social interaction. These findings suggest that children with E/BD have pervasive language problems in the areas of language form, content, and function.

This research provides further support to the notion that language problems may contribute to the poor social interactions during communication exchanges that typify the population of students with E/BD. If children with E/BD are lagging in language abilities and social skills, they are less likely to interact positively and appropriately in social situations, understand and follow directions, interpret social cues, or follow and monitor social rules and consequences.

Specifically, the model of communicative competence presented here suggests that

deficits in semantic and syntactic language relate to comprehending others' meaning and expressing one's own desires, needs, and opinions. Failure to demonstrate these skills further highlights social incompetence and perceptions of severe emotional problems in children with E/BD.

In addition, as the results of this study suggest, problems in semantics and syntactic language ability, as well as social skills, may cause students with E/BD to be at risk for deficits in pragmatic language. General skills such as knowing how to further explain a situation or recognizing when to take turns during a conversation may be lacking, further hampering these children's ability to manage their speech acts and communicate positively. The risk for peer rejection, social withdrawal, isolation, loneliness, and possible school dropout increases due to limitations in the language skills needed for establishing and maintaining positive social relationships.

Finally, the assessment process for children with E/BD should include a language component in the areas of semantic, syntactic, and pragmatic language. Moreover, social skills instruction should not be separated from the language development curriculum. Rather, a social skills curriculum should have components similar to those in the language development curriculum, thus incorporating skill identification, modeling, practice, social reinforcement, and programming reinforcement that are within the context of specific language instruction and practice.

This study corroborates that students with E/BD have communication and language problems serious enough to warrant intervention. Vallance and colleagues (1998) hypothesized that positive peer relationships and language use during interactions protect against the development of problem behaviors since they provide a context in which children learn a complete repertoire of pragmatic language skills and social skills that serve as precursors of later relationships. Consequently, it is vital that educators be aware of the language and social characteristics of children with E/BD in order to design appropriate assessment instruments and curricula for prevention and intervention purposes.

Limitations of This Study

Due to district characteristics related to a highly diverse, largely Hispanic population, it is

difficult to generalize to the general population. The sample size in this study presents an additional problem. One factor that affected sample size was the initial small sample pool of students served in the E/BD programs. A third limiting factor is that the research study used a school-identified population rather than a researcher-chosen population; therefore, there may be a threat to the external validity of the study.

Future Research

Future research should attempt to address the limitations of this study and build on its findings. Specifically, research that assesses the classroom environment and discipline practices of teachers of students with E/BD in self-contained programs that promote language competence is warranted. In addition, specific skill deficits in morphology, semantics, syntax, and pragmatics exist in areas such as plurals, possessives, noun-verb agreement, and irregular verb forms in receptive and expressive language used in formal and informal exchanges, especially regarding Hispanic and African-American students with ED. These aspects of language should be studied to determine patterns in pragmatic language skills such as inappropriate responses, poor topic maintenance, need for multiple repetitions, nonspecific referents, and inordinate delays.

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MANUSCRIPT:

Initial Acceptance: 11/1/02
 Final Acceptance: 7/30/03