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**Examine the Effect Functional Analysis Program
& Intervention on ADHD of First Grade Teachers**

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Abstract

The purpose of this study is to determine what are the factors affecting the behavior of elementary school students with hyperactivity disorders. And the factors that control the intensity of this increase or decrease this behavior. Also, how they affect the academic achievement. The goal of this research is to control the student behavior and school performance by controlling the factors Affecting. The Classroom intervention measures included the rate of target behaviors and three descriptive variables: teacher and peer contingent attention to target behaviors and teacher praise. The results showed the function-based intervention effectively reduced the rate of target behaviors from baseline. The population of this study consists of parents of an urban elementary school during the 2009 – 2010 school year. The school district is Cleveland Metropolitan. The study is correlation study and will be conducted multiple aggression. The (ADHD) students reside in and around school area. The sample for this study will be at least 85 students who will be chosen from first grade of (ADHD) and their teachers. Whereas (ADHD) contributed to the variance in reading comprehension once (ADHD) students' symptomatology was controlled for. This study will be in reading comprehension teachers and peers are capable of participating in the functional analysis within the natural schedule of the classroom.

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دراسة تأثير برنامج التحليل الوظيفي والتدخل
على ذوي النشاط الزائد وتشتت الانتباه من معلمي الصف الاول
إعداد
أمل سالم الفيبي^(*)

ملخص

الغرض من هذه الدراسة هو تحديد العوامل التي تؤثر على سلوك طلاب المدارس الابتدائية مع اضطرابات فرط الحركة والعوامل التي تتحكم في نقصان او زيادة شدة هذه السلوك. أيضا كيف تؤثر هذه الاضطرابات على التحصيل الدراسي. والهدف من هذا البحث هو السيطرة على سلوك الطلاب و الأداء المدرسي من خلال التحكم في العوامل المؤثرة. وشملت تدابير التدخل في الفصل الدراسي معدل السلوكيات المستهدفة و ثلاثة متغيرات وصفية: المعلم , النظير او المساعد لملاحظة السلوكيات المستهدفة , ومدح وثناء المعلم. أظهرت النتائج أن التدخل القائم على الوظيفة خفض بشكل فعال معدل السلوكيات المستهدفة من خط الاساس. وقد شارك في هذه الدراسة اباء و امهات طلاب المدرسة الابتدائية في مدينة كليفلاند خلال العام الدراسي ٢٠٠٩-٢٠١٠. العينة لهذه الدراسة تشمل ٨٥ طالبا ذوي فرط الحركة وتشتت الانتباه الذين تم اختيارهم من الصف الاول. وستكون هذه الدراسة في القراءة والفهم وسيساهم المعلمين والأقران على المشاركة في التحليل الوظيفي ضمن الجدول الزمني الطبيعي للفصول الدراسية.

الكلمات المفتاحية: النشاط الزائد, فرط الحركة, التحليل الوظيفي, تشتت الانتباه.

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Introduction

Attention deficit hyperactivity disorder is currently one of the most common reasons for referral to specialist of child mental health services. Epidemiological studies indicate that (ADHD) is a prevalent disorder, affecting between 3% and 6% of school-aged children. Symptoms typically arise in early childhood. The current Diagnostic and Statistical Manual of Mental Disorders (4th edition) specifies three subtypes of (ADHD) predominantly inattentive subtype; predominantly hyperactive/ impulsive subtype or combined subtype (APA 1994, 2000); (Daley, Jones, Hutchings, Bywater, & Eames, 2007, p. 749).

Rationale of the Study

Recent research suggests that symptoms of attention deficit hyperactivity disorder may begin to emerge in children at a very young age. Given that early onset is associated with more deleterious outcomes, early intervention is imperative. Attention deficit hyperactivity disorder (ADHD) is common among school-age children, with a prevalence rate of 3-5% (Kern, Dupaul, Volpe, Sokol, Lutz, Arbolino, Pipan, & Vanbrakle, 2007, p. 237).

Statement of the Problem

The effectiveness of early intervention appears in first grade to determine the major factors that impact on increase or decrease (ADHD). According to Skinner, Veerkamp, Kamps and Andra (2009) their research strongly supports the idea of early emergence of a constellation of symptoms characteristic of (ADHD) atypical of most preschool-age children. As with older children, detrimental effects of (ADHD) can be seen at an early age (Skinner, Veerkamp, & Kamps, 2009, p. 238).

Purpose of the Study

The primary purpose of this study will be to identify the effectiveness of functional analysis program that positively impacts the (ADHD) of pre-school students. Specifically, the following research question will be addressed:

Is there any relationship between the behavior of (ADHD) student and these three factors teacher, peer contingent attention to target behaviors, and teacher praise?

Definitions

(ADHD): A student with Attention Deficit Hyperactivity Disorder.

Urban: Designating a city or town.

Functional Analysis: Identifies the relation between problem behavior and the environment through systematic manipulation in analogue settings.

Elementary School Grades: Students in first grade.

Limitations

This research study will be conducted at only one urban elementary school serving first grade school in reading comprehension.

Summary

The rationale, statement of the problem and purpose of the study have been discussed. The research questions, definitions, and limitations have been provided. A review of relevant literature on the examine of effects of using early intervention that impacts the (ADHD) in first grade will be found in the next section.

Literature Review

A multicomponent intervention combined parent education and individualized assessment-based. Intervention in home and preschool or day care settings was compared with a parent education intervention consisting of parent education alone Leasha and Melissa (2006) confirm that other researchers have concluded that children as young as four years old can show “mild conduct problems as early as preschool or early elementary school and their behavioral problems tend to increase in rate and severity throughout childhood and adolescence” (Kern, Dupaul, Volpe, Sokol, Lutz, Arbolino, Pipan, & Vanbrakle, 2007, p. 237); (Frick, 2006, p. 314).

Implications for Classroom Practice

Children with (ADHD) are at increased risk for academic and behavioral difficulties, including decreased test and seatwork accuracy, study skills difficulties, and disruptive classroom behavior. Given that academic underachievement is a common result of these difficulties, interventions that target academic skills are a critical component of the treatment package. However, if these interventions are not implemented as intended, effectiveness may be compromised (Dupaul, Jitendra, Tresco, Junod, & Volpe, 2009, p. 928).

Comorbidity

Epidemiological studies have reported that (ADHD) is also associated with substantial rates of comorbidity with other psychiatric and developmental disorders. Chief among these comorbidities are conduct problems, prevalent in 30–70% of children diagnosed with (ADHD).

Children with comorbid conditions are more likely to have poorer outcomes, experience more impairment, more peer rejection, and their parents are also more likely to meet higher levels of psychosocial adversity (Biederman et al. 1991; Barkley 1998); (Szatmari 1989); (Hinshaw & Melnick 1995; Lynham 1996); (Daley, Jones, Hitchings, & Thompson, 2008, p. 754).

Measures of Pre Academic Functioning

1-Speech language in ADHD

Children who have been adopted from countries associated with the Soviet Union, particularly Russia, are at risk for persistent speech language impairment, academic difficulty, and (ADHD) into early adolescence. Multiple, overlapping risk factors, such as extreme backgrounds of neglect associated with institutionalization, intrauterine alcohol exposure, and low birth weight, are implicated in the negative outcomes. Many of these same factors appear to be present for internationally adopted children from similar countries of origin who were studied by Glennen and others. However, children in this study, at early adolescence, presented with higher frequencies of negative outcomes. One well-supported conclusion is that lengthy institutionalization, characterized by social, environmental, and nutritional deprivation, resulted in significant negative neuropsychological/behavioral deficits. In the proverb, a single straw (e.g., second first language acquisition) does not break the camels back unless there is already a heavy burden (e.g., lengthy institutionalization, or lengthy institutionalization plus prenatal alcohol exposure, or lengthy institutionalization plus low birth weight); (Glennen & Bright, 2005; Glennen & Masters, 2002); (Beverly, McGuinness, & Blanton, 2008, p. 310).

2-Dynamic Indicators of Basic Early Literacy Skills (DIBELS)

The DIBELS (Kaminski & Good, 1996) is a set of standardized, individually administered measures designed to assess early literacy skills. Three tasks from the DIBELS are important to use as dependent measures. Letter Naming Fluency involves presenting children with a page of upper and lowercase letters and asking them to name as many letters as they can in 1 min. Initial Sound Fluency takes about 3 min to administer. Children are presented with four pictures at a time. The examiner names each picture, and then ask the child to identify the picture beginning with a specific phoneme, which is produced orally by the examiner. Next, the child is asked to produce the beginning sound for an orally presented word that matches one of the given pictures. The Initial Sound Fluency score consists of the number of sounds identified or produced correctly per minute. Phoneme Segmentation Fluency takes about 2 min to administer. During Phoneme Segmentation Fluency the examiner orally presents words comprised of three or four phonemes. Children are asked to orally produce the individual phonemes for each word. For example, the examiner says, "Cat," and the student says "/c/ /a/ /t/." One point is awarded for each phoneme produced correctly. After the student responds, the examiner presents another word until 2 min have elapsed. The Phoneme Segmentation Fluency score consists of the number of correct phonemes produced in 1 min. The aforementioned DIBELS measures have demonstrated adequate reliability and validity in samples of young children but are less appropriate for first- grade students who have already begun to read (Kern, Dupaul, Volpe, Sokol, Lutz, Arbolino, Pipan, & Vanbrakle, 2007, p. 241).

3-(ADHD) as a functional response

(ADHD) as a functional response by the child, aimed at avoiding delay. This alternative viewpoint of (ADHD) was based on studies by Sonuga-Barke and colleagues which showed that most of the neuropsychological evidence to support (ADHD) as a result of cognitive deregulation was confounded by delay (Daley, 2005, p. 193).

4-Direct observations

Direct observation data were collected to determine the occurrence and non-occurrence of disruptive behavior, as well as the antecedents and consequences surrounding that behavior. The behavior observation code was adapted from the Behavior Observation for Students in Schools and the Functional Assessment Observation Form. Specifically, data on occurrences of disruptive behavior were collected with the BOSS code, using a partial interval recording system. Additionally, antecedents that occurred prior to the disruptive behavior and any consequent events that followed the disruptive behavior were recorded using categories from the FAOF (e.g. peer or teacher attention); (Hoff K., Ervin, & Friman, 2005, p. 48).

Social learning theory

It is not surprising that the kick-off event in each chapter, a workshop introducing project curriculum, was described as valuable. However, in contrast to didactic CME, the workshop was interactive, with sharing of aggregate performance data, discussion of care strategies integration of the family perspectives, and expectation that participants would continue to work collaboratively on improvement. Primary care

practitioners, even in group practice, usually work independently and do not have structured opportunities to work with colleagues. All participants highlighted the importance and value of the shared learning aspects of PFQ, beginning at the workshop and continuing with project implementation. Communication and collaboration were fostered among individuals from diverse environments. Thus, the project structure promoted learning and change in ways supported by social learning theory. A social learning theory posits that understanding learning requires consideration of more than the individual variables such as the learner's behavior, mental processes, or temperament. The theory suggests that a more representative and comprehensive explanation of how individuals learn includes observation and interaction in a social context, activities such as modeling and mentoring, and one's belief in his or her ability (Lazorick, Virginal, Dolins, & Lannon, 2008, p. 28).

The relationship between BD and academic underachievement is not in dispute

Attention deficit hyperactivity disorder (ADHD) may be a mediating variable in the relationship between BD and academic underachievement. Individuals with (ADHD) display lower academic performance than typically developing students. Rapport, Scanlan, and Denney have proposed direct effects of the attention deficits on academic skills; these effects are separate from the effects that behavioral difficulties may have on the academic functioning of students with (ADHD). Persons with (ADHD) demonstrate difficulties in executive functioning, selective attention, sustained attention, and orienting attention all of which can depress academic achievement. Although researchers have proposed that

executive functioning deficits, affecting the allocation of attention to planning and organizing behavior, are the core problem, Test al. present data indicating that children may manifest deficits in one or more of the distinct areas of attention functioning. A deficit in selective attention is a difficulty in effectively ignoring irrelevant and distracting information when performing a perceptual act on relevant information (Bieder- man et al.; Gutting & Denckla, 2003; Pennington & OzonofiF); (Rogevich, & Perin, 2008, p. 136).

Individual and Environmental Factors

The relative influence of low temperamental fear anxiety and various parenting practices in influencing development of the interpersonal affective features of psychopathy still remains to be explored. Moreover, it will also be important to determine which individual and environmental factors are uniquely associated with the development of the interpersonal affective features of psychopathy and which are common to these features and anti- social behavior in general. Longitudinal studies must also examine the extent to which the interpersonal affective features of psychopathy in children and adolescents are related to facets of adult psychopathy. Last, it remains unclear to what extent the interpersonal affective features of psychopathy influence the effectiveness of significant conduct problems (Dustin, Pardini, & Loeber, 2007, p. 271).

The relation between teacher factors and ADHD: belief in, referrals for and tolerance of the Disorder

Although there were few articles that directly addressed the impact of teacher factors, such as reaction to behavioral issues and use of gestures

during instruction, on various health and educational outcome measures for students with ADHD, there were many that matched the second goal of the review paper (Sherman, Rasmussen, Baydala, 2008, p. 354)

Non-verbal ability

Performance IQ from WISC-III (Wechsler 1992) was used as a measure of nonverbal ability. However, the oral vocabulary is the vocabulary subtest from WISC-III (Wechsler 1992) was used as a proxy for oral vocabulary. Results are expressed in scaled scores with a mean of 10 and standard deviation of 3 (Asberg, Svenny, Berg-Kelly, & Gillberg, 2009, p. 66).

Summary

A range of impairments that potentially affect reading comprehension tend to co-occur in school-aged children with ASD or ADHD, without actually forming a necessary part of either condition. These include low non-verbal reasoning ability or weak core language skills, such as oral vocabulary. If reading comprehension difficulties are to be interpreted unequivocally within the context of the main diagnoses rather than to be attributed to such correlated, confounding, factors, the latter need somehow to be controlled for (Asberg, Svenny, Berg-Kelly, & Gillberg, 2009, p. 62).

Methodology

Population

The population of this study consists of parents of an urban elementary school during the 2009 – 2010 school year. The (ADHD) students reside in and around school area. The total student enrollment for

the current year is 433. 98.7% are black, non-Hispanic, 100% economically disadvantaged, 20% are students with disabilities.

Sample

The sample for this study will be at least 85 students who will be chosen from first grade of (ADHD) and their teachers. The current Diagnostic and Statistical Manual of Mental Disorders (4th edition) specifies three subtypes of (ADHD) predominantly inattentive subtype; predominantly hyperactive/impulsive subtype or combined subtype.

Instrument

A modified functional behavioral assessment interview was conducted with the teacher. Interview questions provided information that was used to describe the behaviors, identify potential ecological events that may affect behaviors including the daily schedule, define events and situations that predict behaviors, hypothesize the function of behaviors and typical responses to the behavior, and delineate a history of attempted intervention programs. The interview identified disruptions, inappropriate vocalizations, and aggression as target behaviors, attention and escape as maintaining consequences, and math as the most problematic instruction time (Skinner, Veerkamp, & Kamps, 2009, p. 243).

Validity and Reliability

This study will measure general education teachers and peers are capable of participating in the functional analysis within the natural schedule of the classroom of first grade level.

Design of the Study

The research method is correlational. Functional analysis identifies the relation between problem behavior and the environment through systematic manipulation in analogue settings. Specifically, it identifies reinforcers that maintain problem behavior, stimuli that signal reinforcement is available, and situations that make reinforce more or less valuable reported extensions of functional analysis methods in natural settings where problem behavior occurs. Generality of the functional analysis methodology has been found across behaviors, contingencies, clinical populations, and settings. The participant will be first grade students and their teachers.

Variable

The two variables in this study are performance of (ADHD) student and the functional analyses. The performance is an ordinal level variable. The dependent variable is the controlling in a target behavior at any time during the 30-second break.

Data Collection Procedure

The data were taken on a laptop computer during base line and intervention phases using the Multi Option Observation System for Experimental Studies (MOOSES) computer program. Rate of behavior was then calculated by dividing the frequency by the time of the designated observation. MOOSES was used to record student, teacher, and peer behaviors. During functional analysis conditions, paper and pencil partial 10 s interval data were collected on inappropriate vocalizations, disruptions, and aggression in May of 2011.

Data Analysis

The null hypothesis underling this study is: There is no significant relationship between problem behavior and the environment of elementary school students in first grade. Teachers will be applied to answer the research question. Teacher contingent attention (during functional analysis and subsequent conditions) was defined as a verbal or motor teacher reaction within 5 s to a target behavior displayed. The research question and test to be utilized in this study are presented in Table 1.

Summary

In this section of the study the population, sample and instruments of the study have been discussed. The methodology like design of the study, instruments, validity, reliability, data collection procedures and data analysis have also been discussed with regard to the functional analysis program.

Table (1): Research Question: Quantitative Test

Research Question	Procedure
1. Is there a relationship between the behavior of (ADHD) student and these three factors teacher, peer contingent attention to target behaviors and teacher praise?	Multiple Regression

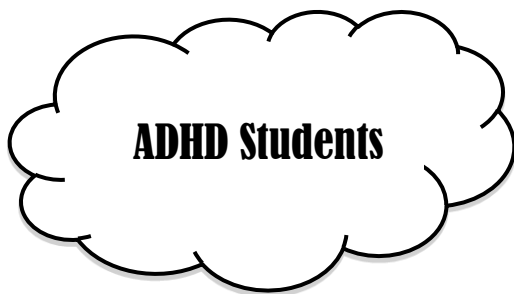
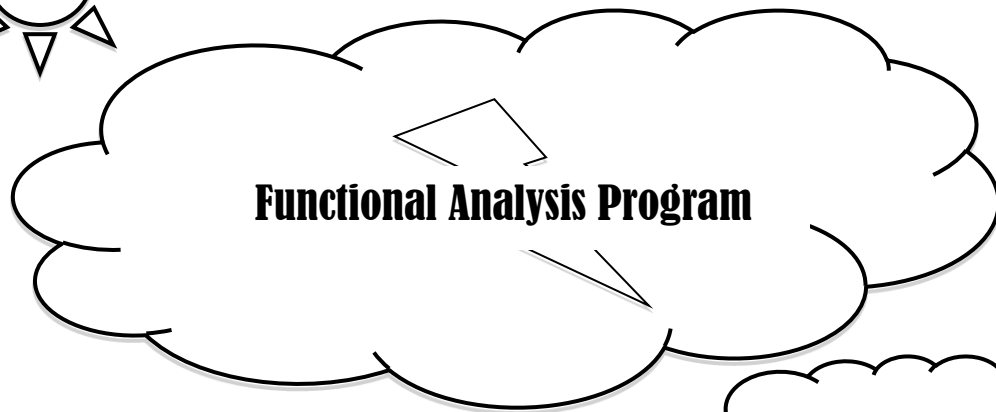
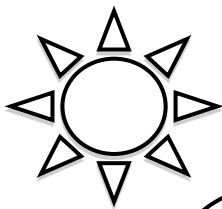
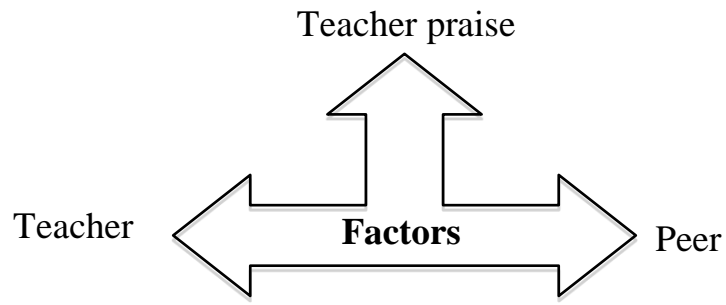
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May 1, 2011

**Mr. Mark Wolraich,
Oklahoma University Health Sciences Center
1100 Northeast 13th Street
Oklahoma City, OK 73117**

Dear Mr. Wolraich,

I am a Masters of Education candidate at Cleveland State University. The research study that I would like to conduct focuses on Identifying Aspects of effects of using early intervention program ADHD in elementary School teachers and students. I would like to request permission to modify functional analysis identifies the relation between problem behavior and the environment through systematic manipulation in analogue settings.

Thank you in advance for allowing me permission to modify your instrument in order to fulfill my graduation requirement.

Sincerely,

AMAL SALEM ALFAIFI
Masters of Education Candidate
Cleveland State University

Dear Teachers:

We are asking you to help us with survey about the actions and attitudes of (ADHD) students. The purpose of the survey is to gain a better understanding of (ADHD) behavior.

Taking the survey is voluntary, which means you do not have to take part if you do not want to. Nothing will happen to you if you decide not to participate.

If you agree to participate you will take the survey on a paper. The survey will ask questions about you, your observations, and your attitudes. You will not be able to put your name on the survey and your answers will be completely private. There is no way to know which teachers filled out an individual survey.

Please read the following and sign below if you agree to participate.

I understand that:

- If don't want to take the survey that's ok and I won't get into trouble.
- Anytime that I want to stop participating that's ok
- My name will not be known and my answers will be completely private.

Signature:

Name: (Please Print)

Date:

There are two copies of this letter. After signing them, keep one copy for your records and return the other one. Thank you in advance for your cooperation and support.

For further information regarding this research please contact
Dr. at (...) ...-..., email:@csuohio.edu.....or
Dr. at (...) ...-..., email:@csuohio.edu.....

If you have any questions about your rights as research participants you may contact the Cleveland State University Institutional Review Board at (216) 687-3630.