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Language Development and Behavior Problems in Young Preschool Children: Relationship to  
Teacher and Parent Ratings of Behavior Problems

Thesis submitted in partial fulfillment of Honors

by

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to

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### Abstract

This study analyzed the relationship between young children's language development and behavior problem ratings from their teachers and parents. It examined this relation to determine to what extent children's language delays are associated with clinically significant levels of behavior problems, the degree to which the level of language delay is related to behavior problem ratings by both teachers and parents, and the degree of correlation between teachers' and parents' ratings of behavior. Participants were teachers and parents of children between two to five years of age in Washington County early intervention classrooms. Parents and teachers of the children returned Informed Consent Documents and were asked to complete the appropriate version of the *Child Behavior Checklist for Ages 1 ½ to 5* (CBCL 1 ½ -5) about their student or child (Achenbach & Rescorla, 2000). A measure of language development from the *Battelle Developmental Inventory* was obtained from the child's existing language assessment data in his or her school record (Newborg, Stock, Wnek, Guidubaldi, & Svinicki, 1984). The expressive and receptive language age equivalent score from the Communication sub-test of the *Battelle Developmental Inventory* was analyzed for each child (Newborg, Stock, Wnek, Guidubaldi, & Svinicki, 1984). Low negative correlations were found between the Total Behavior Problem score and Receptive Language, as well as between Total External Behavior Problem score and Receptive Language. Teachers and parents showed moderate to high agreement on child behavior ratings. Implications for understanding the reciprocal role of language and behavior development and for future research were discussed.

## Language Development and Behavior Problems in Young Preschool Children: Relationship to Teacher and Parent Ratings of Behavior Problems

Every preschool classroom encounters behavioral problems with one or more students. Do children's language abilities affect their behavior with teachers and peers in the classroom? Do their language skills also affect behavior in the home? Are parent and teacher's perceptions of children's behavior consistent with each other?

### *Assessing Language*

Receptive language is the ability to understand and comprehend spoken language. Expressive language is the ability to communicate thoughts, feelings, needs, and desires through spoken language. There are many ways to measure language skills in the classroom, such as through standardized testing, observations, checklists, or rating scales.

### *Assessing Behavior*

Internalizing behaviors is defined as inhibited behaviors that include withdrawing, depression, or anxiousness. These behaviors may not be as obvious or apparent to perceive in children. On the other hand, externalizing behaviors are acting out behaviors that may include aggressiveness, attention problems, or disobedience.

### *Review of Studies*

Previous studies of preschool children with diverse language abilities have focused on researching language and behavior, but rarely compare parent and teacher ratings in one study. A 2006 study conducted by Qi, Kaiser and Milan examines the behavioral characteristics of Head Start preschool children with low and high language abilities. The children are observed during "teacher-directed structured activities and child-directed unstructured activities" in the

classroom (Qi, Kaiser, & Milan, 2006). The study found the children with low language “have significantly higher rates of disruptive behavior and negative responses, fewer initiations to peer interactions, and shorter durations of engagement” than children with high language abilities (Qi, Kaiser, & Milan, 2006).

A University of Virginia research study conducted in 2007 by Stanton-Chapman, Justice, Skibbe and Grant looks at “the social and behavioral characteristics of children with specific language impairment (SLI) as compared with a group of children with typically developing language skills (TL)”. The parents of both sets of children completed two separate behavior questionnaires, the *Social Skills Rating System* (SSRS) and the *Child Behavior Checklist* (CBCL), for their children. The study found that the children with SLI and their typically advancing peers scored “similarly on the Externalizing subscale of the SSRS but differed on the Internalizing scale results,” meaning that children with SLI show higher occurrences of withdrawal, inhibition, and anxiety (Stanton-Chapman, Justice, Skibbe, & Grant, 2007).

A study conducted in 1978 by Garrity and Servos looks at the relationship between 4-year olds with and without behavior problems. The study used various screening measures to determine the behavior ranking of each child. Garrity and Servos used the *Peabody Picture Vocabulary Test* to compare the language development of each child with or without behavior problems. The results showed that “problem children” scored lower on all measures of development, but “fine-motor items discriminated better than gross-motor, language, social, and behavioral problems” (Garrity & Servos, 1978).

The study by Qi, Kaiser and Milan obtained data through observation and found significantly higher rates of behavior problems in children with low language skills (Qi, Kaiser, &

Milan, 2006). The Stanton-Chapman study obtained data only through parent questionnaires and found no difference in external behavior when comparing children with specific language impairment with typically developing children. The study by Garrity and Servos conducted many behavioral tests but did not come up with significantly different language development scores between children with and without behavior problems.

### *Objective*

The purpose of this research is to determine the relationship between behavior and language development in preschool children. Based on the few existing studies concerning behavior in preschoolers with varying language skills, there is a need to look into this subject more closely. The three studies provide contradictory outcomes, perhaps because of their research methods. The relationship between behavior and language development will be studied in preschool children by using parent questionnaires and teacher questionnaires. The relationship between the consistency of parent and teacher ratings of children's behavior will also be analyzed. Since previous studies do not compare language skills to teacher and parent ratings of behavior, this study seeks to examine this subject directly.

### Research Questions

1. Do children's language abilities affect their behavior with teachers and peers in the classroom; that is, what is the correlation between teachers' ratings of a child's behavior problems on a standardized measure of problem behavior, the Child Behavior Checklist (Achenbach, & Rescorla, 2000) and the language development receptive and expressive age equivalence scores on the Communications sub-test of the Battelle Developmental Inventory (Newborg, Stock, Wnek, Guidubaldi, &

Svinicki, 1984).

2. Do their language skills also affect behavior in the home; that is, what is the correlation between teachers' ratings of a child's behavior problems on a standardized measure of problem behavior, the Child Behavior Checklist and the language development receptive and expressive age equivalence scores on the Communications sub-test of the Battelle Developmental Inventory?
3. Are parent and teacher ratings consistent with each other; that is, what is the correlation between teachers' ratings and parents' ratings of the children on the CBCL with regard to the Total Behavior Problem score, the Externalizing Behavior score, and the Internalizing Behavior score?

#### *Anticipated Outcomes*

Language development in preschool children influences their behavioral problems in the home and classroom. Children with higher behavior problem scores should have lower language development scores. The results of the study are influenced by methods of obtaining data, and the parents and teachers' perception of behavior in classroom and home settings.

## Methods

### *Participants*

Participants in the study were parents and teachers of children, age two to five years old, in early intervention classrooms in Washington County, Tennessee. Both teachers and parents were asked to sign and return Informed Consent Documents (previously approved by the East Tennessee State University Campus Institutional Review Board) indicating their consent to their own participation.

### *Measurement Instruments*

To measure children's behavior, teachers and parents were given either the teacher or parent versions of the *Child Behavior Checklist* designed by Achenbach and Rescorla (2000) to fill out about their child or student. The *Child Behavior Checklist* is a well-researched, dependable rating scale with 100 rating items (Achenbach & Rescorla, 2000). The checklist ratings can be summarized into a Total Behavior Problem score, an Externalizing Behavior Problems score, and an Internalizing Behavior Score. In all analyses the standard T score for each behavior category was used. Externalizing behaviors include such things as aggression, noncompliance, and disruptive behaviors while Internalizing behaviors are those such as social withdrawal, depression, and sadness.

To measure children's language development, language scores on the *Battelle Developmental Survey* (Newborg, Stock, Wnek, Guidubaldi, & Svinicki, 1984) were obtained from each child's school file. The *Battelle Developmental Survey's* data provided age equivalent scores for each child in receptive (ability to understand language spoken by another to the child) and expressive (ability of the child to communicate verbally to another person) language



(Newborg, Stock, Wnek, Guidubaldi, & Svinicki, 1984).

### *Procedures*

*Participants.* After gaining Institutional Review Board approval, approval from the schools in Washington County, Tennessee was required. Meetings with administrators and teachers were set up to explain the study and recruit participants. Informed Consent Documents were given to early intervention teachers to give to parents of students in their classrooms, as well as forms for the teachers to return.

*Parent child behavior checklists.* After a parent returned an Informed Consent Document, contact information was obtained from the classroom teacher to provide the parent with the choice to meet with the checklist or fill it out at home. Each parent desired to fill it out at home, so the parent version of the *Child Behavior Checklist* was brought to the school in an envelope with completion instructions (Achenbach & Rescorla, 2000).

*Teacher child behavior checklists.* After a parent returned an Informed Consent Document and the teacher completed the Informed Consent Document, the teacher filled out the teacher version of the *Child Behavior Checklist* about the student at school (Achenbach & Rescorla, 2000).

*Language data.* After obtaining a parent Informed Consent Document, language data was obtained from the child's school file and placed into a secure envelope for either the principal investigator or advisor to pick up from the school.

### *Research Design*

This study is a two-part descriptive study. The first phase of the study was to correlate *Child Behavior Checklist* behavior scores by the teacher and by the parent with receptive and

expressive with age equivalent scores for language (Achenbach & Rescorla, 2000). The second phase of the study was to correlate the parent and teacher ratings and discover if they similarly identify children as being within the clinical range of behavior problem scores.

## Results

### *Number of Participants*

Although the principal investigator and thesis advisor tried to recruit 80 participants, we were able to recruit seven participants in this study. We obtained seven parent Informed Consent Documents and seven completed teacher versions of the *Child Behavior Checklist* (Achenbach & Rescorla, 2000). Of those seven participants, three of them returned parent versions of *Child Behavior Checklist* (Achenbach & Rescorla, 2000).

These children ranged from 22 – 64 months of age. Six participants were male and one participant was female. Six of the children were from Ridgeview Elementary school, while one child was from Grandview Elementary school. Both elementary schools were located in Washington County, Tennessee. There were several diagnoses of the children in this sample. Four of the children were diagnosed with developmental delays, one child was diagnosed with Asperger's syndrome, one child was diagnosed with Autism, and one child had no diagnosis but was served in the early intervention classroom.

### *Relation of Language and Behavior Problems*

*Total behavior problem score and total receptive language score.* A Pearson product moment correlation was conducted on the Teacher's Total Behavior Problem T-score of the *Child Behavior Checklist* and the Receptive Language Age Equivalent score on the Battelle Developmentary Inventory (Achenbach & Rescorla, 2000) and (Newborg, Stock, Wnek, Guidubaldi, & Svinicki, 1984). An "r" of -0.233 was obtained (df=5). This correlation was not statistically significant.

*Total behavior problem score and total expressive language score.* A Pearson product moment correlation was conducted on the Teacher's Total Behavior Problem T-score of the *Child Behavior Checklist* and the Expressive Language Age Equivalent score on the *Battelle Developmental Inventory* (Achenbach & Rescorla, 2000) and (Newborg, Stock, Wnek, Guidubaldi, & Svinicki, 1984). An "r" of -0.092 was obtained (df=5). This correlation was not statistically significant.

*Total externalizing behavior score and total receptive language score.* A Pearson product moment correlation was conducted on the Teacher's Total Externalizing Behavior Problem T-score of the *Child Behavior Checklist* and the Receptive Language Age Equivalent score on the *Battelle Developmental Inventory* (Achenbach & Rescorla, 2000) and (Newborg, Stock, Wnek, Guidubaldi, & Svinicki, 1984). An "r" of -0.306 was obtained (df=5). This correlation was not statistically significant.

*Total externalizing behavior score and total expressive language score.* A Pearson product moment correlation was conducted on the Teacher's Total Externalizing Behavior Problem T-score of the *Child Behavior Checklist* and the Expressive Language Age Equivalent score on the *Battelle Developmental Inventory* (Achenbach & Rescorla, 2000) and (Newborg, Stock, Wnek, Guidubaldi, & Svinicki, 1984). An "r" of -0.192 was obtained (df=5). This correlation was not statistically significant.

*Total internalizing behavior score and total receptive language score.* A Pearson product moment correlation was conducted on the Teacher's Total Internalizing Behavior Problem T-score of the *Child Behavior Checklist* and the Receptive Language Age Equivalent score on the *Battelle Developmental Inventory* (Achenbach & Rescorla, 2000) and (Newborg,

Stock, Wnek, Guidubaldi, & Svinicki, 1984). An “r” of -0.133 was obtained (df=5). This correlation was not statistically significant.

*Total internalizing behavior score and total expressive language score.* A Pearson product moment correlation was conducted on the Teacher’s Total Internalizing Behavior Problem T-score of the *Child Behavior Checklist* and the Expressive Language Age Equivalent score on the *Battelle Developmental Inventory* (Achenbach & Rescorla, 2000) and (Newborg, Stock, Wnek, Guidubaldi, & Svinicki, 1984). An “r” of 0.000 was obtained (df=5). This correlation was not statistically significant.

#### *Relationship between Teacher and Parent Child Behavior Checklist Ratings*

This study conducted the Pearson product moment correlations between the teachers’ behavior ratings and the parents’ behavior ratings of children; however, there were only three pairs of such ratings. The correlation between the Teacher’s Total Behavior T-score and the Parent’s Total Behavior T-score was “r” is equal to 0.76 (df=1). This correlation was not statistically significant. The correlation between the Teacher’s Total Externalizing Behavior Problem T-score and the Parent’s Total Externalizing Behavior Problem T-score was “r” is equal to 0.982 (df=1). This correlation was not statistically significant. The correlation between the Teacher’s Total Internalizing Behavior Problem T-score and the Parent’s Internalizing Behavior Problem T-score was “r” is equal to 0.893 (df=1). This correlation was not statistically significant.

### Discussion

This study sought to analyze the relationship between young children's language development and behavior problem ratings from their teachers and parents with particular focus on young children with or at risk for disabilities. All of the children were being served in early intervention classrooms in public school and all but one had an unofficial special education diagnosis. We also sought to determine the relationship between teachers' and parents' ratings of their young students or children and to determine if a particular sub-group of children might have language delays that were more impacted by their behavior problems (e.g., would those children who were rated as having behavior problems that fell within a clinically significant level were more likely to have the lowest level of language development). To these ends, teachers and parents were asked to independently rate their students or children on a well-recognized and technically validated behavior rating scale, the Child Behavior Checklist (Achenbach & Rescorla, 2000). These behavior ratings were then correlated with the children's age-equivalence scores on the Communication sub-test (receptive and expressive language) of the *Battelle Developmental Inventory* (Newborg, Stock, Wnek, Guidubaldi, & Svinicki, 1984). Overall, the results indicated a statistically small negative correlation between total behavior problem scores on the CBCL and receptive language and between externalizing behavior scores (a component of the total score) and receptive language. These correlations were not statistically significant, largely due to the small sample size. No correlations were found between any behavior problem scores (total score, externalizing behavior or internalizing behavior) and expressive language scores. There were too few participants for whom we were able to obtain both teacher and parent ratings and therefore we were not able to evaluate

whether subgroups of children might exist for whom these correlations might be higher. However, for the few cases in which we did obtain the pairs of ratings, it did appear that parents' and teachers' behavior ratings were correlated highly for total score, externalizing behavior or internalizing behavior. Furthermore, these few teacher and parent pairs also appeared to agree whether or not their behavior ratings placed the children within the clinically significant range of behavior problems.

The present study begins to extend prior research in several ways. First, most prior studies have analyzed both children with and without disabilities or analyzed those children without an official diagnosis but who might be at risk due to economic circumstances (e.g., Garrity & Servos, 1978; Qi et al, 2006; Stanton-Chapman et al 2007). These studies have tended to show some negative relationship between increased behavior problems and some aspect of language development. The present finding of this study partially replicates the negative relation between language development and behavior problems, but does so within a population of children with or at risk for a diagnosis of some type of behavioral or developmental delay. Thus, it appears that language and social behavior are intertwined within the more limited population of children with disabilities as well as when children with disabilities are compared to those without disabilities.

Second, the results of this study give a preliminary suggestion that, at least for children with or at risk for disabilities, teachers and parents show considerable agreement in whether or not the young children in their care exhibit problematic levels of behavior and whether the level of behavior problem rises to the degree of clinical significance. If this preliminary result can be replicated with additional, larger participant populations, this will strengthen the

possibility that we may be able to identify sub-groups of children whose behavior and language development may be even more tightly associated (e.g., those children who are clearly rated as having clinically significant behavior problems by both parents and teachers).

### *Limitations*

One limitation of this study was the sample of the participants. The sample included a small number of both children and raters, which provided limited results. All of the participants were from two schools in Washington County, which restricted the sample to one school district. Each of these children was served in an early intervention classroom, so the study included no data about typically developing children for comparisons. Another limitation is that the study relied on each child's existing language data from the *Battelle Developmental Inventory* for comparison instead of conducting an independent language assessment (Newborg, Stock, Wnek, Guidubaldi, & Svinicki, 1984). This assessment may not have been the most accurate measurement of language for analyzing and comparing.

### *Future Research*

Future research studies that include larger sample sizes of participants, children with and without disabilities, and specific kinds of disabilities are needed on this topic. Repeated studies about the relationship between language and behavior may provide implications for the early childhood classroom. Can we influence language by improving behavior? Can we affect behavior by improving language?



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Table 1  
Participant Characteristics, Behavior Problem Scores, and Language Development Scores

Child Code Name	Age In months	Teacher Internal CBCL T-Scores	Teacher External CBCL T-Scores	Teacher Total CBCL T-Scores	Parent Internal CBCL T-Scores	Parent External CBCL T-Scores	Parent Total CBCL T-Scores	Battelle Receptive Age Equivalent	Battelle Expressive Age Equivalent
WCRE JF1	64	47	38	44	55	48	51	47	44
WCRE JF2	60	<b>61</b>	<b>69</b>	<b>68</b>	-	-	-	47	55
WCRE MN1	36	50	55	52	-	-	-	14	20
WCRE MN2	47	58	47	52	<b>65</b>	58	<b>66</b>	26	27
WCRE MN4	22	46	<b>61</b>	57	-	-	-	11	15
WCRE MN3	58	56	<b>65</b>	<b>62</b>	59	<b>68</b>	<b>64</b>	32	21
WCG ETA1	31	<b>70</b>	<b>69</b>	<b>72</b>	-	-	-	8	16