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# Cross-Informant Agreement Among Parents and Children

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#### CROSS-INFORMANT AGREEMENT AMONG PARENTS AND CHILDREN

A Thesis Submitted to the Marshall University Graduate College

In partial fulfillment of the requirements for the degree of Education Specialist

School Psychology

by Staci S. Mullins

Approved by

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#### **ABSTRACT**

Rating scales are often used by school psychologists to assess for emotional and behavioral disorders in students. While one advantage of rating scales is that data can be collected and assessed from multiple informants, research has shown that agreement between multiple informants is usually low to moderate, with the lowest being between parents and youth. The Conners Comprehensive Behavior Rating Scale (CBRS) is a new multidimensional rating scale claiming to have moderate parent/youth agreement. The purpose of this study was to analyze the cross-informant agreement between youth and parents using the Conners CBRS and then compare the correlations from the collected sample to the normative sample of the CBRS. Low correlations were found between the ratings of parents and children on all Conners CBRS content scales, except for Hyperactivity/Impulsivity. Results also revealed significantly lower correlations than the normative sample for Emotional Distress, Violence Potential, and Physical Symptoms.

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#### **Chapter One**

#### Literature Review

The prevalence rate of mental health problems among children and teens ranges from 14 to 20 percent, which means that in an average size classroom of 25, at least 3 students will have mental health problems (Wingenfield, 2002). It has been estimated that over 1.5 million preschool and school age children have emotional, developmental, and/or behavioral disorders and that school age children are twice as likely as preschool children to have continuing symptoms lasting at least 12 months or more (Blanchard, Gurka & Blackman, 2006).

Children with emotional and behavioral disorders are often under-served in the school system and less than half of them are receiving any type of mental health treatment or counseling (Gresham, 2007; Blanchard et. al., 2006). Left untreated, emotional and behavioral disorders can be related to many other problems, including school failure, drug abuse, violence, family problems and even suicide (SAMHSA, 2003). Children with emotional and behavioral disorders often show deficits in academic achievement in all subject areas when compared to peers (Nelson, Benner, Lane & Smith, 2004). These children are also more likely to miss school and to repeat a grade, have lower graduation rates, and are less likely to attend college (Blanchard et. al., 2006; Nelson et. al., 2004). Due to the high prevalence rate and associated academic consequences of untreated emotional and behavioral disorders, school psychologists are not only routinely asked to assess the emotional and behavioral needs of students and to intervene, but are mandated by the Individuals with Disabilities Education Act (IDEA) of 2004 to assess for and rule out

emotional/behavioral disorders prior to identifying a child as having a specific learning disability and making him/her eligible for specialized educational services (US Department of Education, 2006).

#### Identification and Diagnosis of Emotional and Behavioral Disorders

There are two ways to identify emotional/behavioral disorders, using a classification/categorical system or an empirically based taxonomy (Wingenfeld, 2002). Classification systems are used to identify students as having an emotional or behavioral disorder based solely on the presence or absence of symptoms and specific criteria. The most popular clinical classification system is the Diagnostic and Statistical Manual of Mental Disorders, which currently lists many different diagnoses for children and adolescents (McConaughy & Ritter, 2002). However, in schools, the following disabilities outlined in the IDEA guide the school psychologist and other school staff in determining student's eligibility for specialized educational services: Autism, Deaf-Blindness, Deafness, Developmental Delay, Emotional Disturbance, Hearing Impairment, Mental Retardation, Multiple Disabilities, Orthopedic Impairment, Other Health Impairment, Specific Learning Disability, Speech/Language Impairment, Traumatic Brain Injury, and Visual Impairment (US Department of Education, 2006).

One major complaint about classification systems is that they often do not specify how to determine the presence and/or severity of the symptoms (McConaughy, 1993). Instead, they often only provide a general guideline for each disability. For instance, the IDEA defines emotional disturbance as "a condition exhibited over a long period of time and to a marked degree" (US Dept. of Education, 2006). It does not, however, describe in detail

what constitutes a long period of time or marked degree. Therefore, the definition of emotional disturbance may be interpreted differently in each state or by each school psychologist.

Empirically based taxonomies, on the other hand, use statistical procedures such as factor analysis to determine groupings of symptoms or problems that tend to occur together (McConaughy & Ritter, 2002). Individuals are then assessed to determine the degree to which they manifest the symptoms and the degree of deviance from the norm (McConaughy, 1993). This approach assesses not only the presence of symptoms, but the severity, frequency and intensity of the symptoms, providing more reliable and valid results.

## **Ratings Scales**

Rating scales, such as the Achenbach Child Behavior Checklist (CBCL) and the Behavior Assessment System for Children-Second Edition (BASC-2), are examples of empirically based taxonomies and are, at present, the most common form of measurement of childhood behaviors and emotions (McConaughy & Ritter, 2002; Wingenfeld, 2002). By using cut off scores, these rating scales compare a child's score with a nationally normative sample to determine the presence and severity of emotions and behaviors (McConaughy & Ritter, 2002).

Throughout the past 10 years, the use of behavior rating scales to routinely evaluate students with emotional or behavioral problems has increased. In 1994, findings of a study by Stinnett, Havey, and Oehler-Stinnett indicated that 35 percent of nationally surveyed school psychologists used behavior rating scales in routine evaluations. Shapiro and Heick

(2004) surveyed members of the National Association of School Psychologists in 2000 and found that over 75 percent of the members used a teacher or parent rating scale and over 47 percent used a student rating scale in routine evaluations. This increase may be directly related to the progressively more stringent demands of state and federal laws that require school psychologists to assess for and rule out emotional/behavioral disturbance prior to making a child eligible for special education services.

The following three types of rating scales currently exist: a self-anchored rating scale, a diagnostic single item scale, and a multidimensional rating scale. A self-anchored rating scale is a rating instrument where the end anchors are set by an individual based on his own behaviors, values, and goals (Krieg, 2006). For example, a child with anxiety could label a line graph, 0 through 6, where 0 represents no anxiety and 6 represents the most anxiety. He can then assign a number to his feelings of anxiety by determining where he is on the line graph. These types of rating scales are useful on an individual basis, but do not show how the student compares to other children.

A diagnostic single item scale is most often used for pre and post data and measures a child's response to intervention and treatment. The Conners 3 is a good example of a diagnostic single item scale. It measures only the symptoms and behaviors related to ADHD and can be used as a pre and post measure following interventions (Krieg, 2006). In contrast, a multidimensional rating scale is a comprehensive scale used to assess a variety of emotions and behaviors (McConaughy & Ritter, 2002). Multidimensional scales are valuable to school psychologists because they can be used to complete a Functional Behavior Assessment, screen for potential problems that may lead to a referral to an

outside agency, and can rule out any emotional disturbance, as mandated by IDEA, during a comprehensive assessment for a specific learning disability.

Rating scales are commonly used in an educational setting due to their utility and good reliability and validity (Hosp, Howell & Hosp, 2003). They are economical, fast and easy as compared to other methods of assessment such as interviews and observations. The results are quantifiable and organized and can be used to screen for and identify problems, determine eligibility for specialized programs, help to plan interventions, and measure the response to interventions (Hosp et. al., 2003; Wingenfeld, 2002).

One very important quality of rating scales is the ability to receive information from, and compare the ratings of, different responders such as parents, teachers, and children (Hosp et. al., 2003). IDEA requires that information for a comprehensive evaluation be gathered from multiple sources (US Department of Education, 2006). The information can then help to provide a more accurate picture of a child, as the information has been gathered in different contexts and provides different perspectives concerning the child's needs (Renk, Donnelly, Klein, Oliveros, & Baksh, 2008). Parents and teachers can report on the child's behaviors and emotions in a variety of settings and can reveal any changes observed over time. Parent input is especially important when assessing younger children or children who lack the cognitive capacity to discuss their own emotions and behaviors (Wingenfeld, 2002). For older children, self-report can help to supplement the parent or teacher report and provide additional insight into the child's emotional and behavioral functioning, particularly those that are difficult to directly observe (Wingenfeld, 2002).

#### **Cross-Informant Agreement**

When assessing for the presence of emotional/behavioral problems, it is essential to have measures that produce reliable and valid results. One would assume that if an emotional or behavioral disorder truly exists then the information received from multiple informants would be consistent and compatible, and therefore the results would be reliable, valid and easily combined (Stanger & Lewis, 1993). Rating scales generally have moderate to high inter-rater reliability, agreement between two similar sources such as two teachers, but often have low to modest cross-informant agreement, the level of agreement among different raters such as parents, teachers and students (Synhorst, Buckley, Reid, Epstein, & Ryser, 2005). A commonly cited meta-analysis by Achenbach, McConaughy, and Howell (1987) found a moderate correlation between information received from similar sources such as two parents (r=.62), but only a weak correlation between information received from different types of informants, with the weakest being between parents and children (r=.25). Two of the most widely used multi-dimensional behavior rating scales, the Achenbach Child Behavior Checklist (CBCL) and the Behavior Assessment System for Children-Second Edition (BASC-2), claim to have moderate to high inter-rater reliability (r=.49-.76 and .53-.77 respectively), but low to moderate correlations between parents and youth (r=.48 and r=.31 respectively) (Achenbach & Rescorla, 2001; Reynolds & Kamphaus, 2004).

Numerous studies have explored the cross-informant agreement between parents and youth using different instruments since the results of Achenbach et. al. (1987) 20 years ago, but the results remain the same. Cross-informant agreement between youth and

parents remains relatively low. Recent studies suggest that girls and parents agree more than boys and parents, that cross-informant agreement is higher between parents and children ages 6-11 years than older adolescents, and that parents and children agree more about externalizing behaviors than internalizing behaviors (Youngstrom, Loeber & Stouthamer-Loeber, 2000; Guion, Mrug & Windle, 2009; Kraemer, Measelle, Ablow, Essex, Boyce & Kupfer, 2003; Stanger & Lewis, 1993).

A number of researchers have examined the factors that could be linked to the low to modest correlations, but none have been able to determine the precise reason for the disagreement. Renk (2005) reported that a person's rating of a child is often influenced by the following: expectations of behavior (what is appropriate); motives of behavior (why they do what they do); mood of the informant (how they feel about the behavior); context of the situation (where and when it occurred); recent activities (did it happen recently); and chronic activities (how often it happens). Based upon on the previous information, a parent's rating could change from day to day, which in turns affects cross informant agreement between themselves and their child. Other theories for low agreement have been children's reluctance to report symptoms, a lack of communication between parent and child, a parent's lack of experience with children, or simply error of measurement (Lau, Garland, Yeh, McCabe, Wood, & Hough, 2004; Achenbach, 2006; Renk, et. al., 2008; and Kraemer et. al., 2003).

Despite the low cross-informant agreement between parents and children, each report provides the evaluator with valuable information regarding the child's behavior and insight into the relationship between the parent and the child (Achenbach, 2006).

Research has linked very large discrepancies between the ratings of parents and children to children's maladjustment, externalizing behaviors such as substance abuse and disciplinary problems at school, as well as internalizing behaviors such as suicidal ideation, depression and an increased need for mental health services (Guion et. al., 2009).

#### **Purpose of Study**

The Conners Comprehensive Behavior Rating Scale (CBRS) was developed as a wide-range assessment to identify behavioral, emotional, social and academic problems in youth. It can be used by school psychologists to screen for potential emotional or behavioral problems in children, gather data for a Functional Behavior Assessment, and rule out emotional disturbances prior to determining a child's eligibility for specialized educational services for a specific learning disability. The results of the Conners CBRS are also linked to other possible areas of eligibility under IDEA (Conners, 2008). The Conners CBRS, like the CBCL and BASC-2, claims to have moderate to high inter-rater reliability (.50 to .89) and moderate cross-informant agreement between parent and child (r=.54). However, because it is a new instrument, no studies have been completed, other than those of the publishers, to determine if these moderate correlations exist. This study examined the cross-informant agreement between parent report and child report on the content scales of the Conners CBRS. Based on the reviewed literature, the following research hypotheses are proposed:

- 1. There will be a significant relationship between parent report and youth report in the collected sample.
- 2. In regards to parent/youth agreement, there will be a significant difference

between the normative sample and the current sample.

#### **Chapter Two**

#### Method

### **Participants**

Participants consisted of 35 sets of parents and children participating in the Marshall University Summer Enrichment Program. The Marshall University Summer Enrichment Program is a practicum experience for students majoring in school psychology, counseling, special education and reading (Kreig, Meikamp, O'Keefe & Stroebel, 2006). While 138 students participated in the summer program, children under the age of 8, as well as those missing either a self-report or parent report, were omitted from the study. Sixty two sets of parent and youth reports were scored. Those flagged on the validity scales of the Conners CBRS for inconsistent responding and/or positive or negative responding were also omitted from the study. The composition of the participating children consisted of 11 females and 24 males ranging in age from 8 to 15 years old. The students come from diverse backgrounds in terms of race, socioeconomic status, academic ability, and medical conditions.

#### **Instruments**

The Conners CBRS parent report can be completed for youth ages 6-18 and consists of 203 items. Parents rate their children's behaviors within the last month on a 4 point Likert scale, which ranges from 0 (Not true at all) to 3 (Very much true). Parents also answer questions concerning the strengths of their child and other concerns that they may have about their child. The rating scale can be completed in approximately 25 to 30 minutes. The Conners CBRS-Parent Report provides scores for the following content

scales: Emotional Distress (Upsetting Thoughts, Worrying and Social Problems);

Defiant/Aggressive Behaviors; Academic Difficulties (Language and Math);

Hyperactivity/Impulsivity; Separation Fears; Perfectionistic and Compulsive Behaviors;

Violence Potential; and Physical Symptoms. The scores are reported as T scores and

percentiles. Average T scores fall between 40 and 59. Scores between 60 and 69 indicate an

elevated score (more concerns than are typically reported), while scores 70 or above

indicate a very elevated score (many more concerns than are typically reported). The

Parent Report has a reading level of approximately 5th grade.

The Conners CBRS Self-Report is for youth ages 8 -18, consists of 179 items and can be completed in approximately 25 to 30 minutes. Children rate their own behaviors within the past month with the same 4 point Likert scale as their parents. Children also answer two additional questions about personal concerns and strengths. The Conners CBRS Self-Report provides scores for the following content scales: Emotional Distress;

Defiant/Aggressive Behaviors; Academic Difficulties; Hyperactivity/Impulsivity;

Separation Fears; Violence Potential; and Physical Symptoms. The Self-Report has a reading level of approximately 3<sup>rd</sup> grade.

#### **Procedure**

As part of the enrollment process for the Marshall University Summer Enrichment Program, parents were asked to complete the Conners CBRS-Parent Report. The results were used to assess the needs of the students and provide appropriate interventions accordingly. Students ages 8 and up, after admittance into the program, were asked to complete the Conners CBRS-Self-Report.

#### **Chapter Three**

#### Results

Pearson product moment correlations for each Conners CBRS content scale were computed using 2007 Microsoft Excel to assess for cross informant agreement between parents and youth. Means, standard deviations, and agreement correlations between parents and youth are reported in Table 1. All mean scores for parents and youth fell in the Average range, except for the parent mean score for Academic Difficulties, which fell in the elevated range. Standard deviations for the parent and self report scores ranged from 9 to 17 points indicating a large variability among the scores obtained on each scale. Agreement correlations ranged from .003 for Physical Symptoms to .44 for Hyperactivity/Impulsivity, with an average agreement correlation of .25.

Fisher's r to z transformations were computed for each content scale to assess the significance of the difference between the agreement correlations found in this study and the agreement correlations found in the normative sample described in the Conners CBRS manual. A significant difference, at the .05 level or above, was only found on the Emotional Distress, Violence Potential and Physical Symptoms scales, indicating significantly higher levels of agreement between parents and youth in the normative sample on those particular scales (Table 2).

To determine if any significant differences occurred between parents and youth according to gender and age groups, Fisher's r to z transformations were computed for each content scale. No significant differences were found between the agreement of parents and youth ages 8-11 and the agreement of parents and youth ages 12-15 (Table 3).

The only significant difference found between parents/male agreement and parents/female agreement occurred on the Hyperactivity/Impulsivity scale. Girls and parents had significantly higher agreement than boys and parents on the Hyperactivity/Impulsivity scale (Table 4).

TABLE 1. Means, Standard Deviations, and Agreement Correlations

Conners CBRS		ent		h Self-	Correlation Between	Strength of Relationship
Content Scales	Keļ	ort	Kej	port	Parent and	Kelationship
	M	SD	M	SD	Youth	
Emotional Distress	55	16	54	13	.13	Weak/None
Aggressive Behaviors	50	12	59	17	.36*	Weak
Academic Difficulties	61	16	56	13	.38*	Weak
Hyperactivity/Impulsivity	54	14	54	14	.44*	Moderate
Separation Fears	52	9	53	12	.20	Weak
Violence Potential	52	11	58	13	.25	Weak
Physical Symptoms	52	14	55	14	.003	Weak/None
Mean Correlation					.25	Weak

<sup>\*</sup>Significance obtained at the p<.05 level.

TABLE 2. Significant Differences between Collected Sample and Normative Sample

Conners CBRS Content Scales	Correlation between Parent and Youth		Significant difference between Collected and Normative Samples?		
	Collected	Normative	Fisher's z	P value	
Emotional Distress	.13	.52	2.49	.01*	
Aggressive Behaviors	.36	.57	1.51	.13	
Academic Difficulties	.38	.60	1.64	.10	
Hyperactivity/Impulsivity	.44	.57	0.98	.33	
Separation Fears	.20	.46	1.65	.10	
Violence Potential	.25	.61	2.54	.01*	
Physical Symptoms	.003	.61	3.95	.00*	

<sup>\*</sup>Significance obtained at the p<.05 level.

TABLE 3. Significant Differences between Parent/Youth Agreement by Age

Conners CBRS Correlation between Parent Significant

Conners CBRS Content Scales	Correlation between Parent and Youth		Significant difference between parent/youth (8-11) and parent/youth (12-15)?		
	Ages 8-11	Ages 12-15	Fisher's z	P value	
Emotional Distress	04	.17	57	.57	
Aggressive Behaviors	.33	.35	06	.95	
Academic Difficulties	.43	.15	.83	.41	
Hyperactivity/Impulsivity	.70	.18	1.84	.07	
Separation Fears	.26	.17	.25	.80	
Violence Potential	.28	.21	.20	.84	
Physical Symptoms	19	.11	81	.42	

TABLE 4. Significant Differences between Parent/Youth Agreement by Gender

		Significant difference between Male/Parent and Female/Parent?		
Males	Females	Fisher's z	P value	
07	.59	-1.8	.07	
.32	.49	49	.62	
.44	.31	.37	.71	
.26	.81	-2.07	.04*	
.08	.49	-1.1	.27	
.20	.44	65	.52	
.02	.01	.02	.98	
	males07 .32 .44 .26 .08 .20	07 .59 .32 .49 .44 .31 .26 .81 .08 .49 .20 .44	Males         Females         Fisher's z          07         .59         -1.8           .32         .49        49           .44         .31         .37           .26         .81         -2.07           .08         .49         -1.1           .20         .44        65	

<sup>\*</sup>Significance obtained at the p<.05 level.

#### **Chapter Four**

#### **Discussion**

The purpose of this study was to examine the cross informant agreement between parents and youth on the Conners CBRS content scales. It was hypothesized that there is significant relationship between parent and child report and that there would be a significant difference between the normative sample correlations and the current sample correlations. The results of this study suggest an overall low cross informant agreement between parents and youth. Weak correlations were found on all content scales, except for the moderate correlation found on the Hyperactivity/Impulsivity scale. Correlations ranged from .003 on the Physical Symptoms scale to .44 on the Hyperactivity/Impulsivity scale, with a mean agreement correlation of .25.

A significant relationship between parent and youth ratings was found only on the following three scales: Academic Difficulties, Aggressive Behaviors, and Hyperactivity/Impulsivity. All other correlations were not significant at the .05 level. The results of this study also indicate that the agreement correlations between parents and youth on the Emotional Distress, Violence Potential, and Physical Symptoms content scales were significantly lower than the moderate agreement correlations found in the normative sample of the CBRS (Conners, 2008).

When comparing the mean agreement correlation revealed in this study to the mean agreement correlations of the CBRS, CBCL and BASC-2 normative samples, the current study yielded a lower mean agreement correlation than the CBRS and CBCL normative samples, but a similar mean agreement correlation to the BASC-2. It should also be noted

that the mean agreement correlation of this sample is exactly the same as the agreement correlation found in the meta-analysis completed by Achenbach, McConaughy and Howell in 1987, which found an overall parent/child agreement correlation of .25.

The results of the current study would support previous research that indicates that parents and children agree more about externalizing behaviors than internalizing behaviors, but does not support that girls and parents agree more than boys and parents or that cross-informant agreement is higher between parents and children ages 6-11 years than older adolescents (Youngstrom, et. al., 2000; Guion, et. al., 2009; Kraemer, et. al., 2003; Stanger & Lewis, 1993).

The highest agreement correlations, and the only significant correlations, in this study were found on the Academic Difficulties, Aggressive Behaviors, and Hyperactivity/Impulsivity content scales, while very weak agreement correlations were found on the Emotional Distress and Physical Symptoms content scales. Parents are often able to report more accurately on externalizing behaviors such as academic problems, aggression and hyperactivity, because these behaviors are easily detected and observed in children. In contrast, parents are not able to easily observe internalizing behaviors such as emotions and physical symptoms and must often rely on youth report to reveal the presence of these symptoms. Therefore, relying only on a parent's report to assess for the presence and severity of internalizing behaviors may not be best practice. Accompanying a parent report with a youth report may give a more accurate picture of the child's externalizing and internalizing behaviors.

An analysis of the correlations between parents and youth by age did not indicate

any significant differences among agreement correlations on the Conners CBRS content scales. Younger children (ages 8-11) and parents did not have significantly higher agreement correlations than older adolescents (ages 12-15) and their parents as previous research indicated. Also, an analysis was completed to determine if significantly higher agreement correlations were found between girls and parents than between boys and parents. Results indicated no significant differences on the Conners CBRS content scales between the agreement of girls and parents and boys and parents, except for the Hyperactivity/Impulsivity scale. Girls and parents had significantly higher agreement on the Hyperactivity/Impulsivity scale than boys and parents.

#### **Limitations and Future Research**

A major limitation of this study was the reading level of the youth participants. Although the Conners CBRS manual indicates that the self-reporting form has a reading level of approximately 3<sup>rd</sup> grade, the youth participating in this study, particularly the younger students, had great difficulty reading and comprehending the statements of the rating scale. Even some of the students with adequate reading abilities had difficulty comprehending the meaning of the statements and asked for verification. Several of the teachers participating in the summer program read the questions aloud to groups or individual students who had limited reading abilities. While the Conners CBRS manual approves the reading aloud of statements, they do, however, caution against it. If a child is unable to read the statement to him or herself, it is a good possibility that they also do not understand the meaning of the statement, which could then lead to inconsistent or inaccurate responses and affect the overall agreement between parents and youth. It is

recommended that the CBCL youth report be given to only children who can read at the 3<sup>rd</sup> grade level or above.

Another general limitation to this study is the sample size. Because this sample was small and limited to a selected group of students, the results of this study may not generalize to other students. Larger sample sizes, such as the normative sample of the CBRS, can be analyzed and control for demographics such as age, gender and ethnicity, so that the results can be generalized to the overall population. Therefore, recreating this study with a larger sample would allow for more specific analyses and may render higher levels of agreement.

Additional research to explore the cross informant agreement between other informants, such as parents and teachers and teachers and youth, should be completed. Although the overall cross informant agreement between parent and youth on the Conners CBRS was relatively low, it would be interesting to see if the agreement between other informants is also low and if it is comparable to other measures such as the CBCL and BASC-2.

# **Implications for School Psychologists**

IDEA mandates that information be received from multiple informants for a comprehensive evaluation and that emotional and behavioral disturbance be ruled out before considering a student eligible for special education services under the exceptionality of a learning disability. Multi-dimensional rating scales are a user friendly, cost efficient, and reliable way to meet these requirements. Despite the overall findings that suggest low cross informant agreement between parents and youth on the Conners CBRS, both reports

can provide helpful, useful information about a child's functioning and about the relationship between the child and the parent. Neither should be considered more valuable than the other nor should either be used as the determining factor of a student's eligibility for services. If parent and youth rating scale results disagree, the results should not be ignored or dismissed as being invalid, but should be explored further to determine the cause and reason for the disagreement, which can provide even more insight into the child's relationships, behaviors, and emotions.

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