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Unidentified Language Deficits in Students with Emotional and Behavioral Disorders

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**Unidentified Language Deficits in Students with Emotional
and Behavioral Disorders**

by

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Abstract

Students who have been diagnosed with emotional and behavioral disorders and given assessments in language including expressive, receptive, and pragmatics consistently show a decreased level of usage and understanding leading one to ponder the language abilities of students prior to being diagnosed with these disorders.

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Chapter 1: Introduction

Students with emotional and behavioral disorders (EBD) often engage in behaviors that are considered abnormal compared to their same-age peers. These behaviors can include verbal outbursts, physical aggression, poor social skills, and academic delays, which inhibit the student's ability to maintain relationships with their peers and interfere with their ability to succeed academically (Cullinan & Sabornie, 2004). Ultimately, students are very much at risk for negative outcomes that include school failure, high dropout rates, unemployment, substance abuse, and involvement with criminal justice systems (Bradley, Doolittle, & Bartolotta, 2008).

One variable strongly related to the social and behavioral performance of students with EBD is language proficiency (Beitchman, Cohen, Konstantareas, & Tannock, 1996). Social skills are dependent upon one's ability to communicate both verbally and nonverbally (Gresham, Cook, Crews, & Kern, 2004). However, professionals may be so focused on the maladaptive behaviors that language deficits contributing to poor social skills and inappropriate interactions are overlooked (Helland, Lundervold, Heimann, & Posserud, 2014). The purpose of this paper was to review the literature that investigates the topic of co-occurring language deficits in students identified with EBD.

Emotional and Behavioral Disorders

Students with EBD manifest behaviors that are considered to be excessive when compared to their peers. Their emotional and behavioral responses interfere with their own education and can interfere with the education of their peers (Hollo, Oliver, & Wehby, 2014).

Students with EBD must meet federal criteria for *Emotional Disturbance*, as specified in the Individuals with Disabilities Education Improvement Act of 2004 (Individuals with Disabilities Education Improvement Act; 2004). Prior to the reauthorization of Individuals with

Disabilities Education Act 2004, students were eligible for special education services in the category of *Serious Emotional Disturbance*. Regardless of the terminology change, the eligibility criteria remain unchanged (Farley, Torres, Waiehua, & Cook, 2012).

The federal definition is based upon one that was developed by Eli Bower in 1960 (Farley et al., 2012). Five criteria are outlined in the definition: (a) the inability to learn that cannot be explained by intellectual, sensory, or other health factors; (b) the inability to build or maintain interpersonal relationships with peers or teachers; (c) inappropriate types of behavior or feelings under normal circumstances; (d) general or pervasive mood of unhappiness or depression; and (e) the tendency to develop physical symptoms or fears associated with personal or school problems.

Many states have adopted different terminology and criteria than specified in federal legislation. For example, Minnesota uses the terminology *Emotional or Behavioral Disorders* (Minnesota Department of Education, 2015), Wisconsin uses *Emotional Behavioral Disability* (Wisconsin Department of Education, 2015), and North Dakota uses *Emotional Disturbance* (North Dakota Department of Public Instruction, 2015). Regardless of terminology and criteria, states must comply with federal regulations.

Language is not addressed in the determination for services under the EBD category. Most often, language is overlooked due to the overwhelming need to address behavioral concerns (Helland et al., 2014). Language is addressed in the definition of EBD only when it addresses students' inappropriate language use, which curiously sounds like pragmatic language. *Pragmatic language disorders* are defined as difficulties in the conversational aspects of language (Camarata & Gibson 1999). This can include not making eye contact, inability to take turns in conversations, inability to track conversations, and inability to respond to shifts in topics.

These skills are the basis for social interaction and conversation. Students with such pragmatic language deficits could qualify for special education services in the category of Specific Language Impairments (Gremillion & Martel, 2014).

Speech and/or Language Impairments

Speech and Language Impairment (SLI) is also an Individuals with Disabilities Education Improvement Act, 2004 category. It is defined as, “a communication disorder such as stuttering, impaired articulation, language impairment or a voice impairment that adversely affects a student’s educational performance” (Minnesota Department of Education, 2015). Language disorders can include deficits in articulation, fluency, voice, and language disorders. Common characteristics include improper use of words or meanings of words, the inability to express ideas, reduced vocabulary, and the inability to follow directions (American Speech Language Hearing Association, 2015). In order to receive special education services for SLI, students must meet specific eligibility criteria:

1. The pattern interferes with communication as determined by an education speech and language pathologist (SLP) and either another adult or child;
2. An analysis of a language sample or documented observation of communicative integration indicates the students language behavior falls below or is different from what is expected considering their age, developmental level, or cognitive level;
3. The student scores 2.0 standard deviations below the mean on at least two adequate, norm-referenced language tests if available; OR
4. The norm-referenced tests are not available to provide evidence of a deficit of 2.0 standard deviations below the mean in the area of language, two documented

measurement procedures indicate a substantial difference from what would be expected given consideration to age, development, or cognition.

The documented procedures may include additional language samples, criterion referenced instruments, observations in natural environments, and parent reports (Office of Revisors and Statutes, 2014).

Summary

Language development is the foundation of academic performance and is critically intertwined with the development of skills that enable students to demonstrate successful performance (Im-Bolter & Cohen, 2007; Toppelber & Shapiro, 2000). Language and communication are important in the acquisition of the social interaction and behavioral skills that are critical in developing relationships, skills in which students with EBD are characteristically deficient (Hollo et al., 2014).

Research Question

One question guides this literature review: What types of language deficits are reported in students with emotional and behavioral disorders?

Focus of Paper

At this time, 10 studies have been selected for inclusion in this literature review that were published from 2004-2015. Participants in these studies ranged in ages from 3 to 17, and lived in either the English-speaking countries of the United States and Great Britain. All participants are identified and/or diagnosed with behavior disorders. Utilizing the databases PsycINFO and Academic Search Premier, I searched for the most recent studies completed that discussed the topic of students with emotional and behavioral disorders and language disorders. While searching for articles I used many different search terms and combinations such as *emotional*

and/or behavioral disorder, language impairments, language deficits, behavior, speech, language delays, language, pragmatic language impairments, and behavior.

Importance of Topic

It is commonly understood that students who experience academic failure are more likely to develop behavior problems. Less commonly known is that a student's language skills directly affect his or her behavior. That is, students with language deficits are more likely to develop behavior problems. This information is new to most educators, and until I began investigating this topic, I was also unaware of the correlation.

I have been working in the special education field for 6 years as a teacher of students with EBD. I also have a son who was diagnosed with Asperger's disorder when he was 2 years old. When I stumbled upon the idea of language impairments and the relationship to behavior disorders, my eyes opened to new teaching possibilities. In order to better teach these students, we need to help them learn how to express and receive information through language. The research used in this paper will be vital to my teaching career in order to help my students and may help other educators and students in turn.

Definition of Terms

The following terms are used throughout this paper. These definitions were found within the research studies themselves, textbooks, and verified internet sources.

Expressive language is the language we speak to others or what we say (Gremillion & Martel, 2014).

Externalizing behavior is defined as having outward and observable behavior(s) that may be presented by a student via aggressive, impulsive, coercive, or noncompliant behaviors (Kauffman & Landrum, 2012).

Internalizing behaviors are those typically expressed “on the inside,” such as being socially withdrawn, lonely, depressed, and anxious (Kauffman & Landrum, 2012).

Language is the ability to acquire and use complex systems of communication; the way we speak to one another through verbal communication (American Speech Language Hearing Association, 2015).

Pragmatic language involves three ways language is used: (a) changing language (e.g., talking to a friend versus talking to a professor), (b) using language to communicate (e.g., stating “I need to use the bathroom”), and (c) following rules for language use (e.g., taking turns and making eye contact) (American Speech Language Hearing Association, 2015).

Receptive language is how we understand language or how we hear and interpret words (Gremillion & Martel, 2014).

Semantic language refers to understanding and appropriate use of meaning in single words, phrases, and sentences (American Speech Language Hearing Association, 2015).

Syntactic language refers to the structure of sentences (American Speech Language Hearing Association, 2015).

Chapter 2: Review of the Literature

Students identified with emotional behavior disorders (EBD) experience both behavioral and academic difficulties that affect their achievement. One aspect that may contribute to these difficulties is undiagnosed language deficits. The purpose of this chapter was to review 11 studies that have investigated the identification of language disorders among students with EBD. The first section of this chapter focuses on the prevalence of language disorders among students with EBD. The second section includes two studies that implemented intervention programs for social and emotional language usage.

Many of the studies reviewed in this chapter use common assessment measures. Table 1 provides relevant information regarding the language and behavior assessments the researchers used to determine the correlation between students identified with conduct/behavioral disorders and language abilities. The acronyms specified in Table 1 will be used to identify these studies in this chapter.

Table 1

Language Assessment Measures

AUTHOR	ASSESSMENT	SUMMARY
Achenbach (1991; 2001)	<i>Child Behavior Checklist – Teacher Report Form (CBC-TRF)</i>	Assessment of internalized and externalized behaviors that include attention, depression, hyperactivity, oppositional, anxiety, somatic, and conduct problems.
Barkley & Murphy (2006)	<i>Disruptive Behavior Rating Scale (DBRS)</i>	Behavioral questionnaire given to parents/teachers of student's to address on a 0-3 scale the severity of disruptive behavior
Bishop (1982)	<i>Test of Reception of Grammar (TROG)</i>	A series of pictures presented to students to identify specific language impairments.
Bishop (1998)	<i>Children's Communication Checklist (CCC)</i>	Assessment designed to rate children's inability with pragmatic language usage/reception
Bracken & Keith (2004)	<i>Clinical Assessment of Behavior: Teacher Rating Form (CAB-T)</i>	Teacher's report on the measure of children's adjustment, psychosocial strengths and weaknesses, and problem behaviors

Table 1 (continued)

AUTHOR	ASSESSMENT	SUMMARY
Chervie-Muller & Plaza (2001)	<i>New Test for Language Assessment/Nouvelles Epreuves pour l'Examen du Language (N-EEL)</i>	Assessment of student's ability in phonology, vocabulary, morphosyntactic integration and comprehension (sentence completion), sentence-picture matching); comprehension of complex instructions, and sentence repetition.
Dunn, Dunn, Whetton, & Burley (1997)	<i>British Picture Vocabulary Scales (BPVS)</i>	Assessment of a child's receptive (hearing) vocabulary
Dunn & Dunn (2007)	<i>Peabody Picture Vocabulary Test-4th edition (PPVT-4)</i>	A test of receptive vocabulary for Standard American English and estimates verbal ability and aptitude
Elliot, (1983)	<i>British Abilities Scale (BAS)</i>	An intelligence measure that includes a word reading subtest.
Gioia, Isquith, Guy, & Kenworthy (2000)	<i>Behavior Rating Inventory of Executive Function-Teacher Form (BRIEF)</i>	An assessment of executive function behaviors at home and at school for children ages 5-18.
Goodman (2007)	<i>Strengths and Difficulties Questionnaire (SDQ)</i>	A behavioral screening questionnaire for 3-16 year olds
Gresham & Elliott (1990)	<i>Social Skills Rating Scale (SSRS)</i>	A norm-referenced assessment that identifies social behavior in school age students. Focuses on social skills, problem behaviors, and academic competence.
Harcourt Assessment Inc. (2005)	<i>Early Childhood Observation System (ECHOS)</i>	A planned observation checklist that assesses language use, literacy, mathematics, social/ personal skills, science, social studies, physical development, fitness, and creative arts
Harcourt Educational Measurement (2000)	<i>Metropolitan Achievement Test (MAT-9)</i>	General intelligence assessment that covers language arts, math, science, social studies, spelling and reading
Hightower et al. (1986)	<i>Teacher-Child Rating Scale (T-CRS)</i>	A 38-item teacher-report measure of children's behavior problems and competencies at school, usually used in elementary
Kadesjö, et al. (2004)	<i>Five to Fifteen (FTF)</i>	An assessment given to parents comprising of 181 statements related to behavioral or developmental problems
Khonsi (2001)	<i>Assessment of Oral Language (ELO)</i>	French assessment of vocabulary and grammar in students ages 4-11 (France)
Klenberg, Jamsa, Jayvinen, Lahti-Nuttala, & Korkman (2010)	<i>Attention and Executive Function Rating Inventory (ATTEX)</i>	An assessment developed to identify and diagnose varying subtypes of ADHD.
Keenan & Wakschlang (2002)	<i>Kiddie Disruptive Behavior Disorders Schedule (K-DBDS)</i>	Assessment that uses standardized probes to address behavior in context based on development
Korkman, Kirk, & Kemp (1998)	<i>Developmental Neuropsychological Assessment (NEPSY-II)</i>	32 subtests and 4 delayed tasks divided into 6 content domains: attention/executive functioning, language, memory/learning, social perception, sensorimotor, and visuospatial processing

Table 1 (continued)

AUTHOR	ASSESSMENT	SUMMARY
Raven (1998)	<i>Raven's Standard Progressive Matrices (SPM)</i>	Nonverbal assessment of generalized intelligence for all ages and abilities
Rutter (1990)	<i>Rutter Behavioral Questionnaire</i>	A behavioral questionnaire given to parents to determine behavioral difficulties in the home
Semel, Wiig, & Secord (1995)	<i>Clinical Evaluation of Language Fundamentals (CELF-III and CELF Preschool-II)</i>	A full assessment of language including expressive vocabulary, word definitions, number repetition, familiar sequences, phonological awareness, pragmatics, and observational rating scales
Seymour, Roper, & de Villiers (2003)	<i>Diagnostic Evaluation of Language Variation Screening Test (DELV)</i>	An individualized assessment to determine normal language development with cultural and regional patterns of language;
Walker & Severson (1990)	<i>Systematic Screening for Behavior Disorders (2nd edition) (SSBD-2)</i>	Screening tool used to assess the severity and frequency of problem behaviors associated with behavior disorders.
Wechsler (1989)	<i>Wechsler Preschool & Primary Scale of Intelligence-Revised (WPPSI-R)</i>	Generalized intelligence and verbal reasoning tests designed for ages 2.5 years to 7. Full Scale, Verbal, and Performance IQ's were assessed.
Wechsler (1991, 2002)	<i>Wechsler Intelligence Scale for Children (WISC-II, WISC-IV)</i>	A clinical assessment for cognitive ability in children between 6 years and 16 years, 11 months. These computed Full Scale IQ, Verbal as well as Performance IQ in students
Wechsler (1991)	<i>Wechsler Objective Language Dimensions (WOLD)</i>	An assessment for students from 6 to 16 years old. Addresses listening comprehension, oral expression, and written expression
Wetherby & Prizant (2002)	<i>Communication & Symbolic Behavior Scales-Developmental Profile/Infant Toddler Checklist (CSBS-DP/ITC)</i>	An assessment that allows teams to determine if language intervention should occur often before a child is able to speak
Williams (2007)	<i>Expressive Vocabulary Test-2nd edition (EVT-2)</i>	Typically used with the <i>Peabody Picture Vocabulary Test-4th edition</i> and allows assessors to determine if expressive and receptive language abilities are stronger/weaker than the other.
Woodcock (1987)	<i>Woodcock Reading Mastery Test- Revised (WRMT-R)</i>	Assessment for reading abilities, comprehension, and basic skills for a wide range of ages

Prevalence of Language Disorders in Students Identified as EBD

This section of the literature review focuses on studies that identify the prevalence of language disorders in students who have been identified as having emotional and/or behavioral disorders. These studies revealed unidentified language impairments.

Gilmour, Hill, Place, and Skuse (2004) investigated the existence of comorbid language disorders among students with conduct disorders. The authors hypothesized that students with pragmatic deficits would be found among children with conduct disorders. During Phase 1 of the study, participants from all socioeconomic backgrounds were selected from two clinics and were divided into subcategories depending upon their primary diagnosis: Conduct Disorders (49 boys, 5 girls), Autistic Spectrum Disorders (34 boys, 8 girls), Autism (40 boys, 5 girls), and typically developing comparisons also from the clinics were identified as control (29 girls, 31 boys). During Phase 2 of the study, 5 girls and 49 boys between the ages of 5 and 10 years were identified who had either been excluded from or were at risk of being excluded from schools.

The CCC was used to assess pragmatic abilities. Of the students identified with conduct disorders, 78% of those students fell within at least one category of language impairments in the clinically significant area. No substantial difference was noted in the proportions of students identified with conduct disorders and the subscale language scores at either of the two clinical settings. Table 2 illustrates the relationship of students identified with emotional or conduct disorders and the percentage of those identified in the clinical range in each assessment area.

Table 2**CCC Language Levels**

AREA	MEAN	% IN CLINICAL RANGE
Speech	32.1	40%
Syntax	30.8	42%
Inappropriate Initiation	23.2	54%
Coherence	28.9	28.9%
Stereotyped Language Mean	22.9	68%
Use of Context Mean	22.8	88%
Rapport	26.2	83%
Social Relationships	25.5	82%
Interests	29.3	24%
Pragmatic Composite	127.3	78%

Each language area showed a clinically significant language need for students identified with conduct disorders. The highest identified need was in the area of language rapport, which is the ability to understand and communicate with groups to build and maintain relationships. With regard to the topic of this paper, 78% of students identified with conduct disorders demonstrated clinically significant needs in the use of pragmatic language.

Gilmour et al. (2004) determined these results indicated a need for the replication of the study and that continued research is needed to determine how to develop language skills in students with conduct disorders. They concluded early intervention strategies must be investigated to increase language skills and decrease the number of students excluded from school for behavioral problems.

In their 2005 study, Ripley and Yuill investigated the occurrence of specific language impairments (SLI) in students who were expelled from school for behavioral infractions. The final sample included 19 males: 14 secondary students and five primary students. Same-age “typical” male peers from the same schools were matched with the 19 excluded students. Receptive language, reading comprehension, auditory processing, and nonverbal reasoning were

assessed using standardized measures. The students' teachers assessed conduct problems, hyperactivity, emotional, and relationships with peers. Subsequent to these assessments the excluded boys were divided into three subgroups: low language, high language, and poor expressers.

Findings from the standardized assessments revealed that younger children and excluded children scored significantly lower in areas of verbal, nonverbal, expressive, and receptive language abilities. As expected, the scores for the SDQ for hyperactivity, emotional, peer, and conduct problems were all significantly higher for the students excluded than the control.

Based on these data, three subgroups were formed. The high-language group included 13 secondary control group and six excluded students who were average or above in receptive and expressive language. The low-language group included four primary control students and five excluded students, in addition to three secondary excluded students who scored below average in receptive and expressive language skills. The five secondary participants in the poor expression group had average or above-average receptive language skills and below-average expressive language skills.

The SDQ scores were compared to determine if different types of reported behavior problems and receptive or expressive deficits were associated. The five excluded poor expressers scored higher on emotional symptoms (5.49 compared to .71 for excluded boys with good language skills). Correlation coefficients showed that emotion symptoms were also significantly negatively correlated with expressive language for the excluded group as a whole ($r = -.50, p < .05$). This relation was also reported for controlled group students ($r = -.45,$

$p < .05$). The association found between emotion symptoms and expressive language deficits for both groups shows that expressive language deficits are related maladaptive behavior without regard to age.

Ripley and Yuill (2005) found the difference in abilities is not always explained by the general low ability in excluded boys because their nonverbal abilities were not significantly different from control students. This would suggest that verbal skills might play a role in the behavior problems in students. The researchers pointed to the need for more research in assessing receptive language in younger children, given the finding that behavior problems were linked to receptive language deficits in younger students and expressive language deficits in older students.

Nelson, Benner, and Cheney (2005) studied language skills deficits and age and gender differences in students with Emotional Disorders (ED) who attended a public school. Participants included 166 K-12 students (136 boys and 30 girls) who received special education services under the ED category in an urban school district in the midwest. The 166 students were part of the 260 students randomly selected (20 per grade K-12) receiving special education services under the ED category. Sixty-five percent of the students chosen for the study were eligible for free or reduced lunch. Eighty-four percent of the students were European American, 12% were African American, 2% were Latino, and 2% were Native American.

A cross-sectional research design was used to collect information on the randomly selected 166 participants within a 4-month time span. The TRF was used to measure the social adjustment abilities of the participants. Language was assessed using the CELF-III. School records were also collected to identify information on their ethnicity, hours of special education services per day, age of onset, and IQ scores.

The CELF-III results indicated three percentages were below the mean for all students with ED in the study when compared to the norm group: Total Language = 85%, Receptive = 77% and Expressive = 89%. The percentage of students who experienced clinical language deficits was 68%.

An ANOVA was computed to determine whether the significant differences in the total language scores of students identified with ED occurred across grade-level groups. The ANOVA revealed no statistically significant difference for grade level. However, it did determine that expressive deficits were significantly higher than receptive deficits ($F_{(91,58)} = 4.59$, $p < .001$).

A sample of 30 males and 30 females was created to determine gender differences in scores among the entire sample of 260 students. Independent samples *t*-tests were computed, and no significant differences were reported based upon deficits and gender. A multiple regression analysis was used with the same sample to assess how externalizing and internalizing behavior problems contributed to expressive and receptive language impairments. Overall, students with ED who exhibited externalizing problem behaviors were far more likely to experience language deficits than students who exhibited only internalizing problems.

In this study, 68% of students with ED met CELF-III standard score or discrepancy criteria for having a language deficit, their language deficits over time remained relatively constant, and they were more likely to have expressive rather than receptive language deficits. Nelson et al. (2005) concluded students with ED who demonstrate externalizing behavior problems are more likely to experience form- and content-related language deficits than students who exhibit internalizing behavior problems.

Unfortunately, this study did not assess pragmatic language skills of students identified

with ED. Another limitation is that the sample was selected from one district in one location and may not represent accurately the services in the public schools for ED. Also, 36% of the parents and guardians did not consent to their child's participation in the study. This means the sample chosen from the school may not have been a true representation of the population in the school of students represented under the category of ED.

In their 2006 study, Bowman, Barnett, Johnson, and Reeve focused on urban students and the link between their language impairments, school functioning, and behavior problems. The authors hypothesized that students with language problems were more likely to have problems with school functioning and that school functioning was the link between language and behavior problems.

Participants included 97 typically developing African American children (47 girls and 50 boys) who were just finishing kindergarten in a charter school located in a low-income urban neighborhood in a larger city located in the midwest. Teachers completed ratings of the children's behavior and academic functioning for 2 consecutive years.

Trained researchers administered the DELV to determine which variation of American English the students spoke: Standard American English (SAE) or African American English (AAE). The DELV also distinguished between children who seem to be developing language skills normally and those who were at a higher risk of developing a language disorder. Behaviors were rated using the T-CRS.

T-test results indicated no significant differences between male and female students. The mean scores on the T-CRS were all within normal limits, which indicated the students were representative of a typical classroom population. Of the 97 children assessed, 86% of them were considered strong users of AAE, 6% of students showed "some variation" from SAE, and 8% of

students used SAE primarily in their natural speech patterns (Bowman et al., 2006, p. 224). The language assessment and behavior rating scales determined language scores were significantly related to school functioning ($\beta = -.358, p < .001$), which means students with a lower risk of language problems scored higher in school-functioning skills. Significant interaction also occurred between language risk and the determined frustration tolerance of students ($\beta = -.25, p = .002$).

Bowman et al. (2006) concluded children with strong language skills showed strong school functioning skills and were less likely to engage in acting-out behavior. Students who were at risk for language impairments often scored much lower on the school functioning scales and were more likely to have behavior problems. In addition, researchers found the use of AAE language did not independently place children at a greater risk for issues with behavior or academic functioning in schools.

The lack of a larger and more diverse sample and the failure to assess severity of language factors and behaviors limited the generalization of this study's findings. Same-age students of the same socioeconomic status should have been studied over a larger amount of time in order to define a true sample of the population.

Ross, Neeley, and Baggs (2007) studied the differences in behavior infractions of second-grade students who were identified to have language impairments and those who were of average language abilities. Participants included 125 second-graders from various public schools in a southern state in the United States. Students were assigned to one of two experimental groups or a control group. Experimental Group 1 included 39 students diagnosed with speech impairments; Experimental Group 2 included 39 students with language impairments, and the Control Group consisted of 47 second-grade students without any speech or language

impairments. Discipline records were reviewed for each student in both impairment groups as well as the control group on for the fall semester of that school year.

The results of this study indicated second-grade students who had language impairments had a significantly higher number of discipline slips for that semester than any other group. The control group had 20 discipline infractions, whereas Group 1 had nine discipline infractions and Group 2 had a total of 52 disciplinary slips, which is a large statistical difference ($X^2 = 44.13$, $p < .001$). The limitations of this study were similar to other studies that cited the need to assess more students across ages and settings.

St. Clair, Pickles, Durkin, and Conti-Ramsden (2010) investigated the developmental trajectories of students with behavioral, emotional, and social difficulties (BESD) who were enrolled in specialized classroom units for students with primary language difficulties. Although 234 children were in the initial cohort at ages 5 and 6, the numbers declined over time: at age 7-8 ($n = 203$), age 10-11 ($n = 167$), and age 16 ($n = 103$). Measurements included the SDQ, which teachers completed to evaluate behavioral, emotional, and social disorders. Language measures at age 7 included using the *Bus Story* (Renfrew, 1991) and the TROG. The word reading subtest of the BAS was also administered. At age 11, teachers completed the pragmatic scale of the CCC.

The total difficulties score and the subscales were analyzed longitudinally to determine if BESD increased or decreased in students identified with an SLI from childhood to adolescence. Although the linear trend for the SDQ was not significant, the subscales of the SDQ showed significant trends for hyperactivity at age 8 ($\beta = -.08$, $p < .005$, which means hyperactivity difficulties decreased significantly over time. At age 16, $\beta = -.67$, $p < .01$. The same trends were reported for conduct subscale (age 8: $\beta = -.14$, $p < .001$; age 16: $\beta = -1.13$, $p < .01$) and for

the emotional subscale (age 8: $\beta = -.06, p = .01$; age 16: $\beta = -.77, P < .005$). The only positive trend was in peer relations (age 8: $\beta = .09, p < .01$; age 16: $\beta = .72, p = .01$), which means that over time issues with peer relationships increased for students identified with an SLI.

The authors assumed problems with hyperactivity, conduct, emotion, and relationships would decrease over time in students identified with specific language impairments. They found that students with BESD did decrease in three of four areas: hyperactivity, conduct, and emotional difficulties. However, students identified with language impairment(s) reported more issues with peers at age 16 than initially at age 6. There were no specific limitations listed in this study; however, one can gather that consistency in the sample size would be beneficial. Information was gathered from various participants at different times throughout the study, and information was not available for some. Therefore, it could not be specifically determined which factors contributed to the decrease of behaviors as children grew older.

Gremillion and Martel (2014) investigated the expressive, receptive, and pragmatic language abilities in young children with disruptive behavior disorders (DBD). Children had diagnoses of attention deficit/hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD). Participants were recruited via mailings and phone interviews of families with children between the ages of 3 and 6 near the New Orleans area.

Participants included 109 preschoolers between the ages of 3 and 6: 59% of the sample was male and 33% of the sample included children from minority backgrounds. Parental education ranged from some high school to completion of a professional degree. Preschoolers were divided into two groups: children with DBD ($n = 79$) and further subdivided into ADHD only ($n = 18$), ODD only ($n = 18$), ADHD+ODD ($n = 43$) and children without DBD ($n = 30$).

Receptive language was measured using various instruments including the PPVT-4, and expressive vocabulary was measured using the EVT-2. Parents answered questions on their children's use of pragmatic language using the CELF Preschool-II. However, only 59% of the sample completed this evaluation because it was added during the second year of the data collection process.

Data analysis included *t*-tests and chi-square tests to examine mean differences between the DBD and non-DBD groups on demographic variables. A multivariate analysis of variance (MANOVA) was conducted to assess language impairment across groups. Bivariate and partial correlations were conducted to examine initial patterns of associations between language and symptoms of DBD. A linear regression examined the associations between language and DBD symptoms.

The receptive vocabulary findings were significantly associated with an increase of DBD symptoms in all domains, with the exception of teacher-rated hyperactivity-impulsivity (*r* range from -.42 to -.67, all $p < .05$). Expressive vocabulary deficits showed an increase of total DBD symptoms, increased total ADHD symptoms, and increased ADHD symptoms (*r* range from -.47 to -.54, all $ps < .05$). Lower pragmatic abilities were significantly associated with increased DBD symptoms in all subdomains (*r* range from -.42 to -.61, all $p < .05$).

This study confirmed that children with DBD have lower receptive, expressive, and pragmatic language skills than children who do not have DBD. Specifically, students with ADHD+ODD show problems in expressive and pragmatic language compared to preschoolers without DBD.

Although language was the focus of the study, Gremillion and Martel (2014) acknowledged that unknown variables may have predisposed the children in this study to the

development of both poor language skills and disruptive behavior disorders. General cognitive ability was also not assessed during this study. Finally, the cross-sectional design did not provide information about the longitudinal trajectory of the language problems identified. This did not allow researchers to determine if language development precedes DBD, whether language difficulty is a consequence of DBD, or whether they are bidirectional.

Aro, Laasko, Maatta, Tolvanen, and Poikkeus (2014) wanted to gain understanding of the associations of different types of early language and communication profiles associated later with executive functioning skills (the ability to organize, plan, and carry out tasks) and regulative skills (the ability to react in an appropriate way in varying situations). Initially, 508 toddlers were identified between 6-24 months of age. From this group the researchers created six toddler communication subgroups of 95 boys and 90 girls: three subgroups of typically developing children (TD) and three subgroups with lower than average development (BD/ED) in each of the three domains of social communication, speech, and symbolic behaviors. The TD group consisted of 63 boys and 65 girls. The ED group had five boys and seven girls; the BD group was comprised of 18 boys and 27 girls. Parents reported a diagnosis of delayed language development for two children (1.5%) of the TD group, for two children (16.7%) of the ED group, and six for the children in the BD groups (13.3%).

Parental questionnaires were distributed to assess toddler and kindergarten language as well as executive and regulative skills. The ITC was used to assess toddlers, and the SSRS, FTF, and the ATTEX were used to assess skills in kindergarten. The *Five-to-Fifteen Questionnaire* (FTF; Kadesjö, et al. 2004) was used to address a broad range of childhood behavioral and developmental problems in kindergarten as well. In addition, the NEPSY-II and the WPPSI-R were completed to determine overall cognitive and language skills.

The executive and regulative skills of the TD, BD, and ED were compared using the Kruskal-Wallis to determine significant score differences. Hierarchical regression analysis was also completed to analyze the effect of early and concurrent language development.

The TD group reported the least number of behavioral problems, and the ED group indicated the highest number. Data analysis revealed a statistically significant difference between the ED and TD groups ($p = .000$; adjusted $p = .000$; $r = .29$), as well as between the TD and BD groups ($p = .004$; adjusted $p = .011$; $r = .32$). However, parental language ratings of children in the ED and BD groups were not significantly different.

Language assessments at ages 3 and 5 years of age were available for nearly half ($n = 90$) of the initial group. In the Sentence Reception test of the NEPSY-II, the mean scores showed the TD groups ($n = 55$) had the best performance, the performance for the ED group ($n = 6$) was somewhat lower, and the performance of the BD group ($n = 29$) was the lowest. Significant group differences occurred between the BD and TD groups ($p = .001$; adjusted $p = .003$; $r = .36$). Similar results were found for the Nonsense Word Repetition subtest of the NEPSY-II and the Digit Span subtests of the WPPSI-R.

The study indicated the two groups (BD and ED) with atypical early communication development demonstrated poorer executive and regulative skills at kindergarten age than children in the TD group. Children with BD demonstrated compromised executive and regulatory skills in the areas of social skills and attention/executive functions. Children with ED were also rated by parents as having more and a wider range of kindergarten-age executive and regulative difficulties than the children in the BD group.

Vendeville, Blanc, and Brechet (2015) studied participants who had language impairments to determine their ability to infer emotions, which the authors described as an

important social interaction skill. Forty-four children participated in the study: 22 children with language impairments (LI) and 22 with typically developing language abilities. The seven girls and 15 boys who were identified with LI were from 6-10 years old with a median age of 8.3 and attended an institute for children with language impairments in Montpellier, France. The average developing language group was matched with children in the LI group in terms of age, gender, and were from the same region. In addition to an intelligence test to rule out cognitive deficits, language tests were administered and determined that participants in the LI group were at least 18 months behind in language development from their same-age peers.

In three separate 20-min sessions, children in both groups were given 5-min audio stories selected from a series of authentic natural stories written by Anton Krings. The stories included a similar number of critical events causally connected to the main character, and they all strongly suggested an emotional state that corresponded to the situations. An average of 10 students were included in each of the LI classes, and an average of 25 were included in each control class. In each of the 3 weekly sessions students were asked to listen to the stories on tape and to perform two drawings tasks. The narrator of the tape stopped at two different points and gave a prompt, such as, “In your opinion, what does the character feel at this particular moment? Complete the drawing of the character’s face so I can see the emotion this character feels” (Vendeville et al., 2015, p. 1,566). The name of the character was provided in the prompt, and after the drawing was finished the narrator recapped what had happened in the story.

Three trained adult judges were asked to evaluate the 264 total drawings. The study focused on three emotional categories of *happiness*, *sadness*, and *anger*. Judges were given the option to also score as *neutral* or *other*. If two of the three judges agreed on the emotion it was selected. If the judges agreed the student had correctly identified the emotion, he/she received a

score of 1. If the ratings were agreed upon but the target emotion was not identified or if judges selected neutral as an answer, the drawing received a score of 0. If the ratings were not agreed upon, the drawing was also assigned a 0. Inter-judge agreement ranged from 84% to 92%.

Student task scores were then analyzed using an ANOVA. They compared the language impairment group with the typically developing group within the factors of emotions including happiness, sadness, and anger. The analysis revealed a significant effect for the group factor ($F_{(1, 42)} = 9.26, p < .001$), with a medium effect size. The number of drawings that correctly identified the target emotion was far greater for typically developing children ($M = .70$) than for students identified with language impairments ($M = .49$). Results also revealed a significant main effect of emotion ($F_{(2, 84)} = 24.46, p < .001$), with a large effect size. That is, happiness and sadness resulted in more target emotions identified than anger.

To determine if receptive or expressive language deficits contributed to the scores or if time on task was a factor, a chi-square test was performed to compare the three language groups. As expected, significant time-on-task differences were reported between typical language children and children with only expressive language impairments ($X^2 = 16.93, p < .001$) and between typically developing children and children with expressive/receptive language impairments ($X^2 = 16.86, p < .001$). However, typically developing children were better able to correctly identify the proportion of drawings depicting the target emotion ($M = .70$) than students identified with language disorders ($M = .49$).

The aim of the study was to determine the ability of students with language impairments to infer emotion through the use of a drawing task compared with that of typically developing children. Results showed that children with language impairments have more difficulty inferring emotions than typically developing children. Limitations to this study that were identified

included the small sample size and lack of comparison among age groups.

Intervention Studies

This section includes two studies that investigated the effects of a social and emotional learning intervention on the social language (pragmatic) and vocabulary skills of students who were identified with EBD. Each assessment used teacher and parent rating scales to identify students' behavioral rating score and school competence before and after the intervention.

Benner, Ralston, and Feuerborn (2012) investigated the effects of implementing the *Language for Thinking* program on cognitive processing and social adjustment of 10 students identified with emotional and behavioral disorders. They hypothesized that language and cognitive processing speed could contribute to the externalizing behavior problems often demonstrated by students meeting criteria for EBD. The eight boys and two girls received special education services in a self-contained classroom setting for students with EBD in an urban school setting in the state of Washington.

The *Language for Thinking* program was developed to increase language skills and cognitive abilities. It is a 2-part program that addresses expressive and receptive language skills by teaching students the concepts, vocabulary, and sentence structures they could encounter in textbooks and assignments. Although it can be used across all grade levels, it was developed originally for first- and second-grade students. The program contains 150 lessons with a variety of teaching and assessment materials. In this study, the students received scripted instruction for 25-30 min per day for 5 months between the months of January and June of 2006.

The TRF measured students' emotional and behavioral adjustment. The *Woodcock-Johnson III-NU Tests of Cognitive Abilities* (Woodcock, McGrew, & Mather, 2001) measured general intellectual and cognitive abilities, as well as processing speed. Data were analyzed

initially with a Wilcoxon-Mann-Whitney test to analyze the difference between pre and posttests on the emotional and behavioral adjustment scores of students as well as the cognitive score changes. The TRF and WJ-III pre-post scores were also analyzed to determine processing speed as well as overall cognitive abilities.

After a 5-month instructional period, total TRF scores decreased from 61.6 to 56.5, which equated to a 6.3% decrease of overall behavior problems. The WJ-III scores increased from 83.5 to 96.2, which reflected a 16% increase in processing and general cognitive abilities. Decision speed scores increased from 86.2 to 101.8, an 8.4% increase. The researchers were interested in decision-speed scores because they hypothesized that behaviors often arise from the ability to make effective decisions in a reasonable amount of time.

Benner et al. (2012) showed that the introduction of social thinking language programs at a young age can help reduce the amount of total external behaviors and increase cognitive processing speed and decision-making speed (along with other areas). They contended these gains would overall allow students identified with emotional behavioral disorders to be more successful in school settings.

Daunic et al. (2013) developed a social-emotional learning curriculum called *Social Emotional Learning Foundations* (SELF) at the University of Florida. The program focused on vocabulary development and comprehension while incorporating five social-emotional learning competencies: self-awareness, self-management, social awareness, relationship management, and responsible decision-making. The curriculum consisted of five coordinated units, each composed of three lessons. The topics were introduced with a story from authentic children's literature. Lessons were taught two to three times weekly for 20 min in small groups consisting of three to four students.

The first lesson in each topic the teacher introduced the social-emotional concept and vocabulary and read the designated storybook. The second lesson in each topic incorporated a re-reading strategy called the dialogic reading strategy (Caultfield, Fischel, DeBaryshe, & Whitehurst, 1989), which provides adult prompts to children with questions and engagement in deep discussions while reading the story/text.

When the SELF-curriculum was piloted, it took place in two large racially and socioeconomically diverse elementary schools in central Florida. One school was selected as the treatment and the other served as the control school (known as BAU, or *business-as-usual* condition). The eight kindergarten treatment teachers and 10 control teachers identified three to five students with behavioral risks while also ruling out students with significant disabilities. The treatment group consisted of 26 boys and 4 girls: 16 were Black, 11 White, 2 Hispanic, and 1 Multiracial. The control group consisted of 23 boys and 4 girls: 15 Black, 8 White, 3 Multiracial, and 1 Hispanic. Participants all spoke English as their primary language.

Two measures were used to collect behavioral data: the BRIEF and the CAB-T. To identify reading abilities, researchers used the WRMT-R. To assess vocabulary development, data were selected from the expressive vocabulary subscale of the *Florida Assessment for Instruction in Reading*.

Results showed that children in the treatment group were at higher risk on the initial Inhibition subscale of the BRIEF Behavior Regulation Index and at lower risk on the social skills subscale of the CAB-T. ANCOVAs produced significant main effects of treatment on Internalizing Behavior ($F_{(1, 23)} = 4.48, p < .05$) and Competence ($F_{(1, 23)} = 7.24, p = .01$). In other words, students increased abilities in Internalizing behavior and Competence. Daunic et al. (2013) concluded interventions that give strength to a student's emotional and behavioral self-

regulation have the potential to promote the social and emotional competence of students at risk for EBD, which can contribute to future school success.

A major limitation of the study was the lack of random assignment. The schools volunteered to participate and knew their group assignment, which could have skewed results. Finally, pre- and post-testing using the BRIEF and the CAB could have inhibited valid results. This could be due to the fact that teachers were personally vested in the research that the results on the behavior ratings of students using the BRIEF and CAB could have been altered to show less behavior during the second assessment after treatment was implemented.

Summary

The studies summarized in this chapter presented evidence that students identified with EBD often have underlying language impairments, especially in the area of pragmatics. Table 3 briefly summarizes the findings of the studies in this chapter, which are discussed in Chapter 3.

Table 3

Summary of Chapter 2 Studies

AUTHOR (DATE)	PARTICIPANTS/ SETTING	ASSESSMENT	RESULTS
PREVALENCE STUDIES			
Gilmour, Hill, Place, & Skuse (2004)	44 students at risk or at risk of being excluded from school assessed in the area of pragmatics with the CCC.	CCC	Given the CCC 78% of students excluded or at risk for exclusion scored in the clinically significant range.
Ripley & Yuill (2005)	19 children excluded from school for behavior infractions and 19 same-age peers	BPVS, WOLD, WISC (expressive language & verbal reasoning), CELF	Excluded boys scored lower than controls on expressive measures but were similar on receptive language and verbal IQ.
Nelson, Benner, & Cheney (2005)	166 children diagnosed with Emotional Disturbance	CBC-TRF, CELF-III	68% of students scored in the clinical language deficit category.

Table 3 (continued)

Bowman, Barnett, Johnson, & Reeve (2006)	97 African American students in an urban area	DELV, T-CRS	Low language scores on the DELV showed a significant correlation between low school functioning and behavior.
Ross, Neeley, & Baggs (2007)	125 students in an urban area	Language assessments; records of student behavior were searched	The control group (47) had a total of 20 discipline referrals while the speech experiment group (39) had 9 and the language experimental group (39) had 53
St Clair, Pickles, Durkin, & Conti-Ramsden (2010)	242 children with a history of SLI.	SDQ, <i>Rutter Behavioral Questionnaire</i> , TROG, CCC, BAS Word Reading	The longitudinal study of students who had a history of SLI and behavior difficulties the hyperactivity and conduct problems decreased over time. Emotional problems decreased over time, but problems with peers increased over the study.
Gremillion & Martel (2014)	109 preschoolers with DBD and ODD	Clinician-administered interviews, symptom questionnaires	Preschoolers with DBD showed poorer language skills compared to ODD and non-DBD groups.
Aro, Laasko, Maatta, & Poikkeus (2014)	185 toddler age participants along with longitudinal data taken at age 4 and 7	ITC, CSBS-DP, SSRS, FTF, ATTEX, WPPSI-R	A positive correlation with the language impairments discovered at toddler age to continued impairments in kindergarten in language and executive functioning skills.
Vendeville, Blanc, & Brechet (2015)	22 children identified with language impairments in public school	Developed rating scales to judge students drawings	Students who were identified with language impairments were less likely to match a facial expression in their drawing to the given story
INTERVENTION STUDIES			
Benner, Ralston, & Feuerborn (2012)	10 public school students receiving services for EBD in self-contained settings	CBC-TRF, WJ-III	The <i>Language for Thinking</i> program was implemented and according to teacher report disruptive behaviors decreased compared to students who didn't receive instruction.
Daunic et al. (2013)	30 students in a kindergarten classroom	CAB-T, BRIEF	Students instructed in the SELF curriculum increased internalizing behaviors and school competence on teacher rating forms.

Chapter 3: Conclusions and Recommendations

Social skills are dependent upon one's ability to communicate both verbally and nonverbally (Gresham et al., 2004). Unfortunately, the language deficits of students identified with EBD are often overlooked as a contributing factor to the social skills deficits manifested by these students. The purpose of this starred paper was to review the literature that investigated the unidentified language deficits present in students identified with emotional or behavioral disorders (EBD). I provided historical and theoretical background information regarding this topic in Chapter 1 and reviewed 11 studies in Chapter 2. In this final chapter, I discuss conclusions, recommendations for research in the field of special education, and implications for practice.

Conclusions

The results of all 11 studies indicated that children who are identified as EBD are likely to have clinically significant language deficits in receptive, expressive, and pragmatic areas of language. Although this finding was reported in all the studies, the prevalence rate varied. In Nelson et al.'s 2005 study, the percentage of students who scored below the mean of the norm group on the receptive language portion of the CELF-III was 77%. In the area of expressive language, 89% of students scored below the mean. With regard to pragmatic language, 69% of students with EBD scored in the clinically significant range (Gilmour et al., 2004).

Two studies explored interventions that were designed to increase the language usage and skills of students with EBD in order to decrease behaviors and increase school competence. Both the *Language for Thinking Program* reported in the Benner et al. (2012) study and the *Social Emotional Language Foundations* reported in the Daunic et al. (2013) study resulted in fewer externalizing behaviors, improved academic performance, and greater emotional control.

In conclusion, students who received special education services in the EBD category routinely scored lower on language measures than typically developing students and those who did not have conduct disorders. Moreover, students who were identified as having language impairments received more behavior referrals compared to students who received speech services and/or received no special education services. This means that students who are being served in educational settings for EBD should be considered at risk for communication disorders (Ross et al., 2007).

Recommendations for Future Research

I believe there is clear evidence of a correlation between language disorders and behavior disorders. Findings are consistent across studies and have been reported for over a decade. Now it is time to stop “admiring the problem” and conduct research to find interventions that address the problem. It was surprisingly difficult to find intervention studies, particularly when the literature consistently identified language deficits and supported the need for intervention. In my literature review I found only two studies that introduced interventions specifically targeting language abilities in the context of social-emotional learning. Both studies showed major improvements on behavior reporting scales in 5 months of instruction or less.

Future research should focus on developing early interventions that address the language deficits of young children who manifest behavioral problems. The effects of these interventions and their later impact on behavior or social emotional abilities will fill a great void in the literature.

Recommendations for Special Education

Hopefully, early intervention research will lead to the widespread implementation of intensive language and support programs in early childhood and elementary programs for

children who manifest challenging behavior. Early interventions could alter future negative outcomes for students identified with EBD such as behavior problems in school, truancy, and possible school exclusion.

Students who exhibit challenging behaviors and who are being evaluated for special education services should be given a language assessment in all areas. Often, when students are demonstrating outward behaviors, the team focuses on the behavior so much that they do not assess other areas including overall processing speed, language interpretation, usage, and comprehension. Language assessments should be common protocol for all evaluations and re-evaluations of students who receive special education services under the category of EBD.

Speech and language pathologists (SLPs) should also help EBD teachers learn how to become more aware of language deficits that are not as apparent to the untrained eye. Teachers are not always trained in detecting the types of language impairments manifested by students with EBD. Closer involvement of SLPs will encourage teams to address previously undiagnosed language deficits and provide students with the skills they need for social, emotional, and academic growth.

Implications for My Current Practice

The literature I reviewed solidified one goal for our team of EBD teachers. Specifically, we plan to conduct language assessments on all our students. With this research, our team is now cognizant that students with EBD may have underlying language impairments that have inhibited their academic success. In our department, 50% of students assessed in language qualified for speech and language services after the evaluation was completed. These were students who either had never received language services or had been dropped from services in late elementary.

Many assistive technology devices are now more available that enable students with special needs in general education settings. Our team is conducting more intensive assessments, not only of undiagnosed language impairments, but also the assistive educational materials (AEM) that will enable our students with low-reading abilities (likely due to a language impairment) to understand higher-level reading content. Often, reading and writing tasks are difficult for our students, and AEM helps students use the same assigned textbook and complete the same unit assessments using speech-to-text software, read tests aloud on an online platform, and access their texts on electronic devices (I pads, iPods, MacBooks, and Chrome books). Although we have just begun to implement activities to reach our goal, we have already helped 10 of 60 students more easily access general education curriculum and demonstrate improved academic performance.

I will continue to share the knowledge I have gained with colleagues, administrators, SLPs, and school psychologists. I am encouraged by what our team has accomplished. If this could become a district-wide process, the impact will be far greater. I will also continue to help my students advocate for themselves and their language needs, as well as teaching them the skills they need to be successful in everyday interactions regarding specifically pragmatic language use.

Summary

The research I reviewed in this Starred Paper confirms the high prevalence of language impairments in students identified with EBD. Future research should focus on early interventions and identification of students currently not being serviced for underlying language impairment. Educators, SLPs, administrators, special education teachers, and staff need to

increase their awareness of this issue in order to prevent the continued cycle of learners affected by language impairments that go undiagnosed.

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