ABSTRACT: Purpose: It has been hypothesized that adolescents attending an alternate education setting as a result of behavior problems will have language deficits. This study was performed to determine if a relationship exists between adolescents' language deficits and behavior problems.

Method: Eleven participants between the ages of 13 and 16 years, whose language had not been tested, were administered seven selected subtests of the Comprehensive Assessment of Spoken Language (CASL; Carrow-Woolfolk, 1999).

Results: Descriptive statistics were used to determine the mean score for each subtest for all participants. Three subtests’ maximum standard scores were within ± 1 SD from the mean (M = 100, SD = 15); however, all of the subtests’ mean scores were 1.75 to 3.0 SDs below the mean. Statistically significant differences among the standard scores as a function of age were reported.

Conclusion: The results indicated that adolescents attending an alternate education setting have undiagnosed language problems. Severity of the language problems increased as the adolescents’ ages increased.

KEY WORDS: adolescents, language deficits, behavior problems, alternate education setting

Language deficits have been identified in children with behavior problems as early as 1966 in a study by Cozad and Rousey. Evidence exists that there is a relationship between communication disorders and emotional/behavioral disorders, but the nature of the relationship and how to address the issue is unclear (Baker & Cantwell, 1982; Prizant et al., 1990). Camarata, Hughes, and Ruhl (1988) reported that children who have language disorders in the preschool years develop emotional problems later, and it is likely that the group of children with behavioral disorders includes children who have persistent language problems from the preschool years. Morris-Friehe and Sanger (1994) studied students who were identified 5 to 7 years earlier as being at risk for developing language problems and found that seven of the 19 participants had unidentified language impairments. Mack and Warr-Leeper (1992) suggested further research about adolescents with chronic behavior difficulties.

Adolescents with behavioral disorders tend to respond to their environment in a socially unacceptable manner (Paul & Epanchin, 1982). The social difficulties occur across settings and result from language deficits (Apel, 1999). Schery (1985) suggested that the occurrence of social–emotional problems corresponds with delayed development of language acquisition. Fujiki, Brinton, Morgan, and Hart (1999) indicated that children who experience language deficits at an early age have poor social skills that may carry over into adolescence. As a child reaches the adolescent years, social problems may lead to behaviors that are unacceptable. Hart, Fujiki, Brinton, and Hart (2004) compared social behaviors of children with specific language impairment (SLI) to those of typically developing children and found differences between the two groups. It was also found that children with less severe SLI had better social behaviors than children with more severe SLI.

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Children were enrolled in special education classrooms and in regular elementary schools. All but one participant performed below normal on at least one subtest of the Test of Language Development—Primary, Third Edition (TOLD-P; Newcomer & Hammill, 1997). Several other studies have also indicated that children with behavioral disorders may be at risk for having a language disorder. For example, language problems were found in adolescents who had been imprisoned (Linares-Orama, 2005) and in female juvenile delinquents (Sanger, Hux, & Belau, 1997). Redmond (2002) found that children receiving services for social–emotional disorders have unidentified language problems because their language problems are misinterpreted as being one of the symptoms of the social–emotional disorder. Misdiagnosis of a social–emotional disorder is problematic because the true deficits of the child are in his or her language skills. Intervention for these children typically involves behavior intervention or medication, which fail if the child has comorbid language problems and may not understand what is expected.

Taking action to prevent these problems is crucial. Prizant et al. (1990) suggested addressing the problem with a prevention approach involving early identification of the communication disorder and appropriate referral. The American Speech-Language-Hearing Association (ASHA) presented a model of prevention for communication disorders (1991). McKinley and Lord-Larson (1985) presented a service delivery model aimed at addressing language deficits in adolescents. This was done because of the lack of information available on language problems during the adolescent years. The model consists of (a) information dissemination, (b) identification, (c) evaluation/program planning, and (d) intervention. Nungesser and Watkins (2005) encouraged speech-language pathologists (SLPs) to assume the role as a member of a collaborative team that involves educators. They believe that SLPs should work with educators by providing information that assists in identifying behaviors that may be suggestive of language deficits.

An additional concern presented by Camarata et al. (1988) was whether children with behavioral disorders should be assessed routinely by SLPs to determine if there is a possibility for inclusion in a language intervention program. Routine assessment by an SLP may be a step in the right direction for early identification and intervention. This idea is supported by research from Mack and Warr-Leeper (1992) that indicated that addressing learning disabilities in adolescents with delinquent behavior has been shown to decrease the exhibited behaviors. Therefore, failure to identify learning disabilities and language deficits/disorders may lead to future problems. SLPs surveyed by Sanger, Moore-Brown, Montgomery, and Hellerich (2004) provided information regarding their opinion of their role in working with students involved in violence. Surveys indicated that SLPs had concerns regarding intervention, role, caseload, training, and assessment. For improvement to occur, efforts should be made to address these concerns. Eventually, behavior problems may lead to placement in a correctional facility. Brinton and Fujiki (1993) stated

Many speech-language pathologists may be hesitant to consider the social functioning of children within their professional territory. At the same time, children identified as primarily language disabled may not receive services designed to enhance their social interactions from other professionals. As a result, the negative social spiral may be allowed to continue and gain momentum. (p. 196)

Linares-Orama (2005) found that over time, adolescents who are placed in correctional facilities are expected to return to school and display appropriate behavior and learn better, but this frequently does not occur. Teachers, SLPs, and other appropriate staff should intervene.

The purpose of this study was to evaluate the language skills of adolescents with behavior problems in an alternate education setting in Louisiana’s Evangeline parish. The alternate education setting included in this study, Social Skills/Academic Achievement Center, is an independent facility (i.e., is not a part of any elementary or high school campus in the area). According to the Louisiana Board of Education’s alternative education handbook, any student who is suspended or expelled from school shall remain under the administration of the governing power of the school system, taking such action using alternate education programs that are permitted by the State Board of Elementary and Secondary Education (Picard, 2003). These alternate programs are intended to present modifications of the traditional classroom setting as well as strategies planned to increase the possibility that students will remain in school and earn their high school diploma. It is hypothesized that adolescents attending an alternate education setting as a result of behavior problems will have language deficits. Specific aims of this study were to determine if there was a correlation between severity of the behavior problem and language performance and to determine if there was a significant difference based on age.

**METHOD**

**Participants and Selection Criteria**

The sample selected to participate in this study included 11 adolescents between the ages of 13 and 16 years. There were 10 males and one female (see Table 1). All participants were currently enrolled in an alternate education setting due to behavior problems. All students had an individualized education plan, which is a written plan with objectives that address a child’s specific learning needs and identify classroom accommodations that facilitate learning. However, participants had not received a speech-language assessment; therefore, no language disorder had been previously identified. Participants passed a hearing screening at 20 dB for frequencies of 500, 1000, 2000, and 4000 Hz (American National Standards Institute, 1996).

A severity rating based on behavior was determined for each participant. Severity ratings were operationally defined based on the offense committed, number of times placed in an alternate setting, and length of stay. A mild rating was given for adolescents who were first-time attendees at the alternate education setting and were not required to stay in the setting for the entire school year. A moderate rating was given for adolescents who were attending the alternate setting for the first time and were placed there for
the remainder of the school year, and if fighting was the offense, there could not be weapons involved. A severe rating was given to adolescents who had previously been sent to the alternate setting and were attending for the remainder of the school year. Also, if fighting was the offense and weapons were involved, the adolescents automatically were given a severe rating, regardless of offense frequency.

**Assessment Tool**

Selected subtests of the Comprehensive Assessment of Spoken Language (CASL; Carrow-Woolfolk, 1999) were administered to the adolescents to assess a wide range of language skills: Synonyms, Syntax Construction, Sentence Comprehension, Grammaticality Judgment, Nonliteral Language, Meaning From Context, and Pragmatic Judgment. These subtests were chosen because they assess a variety of language skills. The internal reliability of the CASL ranges from .64 to .94, with most in the .80s and .90s, which indicates a high reliability. The reliability of the CASL demonstrates consistency among the subtests. Validity of the CASL allows for more in-depth study of specific language skills. Tasks of the CASL subtests were chosen on the basis of both theoretical design and prior research studies. The mean standard score obtained on the CASL is 100, and the standard deviation is 15 (Carrow-Woolfolk, 1999).

Different orders of administration for the subtests were written, and an order was randomly drawn when a student qualified for the study. Testing occurred in the morning and was completed on the same day.

**Statistical Analysis**

Descriptive statistics were used to determine the mean score for each subtest for all participants. An independent-samples t test was used to determine if a significant difference existed between standard scores based on age. Nonparametric correlations were obtained using Spearman’s rho to determine if there was significant correlation between behavior severity rating and test performance.

**RESULTS**

The minimum, maximum, and mean standard scores for each of the seven subtests are presented in Table 2. Three subtests’ maximum standard scores were within ±1 SD from the mean (M = 100, SD = 15); however, all of the subtests’ mean scores were 1.75 to 3.0 SDs below the mean.

Four of the eleven (36.3%) participants (1, 2, 7, 8) scored within 1 SD below the mean on one or two subtests; however, their standard scores for the remaining five or six subtests fell at least 1 SD below the mean. Seven of the eleven (63.6%) participants scored at least 1 SD below the mean on all seven subtests. As seen in Table 1, subtests with standard scores that were within normal to low normal limits were Synonyms, Sentence Comprehension, and Nonliteral Language. There were four subtests for which no subtest standard score was within 1 SD from the mean: Syntax Construction, Grammaticality Judgment, Meaning From Context, and Pragmatic Judgment.

Test performance and the participants’ age and severity of behavior were compared using a nonequal variance independent group two-tailed t test. The standard scores were examined for participants who were <16 years of age (n = 8) and those who were ≥16 years of age (n = 3). There was a significant difference (t = 4.75; df = 7.4; p < 0.05) between the standard scores of the group of participants <16 and the group ≥16 years. On average, the scores were better for the <16 group by 22 points; however, the only significant correlation between behavior severity rating and test performance.
Results suggest that a low score on the Synonyms subtest indicates higher risk for more severe behavior problems. The adolescents included in this study had moderate to severe behavior problems. Based on these findings, the adolescents attending this alternate setting were identified with undiagnosed language problems. Higher standard scores were earned on subtests that required single-word responses (i.e., Synonyms and Sentence Comprehension), and standard scores decreased as response requirements increased in length and complexity.

The Synonyms subtest required a single-word response, and Sentence Comprehension required a binary response of yes or no. For the remaining subtests, a visual prompt was provided, but responses required longer verbal utterances that had to be semantically and syntactically correct. Characteristics of errors on the Syntax Construction subtest included using incorrect verb tense, omitting critical elements, or not understanding the stimuli. On the Grammaticality Judgment subtest, errors included the inability to identify correct subject–verb agreement, verb tense, and pronouns. At times, the participants would identify that the sentence was not grammatically correct but could not make the correction. On the Meaning From Context subtest, several participants quickly reached a ceiling with mostly “I don’t know” responses. Some incorrect responses had one component of the correct answer but were not sufficiently complete to count correct. Difficult items on the Pragmatic Judgment subtest were ones that required a request for clarification or information and polite introductions or declines. The responses were not impolite; they were inappropriate to test criteria. Other responses often lacked specificity.

A correlation did not exist between adolescents’ severity of behavior and overall test performance; however, there was a correlation between participants’ age and the test scores. As the participants’ age increased, their performance on the test decreased.

These findings correspond with the results reported by Paul and Epanchin (1982), which indicated that adolescents with behavioral disorders tend to respond to their environment in a socially unacceptable manner. Results are also in agreement with other studies such as Camarata et al. (1988), which indicated that children with behavioral disorders may be at risk for a language disorder. As Redmond (2002) indicated, many of the children receiving services for social–emotional disorders, such as those who participated in this study, have unidentified language problems due to the fact that their symptoms/behaviors are misinterpreted as being one of the symptoms that leads to a diagnosis of a social–emotional disorder.

It is evident that this population of adolescents tends to have language problems. To reduce the amount of behavior problems that are exhibited by this group, language testing should occur during the early school years. Early identification and intervention for these adolescents could reduce the overall severity of problems related to language deficits. This could decrease the unacceptable behaviors and possibly improve and facilitate learning in the future. There are many students who are not identified as having a language problem early enough.

The small number of participants and the ratio of males to females are limitations of this study. Future research in alternate education settings should study changes in language skills of adolescents between 13 and 16 years of age. Contributing factors that lead to the development of more severe language deficits once an adolescent is 16 years old should be investigated further.

**ACKNOWLEDGMENTS**

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**REFERENCES**


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**Table 2. Minimum, maximum, and mean standard scores earned on each administered subtest of the CASL.**

<table>
<thead>
<tr>
<th>Subtest</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms</td>
<td>45</td>
<td>104</td>
<td>74.36</td>
</tr>
<tr>
<td>Syntax Construction</td>
<td>43</td>
<td>73</td>
<td>55.91</td>
</tr>
<tr>
<td>Sentence Comprehension</td>
<td>45</td>
<td>99</td>
<td>73.64</td>
</tr>
<tr>
<td>Grammaticality Judgment</td>
<td>40</td>
<td>78</td>
<td>66.55</td>
</tr>
<tr>
<td>Nonliteral Language</td>
<td>40</td>
<td>95</td>
<td>63.91</td>
</tr>
<tr>
<td>Meaning From Context</td>
<td>58</td>
<td>80</td>
<td>68.09</td>
</tr>
<tr>
<td>Pragmatic Judgment</td>
<td>40</td>
<td>82</td>
<td>57.55</td>
</tr>
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</table>


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