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Linking Assessment to Intervention: Teacher Awareness and Training Needs Related to Students with Attention-Deficit Hyperactivity Disorder

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**LINKING ASSESSMENT TO INTERVENTION:
TEACHER AWARENESS AND TRAINING NEEDS
RELATED TO STUDENTS WITH
ATTENTION-DEFICIT HYPERACTIVITY DISORDER**

A Specialist Project

Presented to

the Faculty of the Department of Psychology

Western Kentucky University

Bowling Green, Kentucky

In Partial Fulfillment

of the Requirements for the Degree

Education Specialist

by

Matthew Braden Luckett

December 1996

LINKING ASSESSMENT TO INTERVENTION:
TEACHER AWARENESS AND TRAINING NEEDS
RELATED TO STUDENTS WITH
ATTENTION-DEFICIT HYPERACTIVITY DISORDER

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Abstract

Despite the efforts of private and federally funded research, which have led to a prodigious accumulation of information concerning the assessment and diagnosis of Attention-Deficit Hyperactivity Disorder and interventions for students diagnosed with ADHD, a minimal amount of research focus has centered around the application of assessment information in the development of treatment plans. The evolution of diagnostic labels for ADHD and variability among school-based assessment practices have impeded the utilization of assessment data in intervention planning. Although reaction to the challenges presented by ADHD students has been widespread, research generated by the interest in this heterogeneous population has only recently begun to integrate the assessment and intervention phases of ADHD referrals in the schools.

In the present study, a survey questionnaire developed by the research author was completed by 250 Kindergarten through sixth grade teachers in 16 central-western

Kentucky school systems. The sample consisted of regular education, special education, and Title One teachers with one to thirty-one plus years of experience, and educational backgrounds of the predominantly female sample ranged from Bachelor's to Doctoral degrees. The survey included four distinct sections, wherein participants were questioned about (a) knowledge level with respect to the diagnostic criteria and diagnostic labels for ADHD, (b) intervention preferences for addressing ADHD student behaviors in the classroom, (c) interventions which they would use for ADHD student behaviors under ideal classroom circumstances, and (d) opinions concerning the importance of a number of issues related to ADHD and the classroom teacher. Data analysis consisted of frequency and percentage distributions, chi-square tests, and measures of central tendency.

The respondents indicated that knowledge of the specific diagnostic criteria and classifications for ADHD is limited at this time. Interventions currently utilized by the teachers, although varying with respect to particular behaviors, commonly included positive / token reinforcement, punishment, and response cost. When asked about interventions they would utilize in an ideal setting, the respondents indicated that self-management interventions would be used more often. The respondents indicated that further training in assessment and intervention for ADHD students was important, along with training involving the development and implementation of interventions which can be used with ADHD students. The majority of the respondents indicated that they had instructed an ADHD student in the past two years, and typical resources for training related to this population included self-study using books and manuals, self-study using journals and newspapers, and in-service training.

Introduction

The principal goal of a multidisciplinary team in conducting a school-based assessment on a referred student is to identify academic or behavioral target areas which need to be addressed through the implementation of interventions. Within the explosion of literature concerning Attention-Deficit Hyperactivity Disorder (ADHD) over the past two decades, a substantial emphasis has been placed on both the assessment process and interventions for students with this disorder. Until recently, however, published material tended to address either assessment procedures for ADHD referrals or intervention strategies for students diagnosed with ADHD. Those which discussed both were likely to treat them as separate entities, with assessment-to-diagnosis as a primary phase and diagnosis-to-intervention as a secondary phase.

The volume of research literature concerning ADHD includes over 1600 journal articles in the past 25 years (Resnick & McEvoy, 1994), and its importance in the field of research is indicated by the number of scientific journals devoting special issues exclusively to ADHD, including *Behavior Modification* (Rapport, 1992), *Canadian Journal of School Psychology* (Janzen, 1993), *Exceptional Children* (Hocutt, McKinney, & Montague, 1993), *Intervention in School and Clinic* (Bender & McLaughlin, 1995), and *School Psychology Review* (Teeter, 1991). Recent changes in the diagnostic characteristics

and classification of ADHD, coupled with the diverse range of individual differences represented in the population diagnosed with ADHD, have led to the development of numerous treatment options and classroom intervention strategies for ADHD students. In addition, wide variation has also been documented concerning assessment and diagnostic practices for students after a teacher or parent referral for evaluation. The United States Department of Education reacted to the increasing identification of this disorder in the classroom and the societal push to address the needs of this population by developing five centers to consolidate the research data base on ADHD (Davila, Williams, & MacDonald, 1991). Despite the efforts of private and federally funded research, which have led to a prodigious accumulation of information concerning the assessment and diagnosis of ADHD and interventions for students diagnosed with ADHD, a minimal amount of research focus has centered around the application of assessment information in the development of treatment plans.

Although a general understanding of the etiology, assessment, diagnosis, and interventions for children with ADHD has been established, the exponential growth of research in this area verifies the relative infancy of scientific exploration into the disorder. The need for continued research is especially evident in the schools, given the increases in identified ADHD students and the additional challenges these students represent for both regular education and special education teachers. The purpose of this project was to (a) investigate regular and special education teachers' knowledge level with respect to diagnostic criteria and labels for ADHD, (b) assess interventions which they have used for ADHD students, (c) determine what interventions they would use in an ideal setting, and

(d) ask their judgments of importance for a number of issues related to diagnosis and interventions for ADHD students. Teachers' knowledge of *DSM-IV* criteria and diagnostic labels was examined to provide information concerning teacher awareness of the behaviors which are relevant in the diagnosis of ADHD, as well as information about teacher awareness of the different subtypes of ADHD. The questioning of teachers' knowledge level was conducted to present a framework for questioning the behaviors on which regular and special education teachers focus in the development of classroom interventions. Soliciting teachers' ratings of the importance of the criteria, of intervention techniques, of specialized personnel, and of additional training provided an employable description of teacher opinions for superintendents, directors of special education, school psychologists, and other relevant school personnel who can take appropriate actions to address the opinions of teachers in a particular school district.

An additional focus of the study was to examine the types of interventions currently being used by classroom teachers based on the diagnostic criteria for ADHD. Given an individual criterion used in the diagnosis of ADHD, teachers were asked to specify interventions which they use or have used for the particular behavior. Interventions which would be used given an ideal environment (e.g., small class size, zero time constraints, financing, adequate training, and other resources) were also solicited.

Thus, the overall objectives of the mail questionnaire developed as the research tool for this study were (a) an informal assessment of teachers' knowledge of assessment criteria and the need for teacher training in areas related to the assessment and interventions for ADHD students, and (b) to determine if a significant difference exists between regular

education, special education, and Title One teachers' choices of interventions, including those that teachers currently use or have used in the past and interventions that teachers would use given an ideal environment.

Literature Review

Changing Diagnostic Labels for ADHD

In the field of ADHD research, two developments have impeded the utilization of assessment data in the planning of interventions: the changing diagnostic labels for ADHD and the diversity of assessment practices in establishing a diagnosis of ADHD. The first major obstacle in the linking of ADHD assessment with the planning of interventions has been the evolution of the diagnostic criteria and subtypes of ADHD. Recent research findings and an increasing knowledge base over the last twenty years have led to the restructuring of how ADHD is defined and assessed. From its early classification in the 1960's as Minimal Brain Dysfunction to the term Hyperkinetic Reaction to Childhood in the *Diagnostic and Statistical Manual of Mental Disorders, Second Edition (DSM-II*; American Psychiatric Association [APA], 1968), the disorder was reclassified in the *DSM-III* (APA, 1980) as Attention-Deficit Disorder With or Without Hyperactivity (Barkley, 1990). Sixteen criteria for the areas of inattention, impulsivity, and hyperactivity were established, with onset before the age of seven and a duration of at least six months as additional requirements for diagnosis. With the arrival of the *DSM-III-R* (APA, 1987), the disorder was labeled Attention-Deficit Hyperactivity Disorder; and Undifferentiated Attention Deficit Disorder was the diagnostic label given to the disorder when hyperactive

behavior was not clearly established. The label of Undifferentiated Attention Deficit Disorder was used because substantive research on a subtype of ADD, which did not include hyperactive behavior, was not available at the time *DSM-III-R* was printed. For the subtype Attention-Deficit Hyperactivity Disorder, fourteen non-categorized criteria were developed with the presence of eight or more necessary for diagnosis. The age of onset and duration requirements were maintained from *DSM-III* and the requisite that the disorder was not due to a Pervasive Developmental Disorder was added (Barkley, 1990).

The introduction of *DSM-IV* (APA, 1994) signifies the most recent revision to the definition of the disorder. Three new diagnostic subtypes were established for ADHD: Predominantly Inattentive Type, Predominantly Hyperactive-Impulsive Type, and Combined Type (where an individual meets the diagnostic criteria for *both* the inattentive and hyperactive-impulsive types; see Table 1). In order to substantiate the diagnosis for either ADHD, Predominantly Inattentive or ADHD, Predominantly Hyperactive-Impulsive, six or more of nine criteria must be met for at least six months and to a severe degree. Additional stipulations for diagnosis are the presence of symptomology before age seven, impairment from the symptoms in two or more settings, evidence of impairment in social, academic, or occupational functioning, and the diagnosis must be differentiated from Pervasive Developmental Disorder, Schizophrenia or other psychotic disorders, mood disorders, anxiety disorders, and personality disorders (APA, 1994).

With the development of three separate groups of diagnostic labels and operational definitions in the span of 15 years, confusion among parents and professionals over how to define ADHD may have clouded the notion that one of the primary goals of the assessment

Table 1

DSM-IV Diagnostic Criteria for Attention-Deficit Hyperactivity DisorderATTENTION

Six or more of the following for at least six months to severe degree:

- a) often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
- b) often has difficulty sustaining attention in tasks or play activities
- c) often does not seem to listen when spoken to directly
- d) often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions)
- e) often has difficulty organizing tasks and activities
- f) often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
- g) often loses things necessary for tasks and activities (toys, school assignments, pencils, books, tools)
- h) is often easily distracted by extraneous stimuli
- i) is often forgetful in daily activities

HYPERACTIVITY/IMPULSIVITY

Six or more of the following for at least six months to severe degree:

HYPERACTIVITY

- a) often fidgets with hands or feet or squirms in seat
- b) often leaves seat in classroom or in other situations in which remaining seated is expected
- c) often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
- d) often has difficulty playing or engaging in leisure activities quietly
- e) is often "on the go" or acts as if "driven by a motor"
- f) often talks excessively

IMPULSIVITY

- g) often blurts out answers before questions have been completed
- h) often has difficulty awaiting turn
- i) often interrupts or intrudes on others (butts into conversations or games)

***Some symptoms which caused impairment present before age seven*

***Some impairment from symptoms present in two or more settings*

***Clear evidence of significant impairment in social, academic, or occupational functioning*

***Symptoms are not a function of a pervasive developmental disorder, schizophrenia, or other psychotic disorder and are not better accounted for by mood disorder, anxiety disorder, or a personality disorder (APA, 1994).*

and diagnostic phases is to identify target areas for intervention. Professionals in the fields of medicine, psychiatry, and psychology have made efforts to keep pace with the current diagnostic labels for ADHD. However, parents and school personnel, from directors of special education to regular classroom teachers, increasingly refer to the disorder as “ADD” (Erk, 1995). Such nonspecific and dated terminology implies that *ADD is ADD*, regardless of subtypes of the disorder, the severity of the disorder, or the individual characteristics of the student. It also may lead to false assumptions that interventions effective for one student should be effective for another.

Heterogeneity of the ADHD Population

Students diagnosed with ADHD are a heterogeneous group (Fiore, Becker, & Nero 1993). Comorbid conditions, individual differences, and differences in the severity of the disorder combined with assessment and diagnostic practices, which differ from one school district to the next, determine that a large amount of variation exists within the ADHD population of students. The ADHD diagnosis is usually made by a psychologist or a pediatrician or other physician in the community. In some districts, the diagnosis is made by the school psychologist or other school personnel. In other areas, there is a collaboration among school and community resources in arriving at a diagnosis. Comorbid conditions can exist, with Specific Learning Disabilities, Conduct Disorder, Oppositional Defiant Disorder, and Obsessive Compulsive Disorder. Other areas include disorders in which students may exhibit inattentive or hyperactive behavior, such as mental disability, autism, psychotic disorders, depression, and anxiety (Barkley, 1990). The similarity of

ADHD symptoms to these other conditions accentuates the necessity for differential diagnosis with respect to ADHD students.

School-Based Assessment Practices

Given the heterogeneity of this population and the estimated prevalence of ADHD at 3-5% of the school population or two million students (Lerner, Lowenthal, & Lerner, 1995), wide diversity in school-based assessment practices would be expected. The second major obstacle in the utilization of assessment data for intervention planning has been the variability of assessment practices in cases where referrals are made due to inattentive, hyperactive, or impulsive behaviors. Several recent books and articles have been published that propose flexible assessment protocols for ADHD referrals and most of them view the assessment phase as a blueprint for creating an intervention plan (Barkley, 1990; DuPaul & Stoner, 1994; Landau & Burcham, 1995; Lerner et al., 1995).

Lerner et al. (1995) suggest a two-tiered assessment, with a clinical assessment to identify and diagnose ADHD as the first tier and the school assessment to develop interventions as the second tier. As an alternative to this model, which involves both community agencies and school personnel, Lerner et al. (1995) suggest that both tiers of the assessment process can be completed solely by school personnel if the clinical assessment is conducted by a multidisciplinary team with a qualified school psychologist. Barkley, who writes from more of a clinical perspective than a school perspective, believes that the choice of an assessment battery depends upon the developmental level of the referred student as well as biological, cognitive, social, and familial factors. This broad style of assessment allows for the consideration of individual differences through an

extensive history on the student; it also allows for the consideration of developmental differences due to age and gender which affect the interpretation of behavior as typical or abnormal (1990). DuPaul and Stoner (1994) offer a five stage assessment plan which follows a referral, including (a) screening, (b) multiple assessment methods across multiple informants and settings, (c) interpretation and diagnosis, (d) a treatment plan based on the results of the assessment, and (e) monitoring and modification of the treatment plan. The stage of monitoring and modifying the treatment plan, an addition to the four stage model previously proposed by DuPaul (1992), indicates the utility of school psychologists for providing post-placement services (e.g., case monitors).

Landau and Burcham (1995) stated in *Best Practices in School Psychology-III* that the consultative model of Bergan and Kratochwill allows the assessment process to be viewed in problem-solving terms with an intervention plan as its end result. According to Bergan and Kratochwill's model, there are four stages in the problem-solving process: (a) problem identification, (b) problem analysis, (c) plan implementation, and (d) problem evaluation (1990). Similar to the DuPaul and Stoner model, Landau and Burcham present this stage model as a guide for the school psychologist in implementing an assessment protocol which incorporates the development and monitoring of interventions into the assessment.

Given the variety of assessment plans and models, school districts have access to a large data base on the assessment of ADHD with which to develop a plan of action for ADHD referrals. According to Burcham and Carlson (1993), many school districts have responded to an increase in ADHD referrals by creating their own identification procedures

(e.g., Jefferson County Public Schools in Louisville, Kentucky) and many school agencies have taken steps to train school personnel in the diagnosis and management of ADHD (e.g., University of Kentucky and Kentucky Department of Education's ADHD Training Program for Teachers).

A number of model programs have been recognized, and their district response plans have been detailed in the literature on ADHD. The Broward County, Florida school system has developed services for ADHD students based on the Bergan and Kratochwill consultative model. With the use of Intervention Assistance Teams (IAT's), the Broward County schools seek to provide regular education instruction to the majority of ADHD students by working through the four problem-solving phases to arrive at an intervention plan. The evaluation and modification of the intervention plan is viewed as an essential aspect of this service model (Burcham & DeMers, 1995). Some larger school systems, such as the Kenosha, Wisconsin Public Schools, have hired program consultants specifically for their ADHD student population. The program consultant acts as a case monitor for the students with ADHD, keeps parents and teachers up-to-date with respect to ADHD research, provides in-service training and parent training, and works with teachers on an individual level concerning strategies for a particular student (Lerner et al., 1995). The response by individual school districts to the increasing identification of ADHD students has varied in complexity from basic to comprehensive changes in district policy. In order for individual school systems or state school systems to react to the needs of ADHD students, a national effort was necessary to consolidate the research in this area.

U.S. Department of Education Response to ADHD

The federal response to ADHD began with a 1991 memorandum from the U.S. Department of Education entitled *Clarification of Policy to Address the Needs of Children with Attention Deficit Disorders within General and/or Special Education* was issued to clarify the responsibilities of school districts in providing services to ADHD children. Special education and related services were to be provided to ADHD students who qualified under the “Other Health Impaired” category of Part B of the Individuals with Disabilities Education Act. Regular or special education services were to be provided to those children with ADHD who did not qualify for services under Part B but did meet the definition of “handicapped person” under Section 504 of the Rehabilitation Act of 1973. However, the memorandum did not clarify the assessment procedures to be used other than stating that “a medical diagnosis of ADHD alone is not sufficient to render a child eligible for services under Part B” and that “a full and individual evaluation of the child’s educational needs must be conducted.” The memorandum on policy also established five “Centers” to prepare and disseminate information related to identification, assessment practices, and intervention strategies for children with ADHD (Davila et al., 1991).

In order to reduce the scope of each Center’s responsibilities (and in so doing retaining the fragmentation of the assessment/diagnosis and intervention phases for ADHD), particular aspects of ADHD were addressed at each Center. At the Arkansas Children’s Hospital, Dykman, Ackerman, and Raney addressed the assessment and characteristics of children with ADHD. At the University of Miami, McKinney, Montague, and Hocutt researched the literature on the assessment and identification of

ADHD. At the Research Triangle Institute in North Carolina, Fiore, Becker, and Nero reviewed behavioral and educational interventions for children with ADHD. At the University of California-Irvine, James M. Swanson conducted a review of reviews on the effects of stimulant medication with ADHD children. Finally, at the University of Kentucky's Federal Resource Center, Barbara G. Burcham and Laurance B. Carlson researched school-based practices for ADHD students by discussing promising practices at sites around the country. Sponsored by the Office of Special Education and Rehabilitative Services (OSERS), these centers accumulated and reviewed a vast amount of literature pertaining to ADHD research and practices. Each center then consolidated a data base collected across the fields of education, psychology, and medicine and presented the findings. A final document with synopses of each center's research findings was also submitted (Chesapeake Institute, 1992).

Although the resulting publications from each center achieved the purpose of organizing the current knowledge base on ADHD and the importance of linking assessment to intervention was acknowledged, the final reports from the five centers failed to address current methods and practices for actively incorporating information gathered in the assessment phase with the development of treatment options. For example, the cumulative document from the Chesapeake Institute stated six questions which were to be addressed by the centers, with one question, "According to the research literature, how can educators organize resources and deliver services to best meet the education needs of children with attention deficit disorder?" (1992, p. 3), dismissed due to insufficient research. From the center reviewing behavioral and academic interventions only, Fiore, Becker, and Nero

(1993) concede a lack of *any* intervention research which directly addresses placement decisions and the development of a curriculum for the student afterwards. Publications from authors such as DuPaul and Stoner (1994) and Landau and Burcham (1995) have begun to address this issue only recently.

Of 146 promising practices submitted to the Federal Resource Center (FRC) at the University of Kentucky, 17 intervention practices and nine assessment practices were chosen to be included in the document. In reviewing the practices, FRC staff noted that one of the factors which affected the academic success of ADHD students stated, “Although there are global issues involved in serving students with ADD, schools engaged in promising work were attentive to individual student differences when designing specific educational plans for these students” (Chesapeake Institute, 1992, p. 51). If school personnel are to effectively address the needs of ADHD students in the regular and special education classrooms, the assessment protocol leading to the diagnosis is a rich source of information which can be used in the development of intervention strategy.

Goal of Referral and Assessment

The implied goal of the referral and subsequent assessment of a student goes beyond simply obtaining a diagnosis of ADHD. The data collected in the assessment can be used to guide the development of intervention plans, strategies for teachers, and the production of behavioral objectives for the Individual Education Plan (IEP), regardless of whether the student receives services under Section 504 of the Rehabilitation Act of 1973 or Part B of the Individuals with Disabilities Education Act (IDEA). In its position statement on students with attention deficits, the National Association of School

Psychologists (NASP; 1992) stated, “NASP believes that effective interventions should be tailored to the unique learning strengths and needs of every student.” If an intervention plan is developed based on data obtained in the assessment, then it will be more likely to reflect on the individual differences present in all students rather than on a traditional intervention practice for all students diagnosed with ADHD. Assessment data can also be used to determine treatment effectiveness when compared with data gathered in the monitoring of interventions. Utilizing Bergan and Kratochwill’s consultative model, adjustments can then be made to the intervention plan according to a student’s behavioral and/or academic progress in order to maximize the effectiveness of the intervention plan (Shapiro, 1987, chap. 7). Individualized treatment (including intervention adjustments and continuous monitoring) which is based on the results of the assessment data serves to decrease the “pigeonhole” mentality that all ADHD students fit a categorical stereotype and can receive appropriate educational services through a standard ADHD intervention plan.

Summary

The evolution of diagnostic criteria and labels for ADHD in the last two decades, culminating with the introduction of *DSM-IV* in 1994, has led to confusion among parents and school personnel over how to define ADHD. The increasing general reference to this condition as *ADD* indicates a lack of differentiation among ADHD students based on the diagnosed subtype, severity of the disorder, and individual characteristics of the student. In reality, ADHD students are a heterogeneous population. Comorbid conditions and individual differences, in combination with the variation among assessment and diagnostic practices, underscore the need to address the educational programming of ADHD students

on an individual basis. School-based assessment practices for ADHD referrals are diverse, providing school districts with a wide range of research from which to develop assessment protocols for this type of referral. A number of school systems have utilized the research data in developing model programs for addressing the assessment needs of ADHD students. The U.S. Department of Education has also responded to the challenges presented by ADHD students in the schools by clarifying the responsibilities of school districts in providing services to these students and initiating research in this area. The resulting publications of research served to organize the current knowledge base on ADHD characteristics, assessment practices, intervention practices, and effects of stimulant medication. However, the research failed to address the integration of assessment data in the development of intervention plans for ADHD students. The goal of referral and assessment should be the accumulation of data which can then be used to guide the development of treatment options based on the individual characteristics of the student. A review of the current literature indicates that data obtained in the assessment and diagnostic phase of ADHD referrals is not being appropriately utilized in the treatment planning and subsequent educational programming for ADHD students.

Method

Participants

A sample of 250 teachers (175 regular education, 61 special education, and 14 Title One) volunteered to participate in the research study. The sample was decidedly female (95.6% female, 4.4% male) and included Kindergarten through sixth grade teachers from 16 county school systems in central-western Kentucky (see Figure 1). The participating counties were primarily rural, with the exception of Daviess County (Owensboro) and Hardin County (Elizabethtown). The treatment of all participants conformed to the “Ethical Principles of Psychologists and Code of Conduct” (American Psychological Association [APA], 1992).

Apparatus

The mailed questionnaire survey developed as the research tool for this study is included in Appendix A. The survey design was based on the purposes of the study and contained the cover letter, four distinct sections, and a list of interventions to be used by the respondent in the completion of the third section of the survey. The first section addressed teacher knowledge with respect to *DSM-IV* diagnostic criteria for ADHD and teacher awareness of current diagnostic labels for ADHD. The second section provided demographic information about the respondent -- including teaching position, grade taught, years of teaching experience, educational level, gender, training related to the assessment of

ADHD, and training related to interventions for ADHD students. The third section allowed the respondent to indicate intervention practices with respect to behaviors used in the diagnosis of ADHD. The respondents were asked to identify ADHD intervention practices which they currently use or have used, as well as intervention practices which would be used given an ideal working environment. A list of 14 common intervention practices was available to the respondent in the completion of this section. These interventions were derived based on the research literature from Barkley (1990), DuPaul and Stoner (1994), Fiore et al. (1993), and a survey conducted by Ringer, Doerr, Hollenshead, and Wills (1993). Appendix B contains a description of the development of the first and third sections for the survey questionnaire. Twelve interventions were listed and described, along with “No Intervention” and “Other.” The fourth and final section of the survey pertained to teacher ratings of the importance of knowledge of ADHD criteria; of the importance of having a selection of interventions available to use in the classroom; of the importance of having the services of school psychologists or school counselors available to consult on ADHD students; and of the importance of further training in providing services to ADHD students. Ratings in this section were made on a five-point Likert scale from “Not Important” to “Very Important.”

The survey questionnaire was piloted using eight teachers (two special education, six regular education) within a rural elementary school, which served all grade levels within the survey. The teachers were instructed to notify the research study author of any confusing or misleading instructions or if any wording within the survey questionnaire was difficult to understand. Indications from the eight teachers were that the survey

questionnaire was acceptable, understandable, did not contain any confusing jargon, and would take between 12 and 15 minutes to complete.

Procedure

Initially, a school psychologist, director of special education, or teacher within 19 school systems was contacted. One school system was ending its calendar year and the teachers would not be available to complete the survey. Two school systems' director of special education denied the request to conduct research. From the 16 counties agreeing to participate in the study, a school psychologist, director of special education, or teacher was designated as the contact person within the district. The author of the research study asked each contact person to distribute a survey questionnaire to all teachers within one or two elementary schools in the district. All regular education and special education teachers within the school(s) were given the opportunity to complete a survey. The contact person requested a rough estimate of the number of surveys needed, and each contact person was notified that additional copies could be made of the survey, if necessary. The surveys were then mailed in Priority Mail bags to each of the 16 contact persons, along with a postage paid return bag and a short note reminding each contact person to include all teachers within the chosen school(s) from Kindergarten to sixth grade. The survey questionnaire cover letter explained to each participating teacher the purpose of the study and stated that individual subject responses would not be interpreted in order to assure the anonymity of the respondents. Upon completion of the survey, the participating teacher was instructed to return the survey to the school contact person. The contact person was instructed to return the completed surveys received by early June 1996 in the postage paid return bag.

As the surveys were received by the research study author, individual surveys were sight-edited and numbered for data entry and analysis.

Results

Of 669 survey questionnaires initially delivered to the 16 contact persons, 633 were distributed to regular and special education teachers in their respective school systems. From five participating school systems, a total of 36 survey questionnaires were returned without being distributed to teachers. The final sample of 250 from 633 surveys indicated a return rate of 39.5%. Table 2 presents the demographic characteristics of the sample. Based on the data in Table 2, the modal response for a survey participant was a female fourth to sixth grade regular education teacher with a Master's Degree and one to five years of teaching experience.

Knowledge Level Concerning Diagnostic Criteria and Labels for ADHD

The first research question in the study concerned the investigation of teachers' knowledge level with respect to the *DSM-IV* diagnostic criteria and subtypes of ADHD. Respondents were asked to indicate from a list of 20 *DSM-IV* criteria those which are currently utilized in the diagnosis of ADHD. Of the 20 criteria, 14 were true ADHD criteria while the remaining six were criteria used in the diagnosis of Depression, Conduct Disorder, Oppositional Defiant Disorder, and Generalized Anxiety Disorder. Table 3 presents the subject response patterns for all 20 criteria. Seventy-four of the respondents (29.6%) were able to correctly identify all 14 true ADHD criteria. Four of the respondents (1.6%) were able to correctly identify all six false ADHD criteria. Only one of the

Table 2

Demographic Characteristics of Survey Participants

	Frequency	Percentage
Position		
Regular Education Teacher	175	70.0
Special Education Teacher	61	24.4
Title One Teacher	14	5.6
Grade Taught		
Kindergarten to Grade One	49	19.6
Grade Two to Grade Three	65	26.0
Grade Four to Grade Six	75	30.0
Special Education (All Grades)	61	24.4
Number of Years Teaching Experience		
One to Five Years	78	31.2
Six to Ten Years	40	16.0
Eleven to Fifteen Years	41	16.4
Sixteen to Twenty Years	44	17.6
Twenty-One to Thirty Years	44	17.6
Thirty-One Plus Years	3	1.2
Present Degree Level		
Bachelor's Degree or Rank III Certification	61	24.4
Master's Degree or Rank II Certification	107	42.8
Master's Degree Plus or Rank I Certification	80	32.0
Doctoral Degree	2	0.8
Gender		
Female	239	95.6
Male	11	4.4

Table 3

Participant Responses to 20 *DSM-IV* Criteria

	Yes	No	Do Not Know
	N (%)	N (%)	N (%)
<u>True ADHD Criteria</u>			
1. Often fails to give close attention to details or makes careless mistakes in school-work, job, or other activities	214 (85.9)	22 (8.8)	14 (5.2)
3. Often does not follow through on instructions and fails to finish schoolwork or chores (not due to oppositional behavior or failure to understand instructions)	241 (96.8)	4 (1.6)	4 (1.6)
5. Often has difficulty organizing tasks and activities	242 (97.2)	1 (0.4)	6 (2.4)
6. Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)	218 (87.6)	19 (7.6)	12 (4.8)
8. Often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)	217 (87.1)	17 (6.8)	15 (6.0)

Table 3 (Continued)

Participant Responses to 20 *DSM-IV* Criteria

	Yes	No	Do Not Know
	N (%)	N (%)	N (%)
9. Is often easily distracted by extraneous (i.e., irrelevant) stimuli (e.g., air conditioner, hall noise, activity outside room windows)	245 (98.0)	2 (0.8)	3 (1.2)
11. Often leaves seat in classroom or in other situations in which remaining seated is expected	233 (93.2)	11 (4.4)	6 (2.4)
13. Often has difficulty playing or engaging in leisure activities quietly	201 (80.7)	29 (11.6)	19 (7.6)
14. Is often “on the go” or acts as if “driven by a motor”	235 (94.0)	9 (3.6)	6 (2.4)
15. Often has difficulty awaiting turn	229 (91.6)	13 (5.2)	8 (3.2)
17. Often blurts out answers before questions have been completed	200 (80.6)	28 (11.3)	20 (8.1)
18. Some hyperactive or inattentive symptoms that caused impairment were present before age seven	158 (63.7)	9 (3.6)	81 (32.7)

Table 3 (Continued)

Participant Responses to 20 *DSM-IV* Criteria

	Yes	No	Do Not Know
	N (%)	N (%)	N (%)
19. Some impairment from the symptoms is present in two or more settings (e.g., at school [or work] and at home)	218 (87.6)	5 (2.0)	26 (10.4)
20. There is clear evidence of clinically significant impairment in social, academic, or occupational functioning	180 (72.6)	20 (8.1)	48 (19.4)
<u>False ADHD Criteria</u>			
2. Often seems lazy or unwilling to complete daily activities	183 (73.5)	49 (19.7)	17 (6.8)
4. Often experiences fatigue or loss of energy	87 (34.9)	110 (44.2)	52 (20.9)
7. Often experiences failure in school	209 (83.9)	25 (10.0)	15 (6.0)
10. Often irritable	138 (55.4)	65 (26.1)	46 (18.5)
12. Often deliberately annoys people	159 (63.6)	65 (26.0)	26 (10.4)
16. Often loses temper	155 (62.0)	58 (23.2)	37 (14.8)

respondents (0.4%) was able to correctly indicate all 14 true ADHD criteria and all six false ADHD criteria. In addition, only one respondent (0.4%) was able to identify 19 of the 20 criteria correctly, and only seven respondents (2.8%) were able to identify 18 of the 20 criteria correctly. When observed across teaching positions, 47 (26.9% of 175) of the regular education teachers were able to correctly identify all 14 true ADHD criteria and two (1.1% of 175) of the regular education teachers were able to correctly identify all six false ADHD criteria. Of the special education teachers, 23 (37.7% of 61) correctly identified all of the true criteria correctly while two (3.3% of 61) identified all of the false criteria correctly. Of the Title One teachers, four (28.6% of 14) identified all of the true criteria correctly and zero Title One teachers identified all of the false criteria correctly.

Table 3 indicates that for the majority of the true ADHD criteria, teacher responses were consistently identified correctly by 85-98% of the sample. True criteria which were not consistently identified include “Often has difficulty playing or engaging in leisure activities quietly” (80.4% correct), “Often blurts out answers before questions have been completed” (80.0% correct), “There is clear evidence of clinically significant impairment in social, academic, or occupational functioning” (72.0% correct), and “Some hyperactive or inattentive symptoms that caused impairment were present before age seven” (63.2% correct). The six false criteria were *not* consistently identified by the respondents, as 44.0% was the highest correct identification rate for a false criterion. Only 10.0% of the respondents correctly identified “Often experiences failure in school” as a false criterion, while only 19.6% of the respondents correctly identified “Often seems lazy or unwilling to complete daily activities” as a false criterion.

Respondents were also asked to identify the three current diagnostic labels for ADHD from a list which included three former *DSM* classifications for the disorder as well as the three current subtypes from *DSM-IV* (see Table 4). Thirty-two participants (13%) correctly identified the three current classifications, although more than twice that number ($n=65$; 26.4%) were unable to correctly identify *one* current classification. Of the 32 respondents who correctly identified all three current classifications, 22 (68.8%) were regular education teachers, nine (28.1%) were special education teachers, and one (3.1%) was a Title One teacher. Respondents were more likely to identify ADHD, Combined Type (47.6%) than either subtype of ADHD, Predominantly Inattentive Type (35.8%) or ADHD, Predominantly Hyperactive-Impulsive Type (35.0%).

A chi-square test of independence was applied to the relationship between teachers' position and the number of correctly identified subtypes (ranging from zero correct to all three correct). The relationship was not statistically significant, $X^2(6, N=246) = 6.68$, $p>.05$. For each of the three current subtypes taken individually, little variation in percentage of correct responses was found between regular education, special education, and Title One teachers. Chi-square tests of independence were not statistically significant for the relationships between teachers' position and the frequency of correct responses for ADHD, Predominantly Inattentive Type [$X^2(2, N=246) = 2.25$, $p>.05$], ADHD, Predominantly Hyperactive-Impulsive Type [$X^2(2, N=246) = 1.26$, $p>.05$], or ADHD, Combined Type [$X^2(2, N=246) = 0.56$, $p>.05$].

Table 4

Responses of Subjects to Three *DSM-IV* Diagnostic Classifications (n=246)

	Correct N (%)	Incorrect N (%)
Attention-Deficit Hyperactivity Disorder, Predominantly Inattentive Type	88 (35.8)	158 (64.2)
Attention-Deficit Hyperactivity Disorder, Predominantly Hyperactive-Impulsive Type	86 (35.0)	160 (65.0)
Attention-Deficit Hyperactivity Disorder, Combined Type	117 (47.6)	129 (52.4)

Note. Choices included the three current *DSM-IV* (APA, 1994) diagnostic subtypes plus Attention-Deficit Hyperactivity Disorder (APA, 1987), Attention-Deficit Hyperactivity Disorder With Hyperactivity (APA, 1980), and Attention-Deficit Hyperactivity Disorder Without Hyperactivity (APA, 1980)

Note. Four missing responses

Interventions Currently Used / Used in the Past and in an Ideal Setting

The second and third research questions in the study concerned the investigation of interventions which are currently utilized or have been utilized in the past for ADHD students as well as the interventions they would use for ADHD students given unlimited resources. Teachers who had not worked with an ADHD student were asked to relate their responses to interventions for students with disruptive behavior problems or students having difficulty paying attention in the classroom. An “Interventions Sheet” attached to the survey questionnaire was available for the respondents to use. The sheet contained 14 numbered interventions, each with a short description, and instructions for completing this portion of the survey questionnaire. The respondents were instructed to place a check mark next to the number of the intervention(s) he/she currently uses / used in the past and those interventions he/she would ideally use for nine ADHD diagnostic characteristics. For respondents who chose “Other” as an intervention and listed the intervention on the survey questionnaire, Appendix C contains “Other” responses to the nine criteria for both currently used / used in the past and ideal setting interventions.

Figures 2, 3, and 4 present the results of “Do Use or Have Used” and “Would Ideally Use” interventions chosen for the criterion, “A student who often fails to give close attention to details or makes careless mistakes in schoolwork”. A sample size of 245 subjects (98.0% of the total sample) responded to the “Do Use or Have Used” interventions while 206 subjects (82.4% of the total sample) responded to the “Would Ideally Use” interventions. Figure 2 provides percentage distributions for both intervention categories across the total sample, while Figures 3 and 4 provide percentage summaries for

Figure 2

Percentage of Current / Ideal Interventions for Total Sample, Criterion #1: A Student who Often Fails to Give Close Attention to Details or Makes Careless Mistakes in Schoolwork

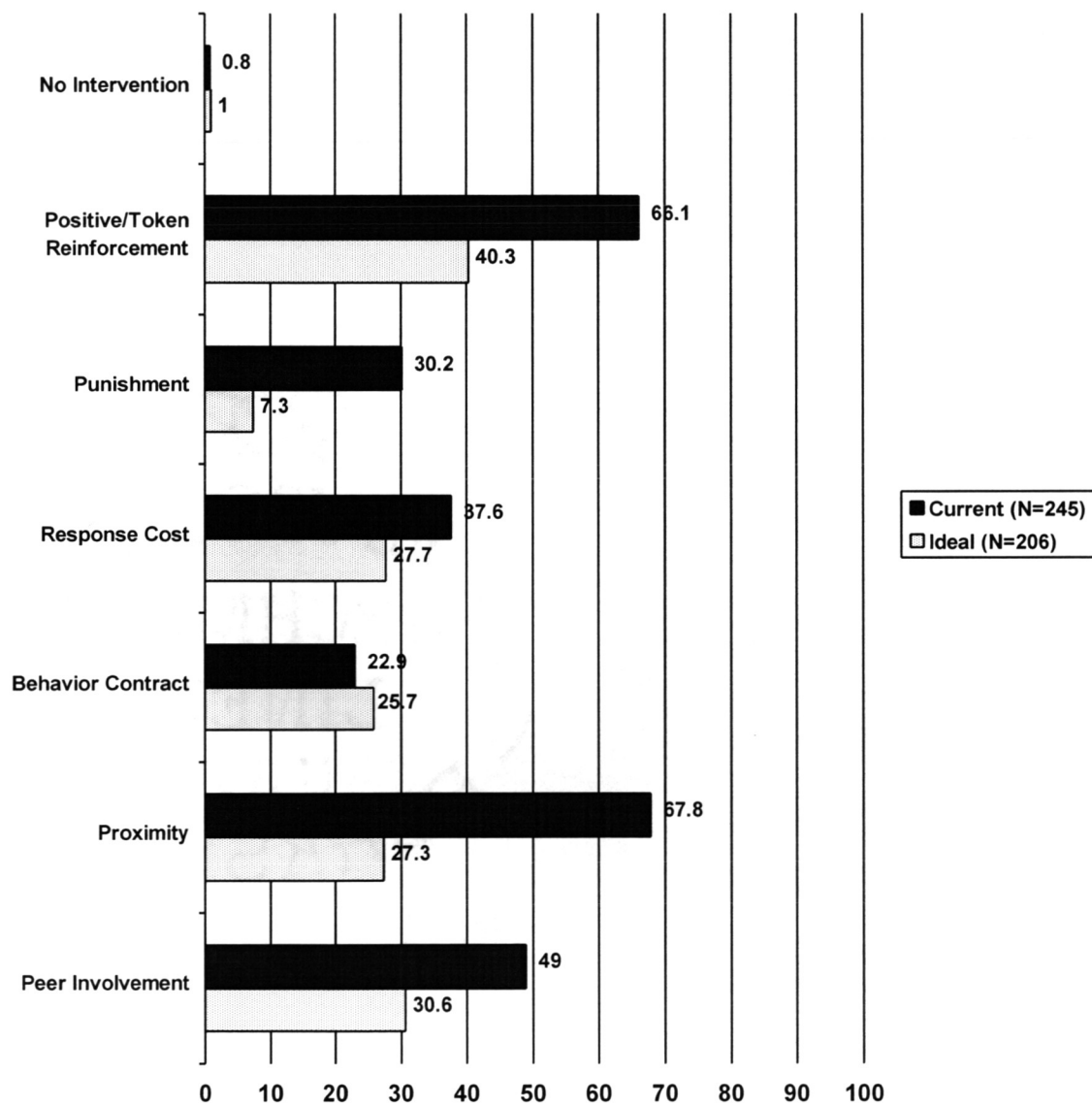


Figure 2 (Continued)

Percentage of Current / Ideal Interventions for Total Sample, Criterion #1: A Student who Often Fails to Give Close Attention to Details or Makes Careless Mistakes in Schoolwork

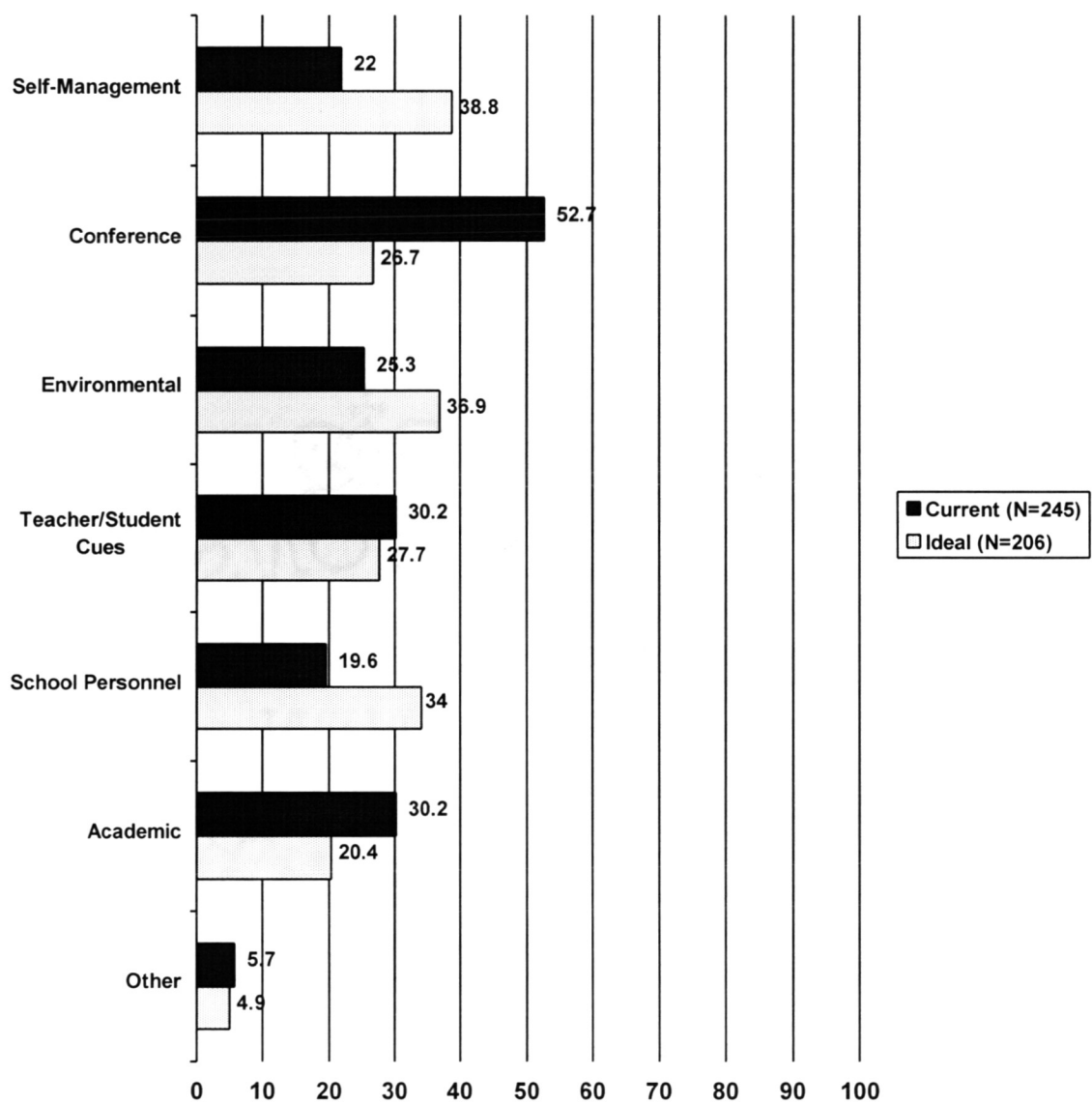


Figure 3

Percentage of Current Interventions by Position, Criterion #1: A Student who Often Fails to Give Close Attention to Details or Makes Careless Mistakes in Schoolwork

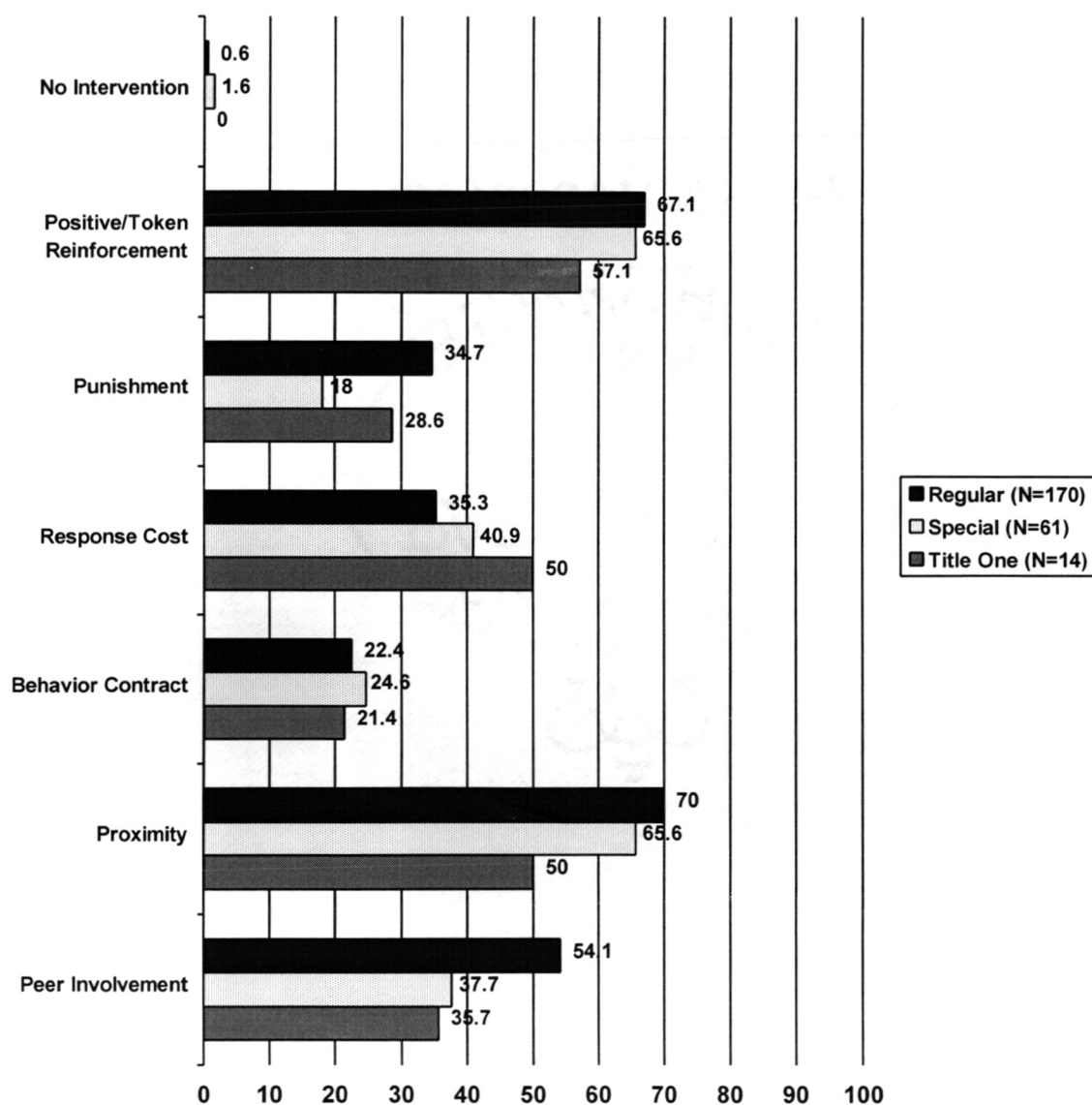


Figure 3 (Continued)

Percentage of Current Interventions by Position, Criterion #1: A Student who Often Fails to Give Close Attention to Details or Makes Careless Mistakes in Schoolwork

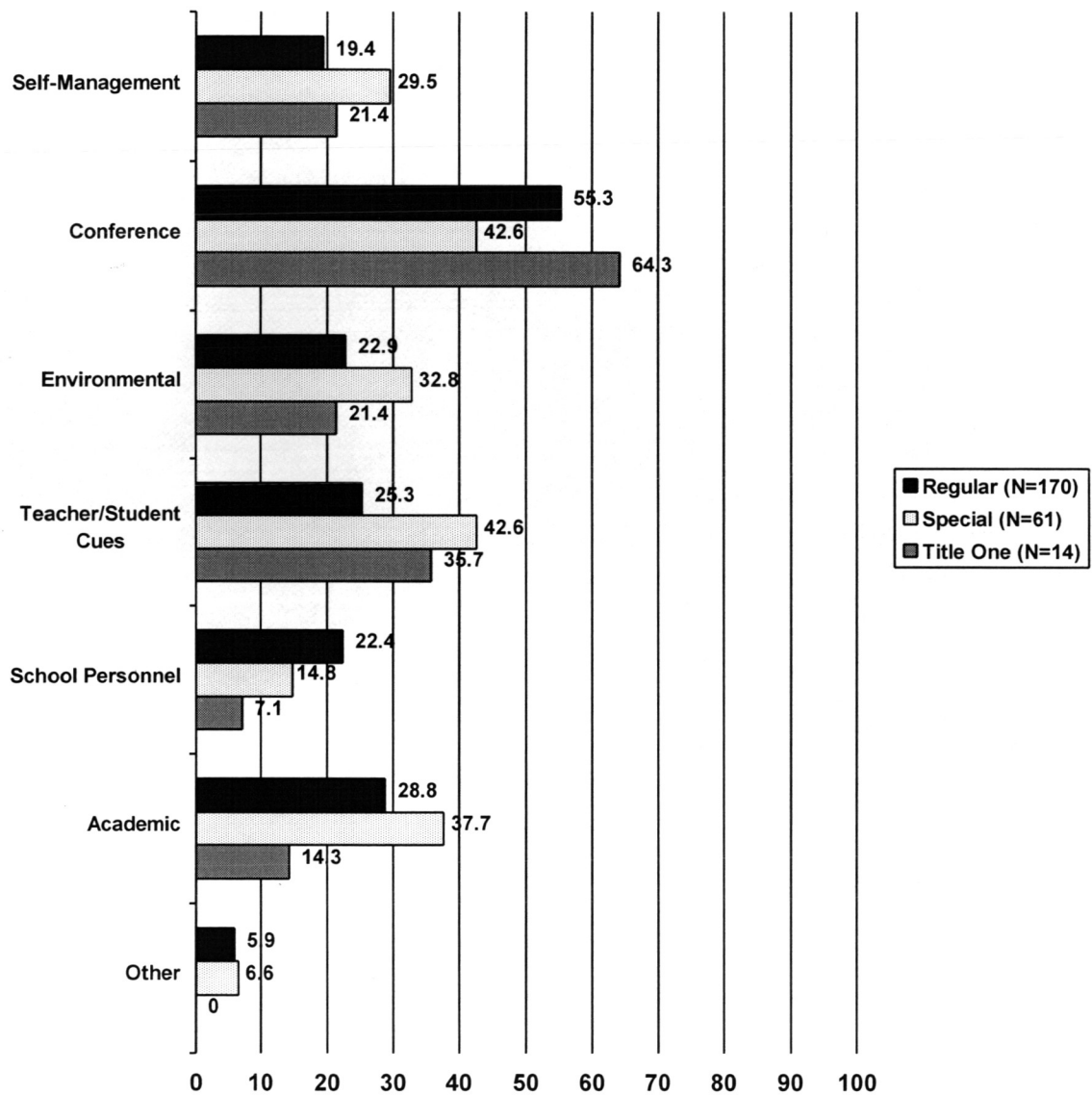


Figure 4

Percentage of Ideal Interventions by Position, Criterion #1: A Student who Often Fails to Give Close Attention to Details or Makes Careless Mistakes in Schoolwork

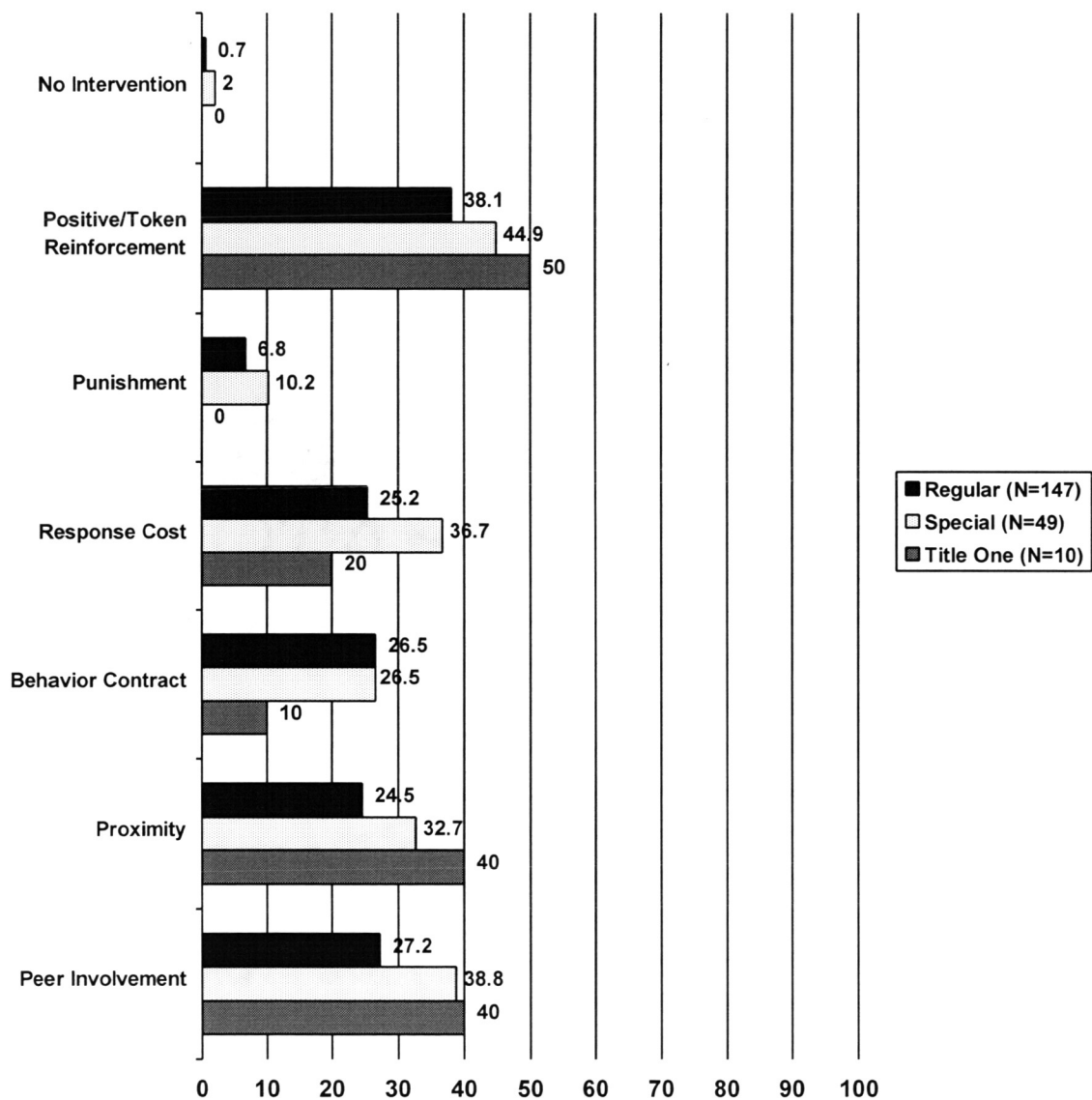
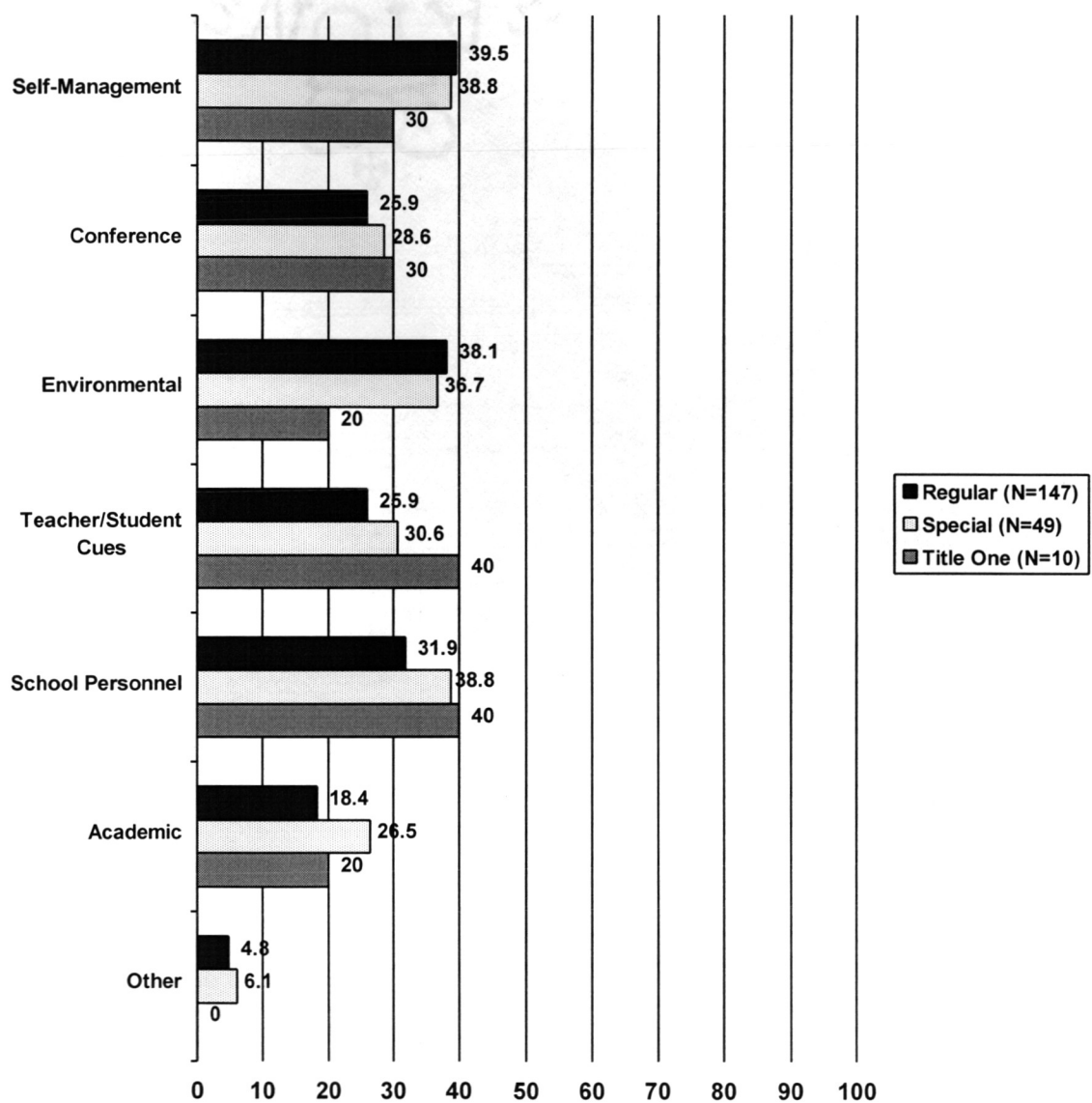


Figure 4 (Continued)

Percentage of Ideal Interventions by Position, Criterion #1: A Student who Often Fails to Give Close Attention to Details or Makes Careless Mistakes in Schoolwork



both intervention categories across regular education, special education, and Title One teachers.

For students who fail to give close attention to details or make careless mistakes in schoolwork, frequently utilized interventions include proximity, positive/token reinforcement, and conferences. In an ideal setting, proximity interventions and conferences would be practiced less, while positive/token reinforcement, self-management, and environmental interventions would be more frequently used. A chi-square test of independence was applied to the relationship between teachers' position and both currently used/used in the past interventions and ideal setting interventions. The relationship between position and the teacher/student cues intervention (currently used/used in the past) was statistically significant, $X^2(2, N=245) = 6.61, p < .05$. The strength of the relationship was .16, as indexed by Cramér's V statistic. This weak association suggests that special education teachers use teacher/student cues more often than regular education and Title One teachers.

Figures 5, 6, and 7 present the results of "Do Use or Have Used" and "Would Ideally Use" interventions chosen for the criterion "A student who often does not follow through on instructions and fails to finish schoolwork." A sample size of 243 subjects (97.2% of the total sample) responded to the "Do Use or Have Used" interventions while 199 subjects (79.6% of the total sample) responded to the "Would Ideally Use" interventions. Figure 5 provides percentage distributions for both intervention categories across the total sample, while Figures 6 and 7 provide percentage summaries for both intervention categories across regular education, special education, and Title One teachers.

Figure 5

Percentage of Current / Ideal Interventions for Total Sample, Criterion #2: A Student who Often Does Not Follow Through on Instructions and Fails to Finish Schoolwork

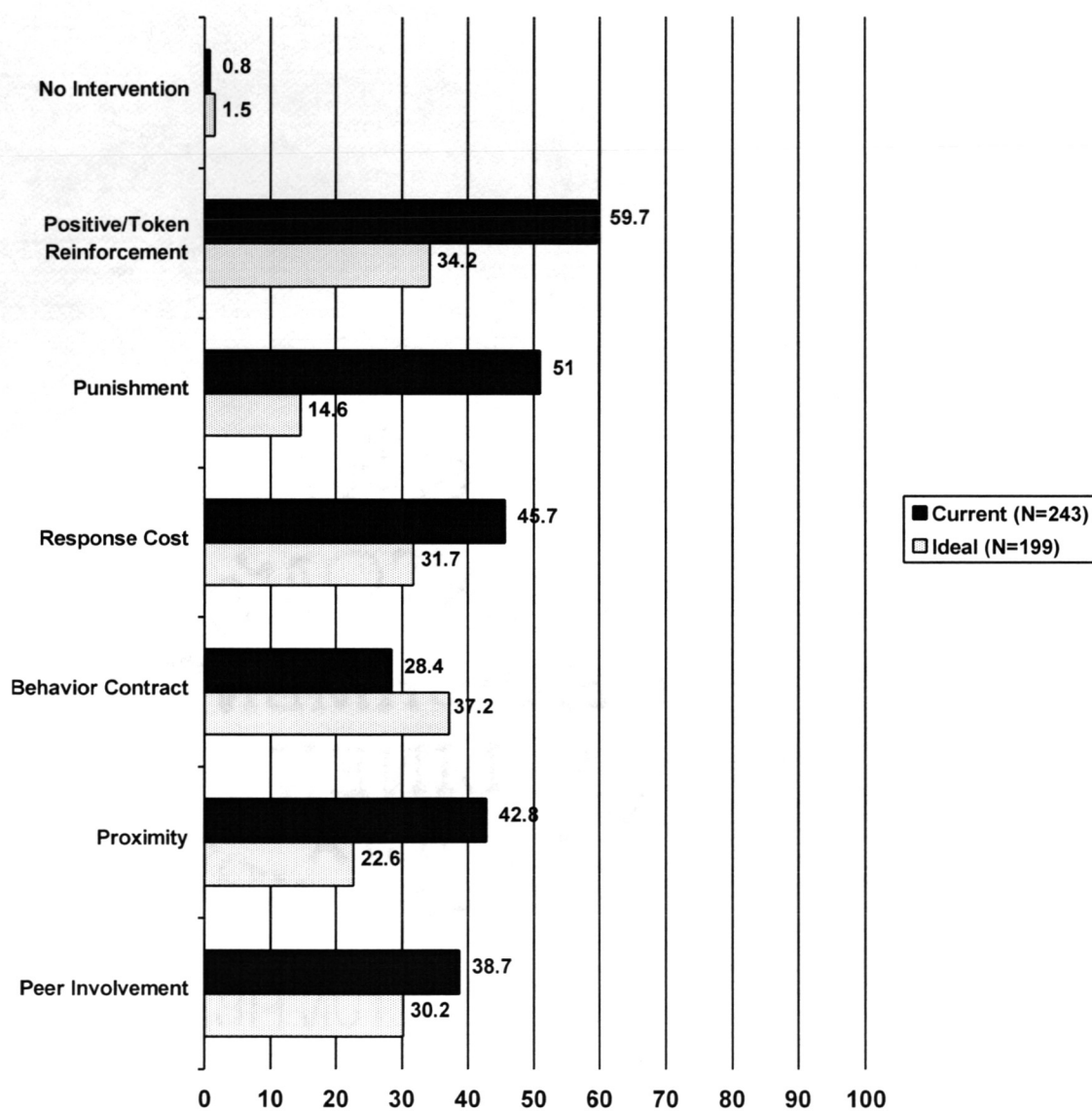


Figure 5 (Continued)

Percentage of Current / Ideal Interventions for Total Sample, Criterion #2: A Student who Often Does Not Follow Through on Instructions and Fails to Finish Schoolwork

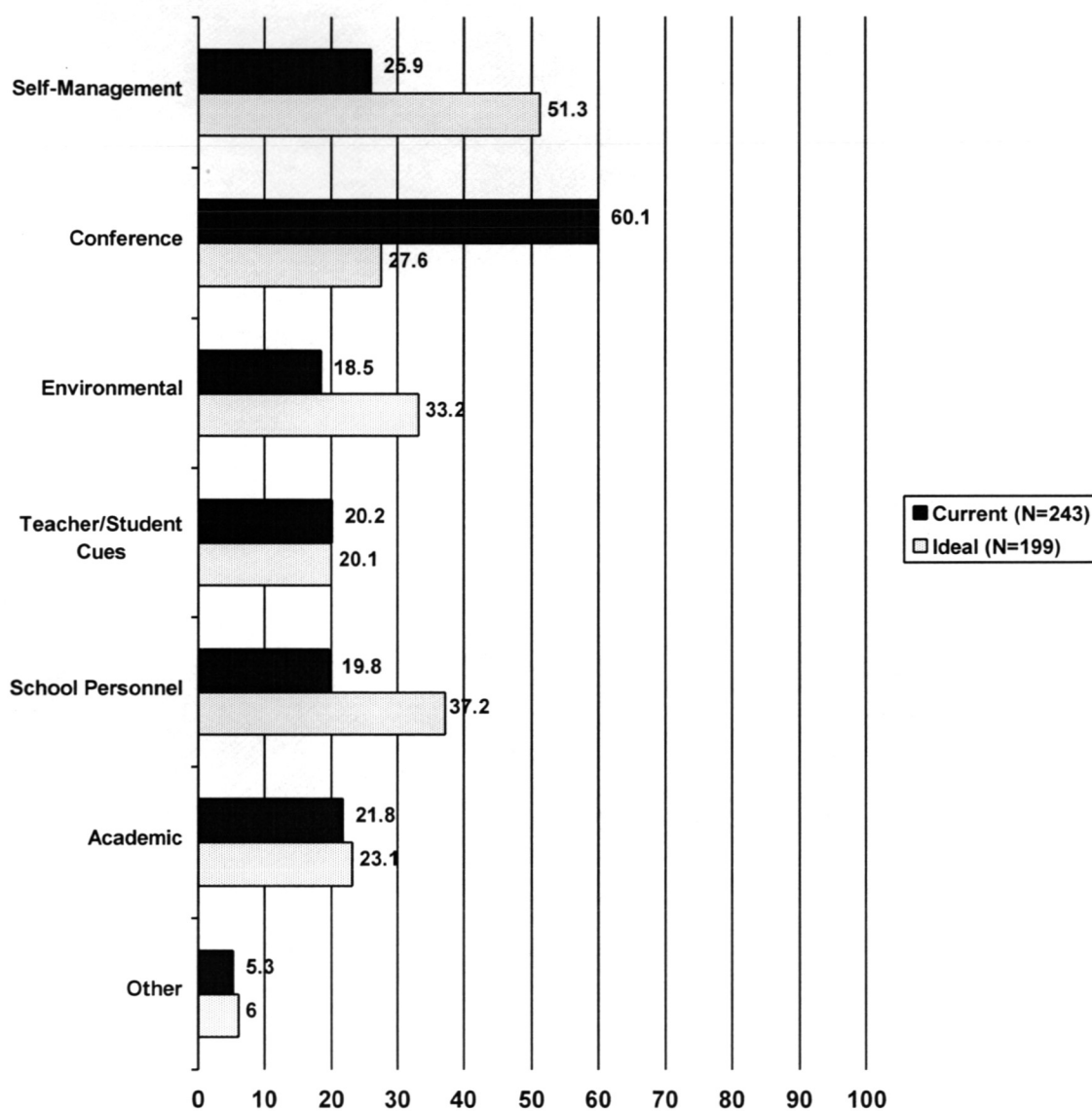


Figure 6

Percentage of Current Interventions by Position, Criterion #2: A Student who Often Does Not Follow Through on Instructions and Fails to Finish Schoolwork

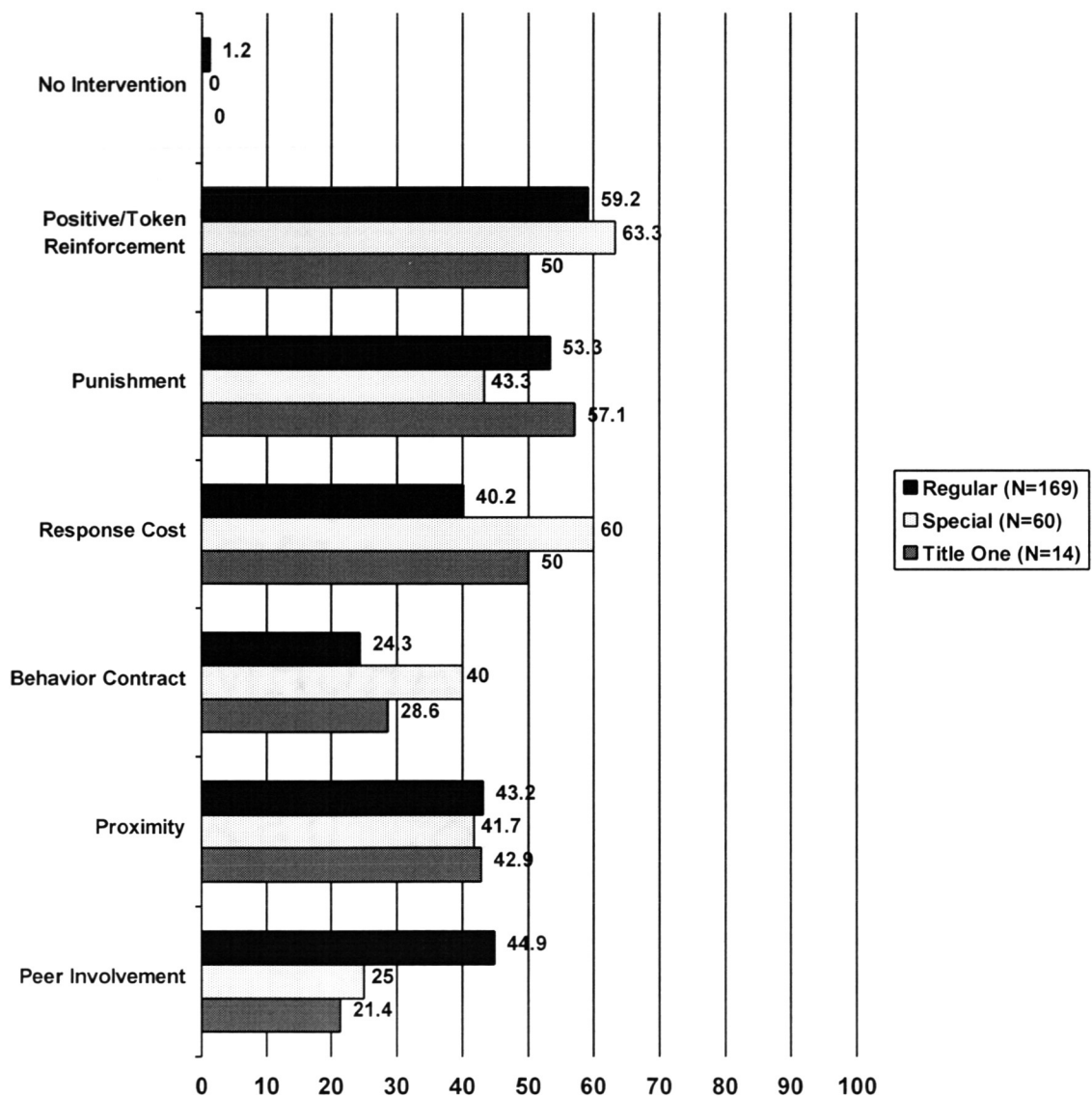


Figure 6 (Continued)

Percentage of Current Interventions by Position, Criterion #2: A Student who Often Does Not Follow Through on Instructions and Fails to Finish Schoolwork

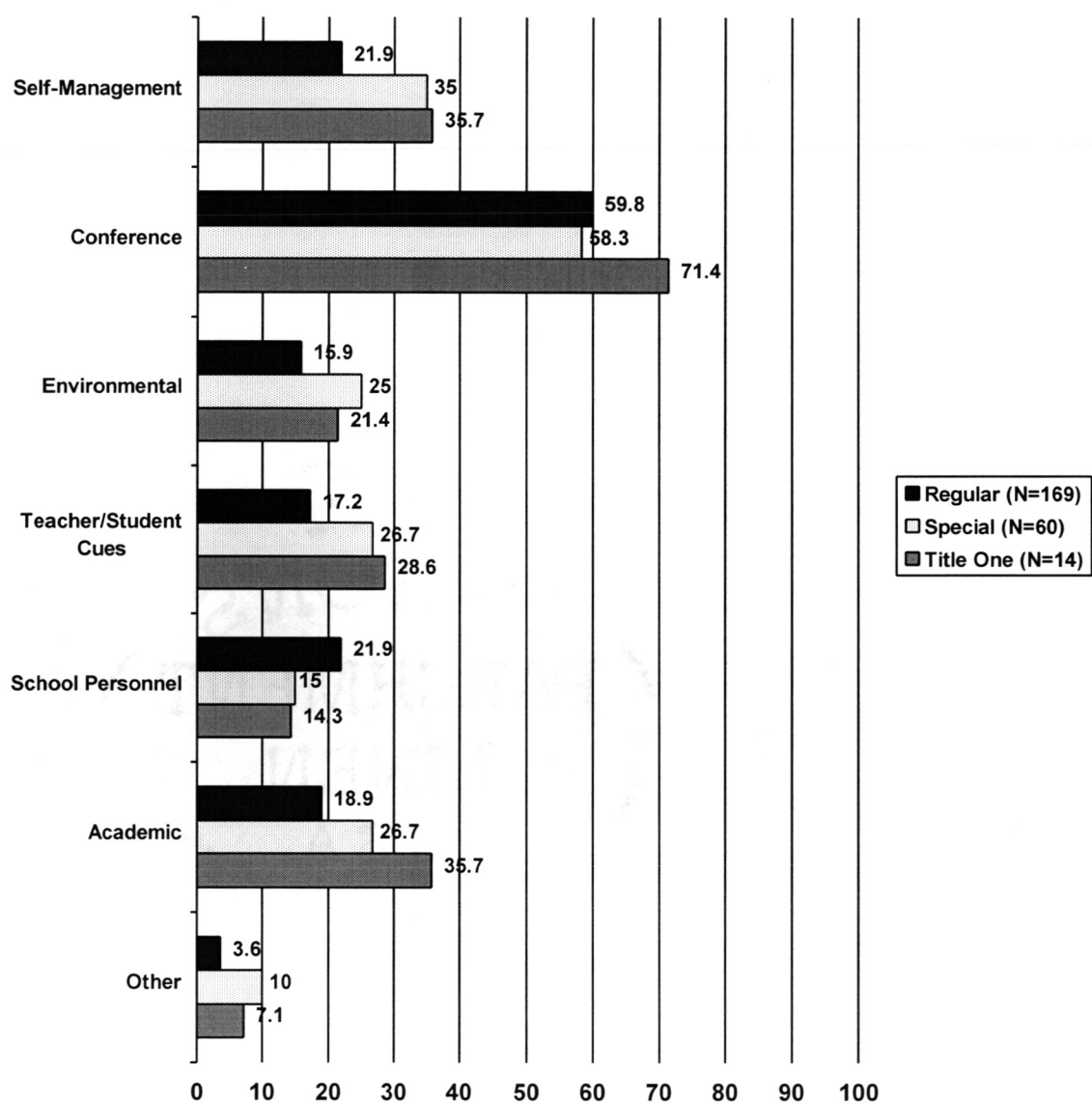


Figure 7

Percentage of Ideal Interventions by Position, Criterion #2: A Student who Often Does Not Follow Through on Instructions and Fails to Finish Schoolwork

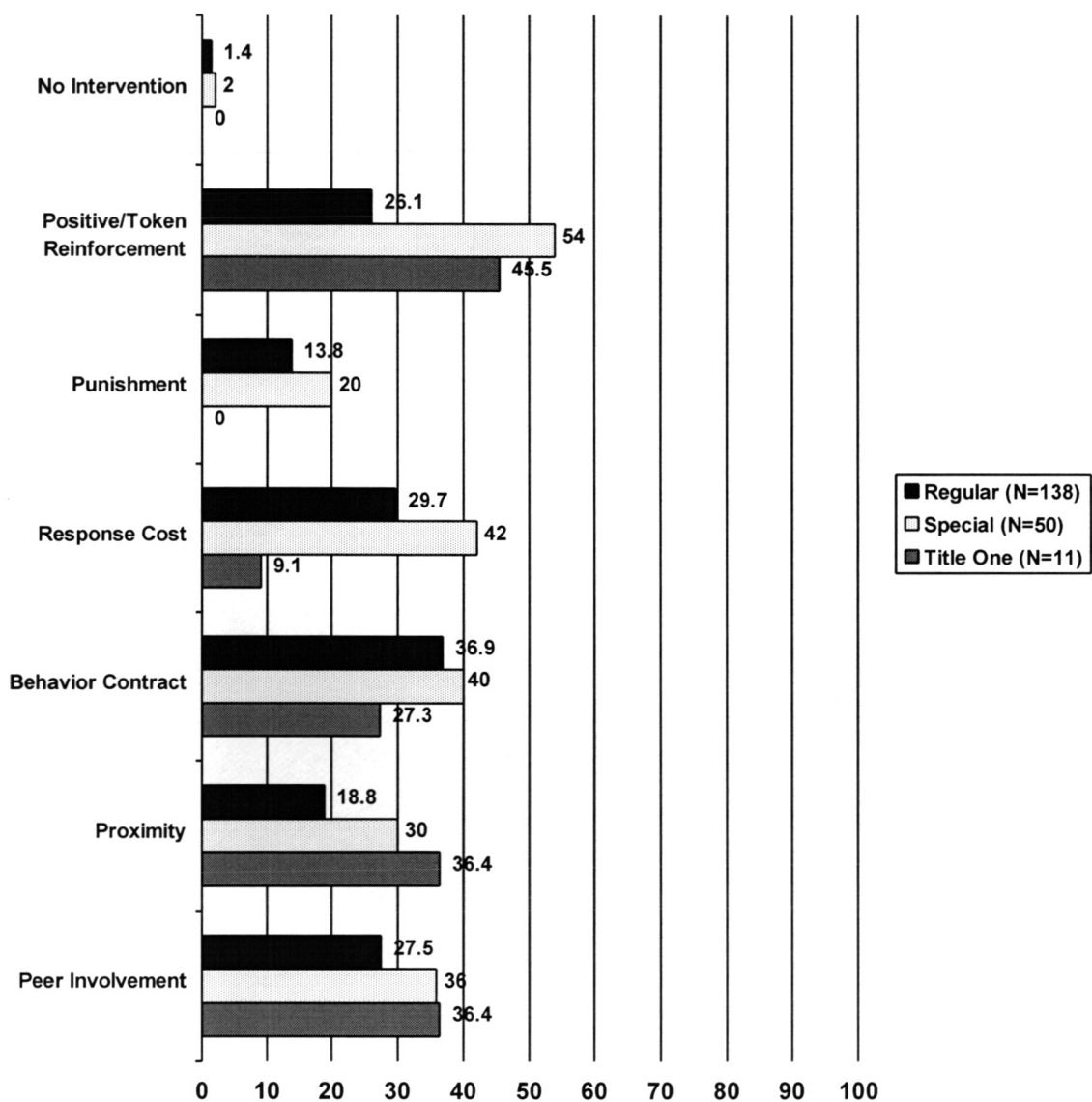
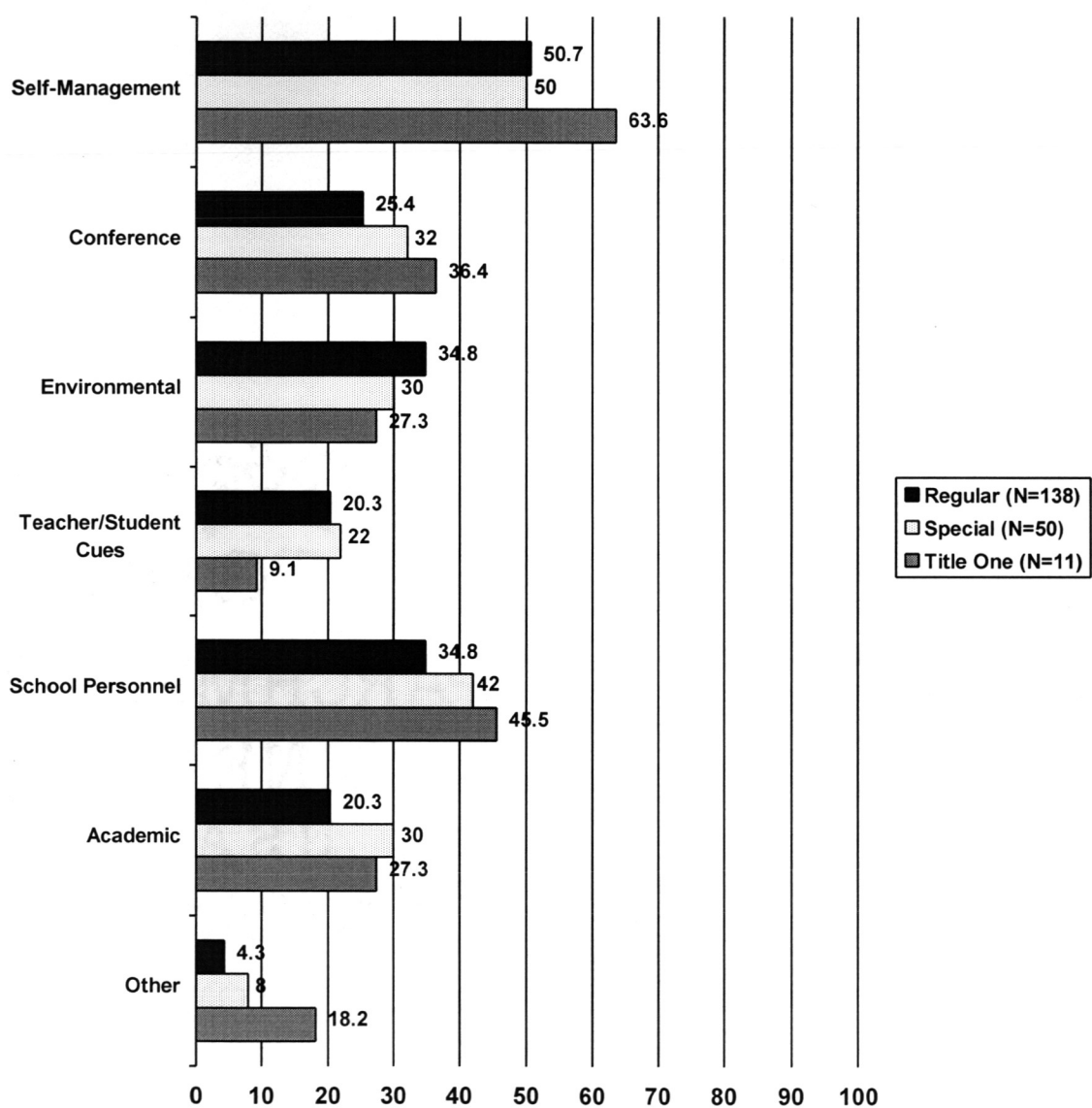


Figure 7 (Continued)

Percentage of Ideal Interventions by Position, Criterion #2: A Student who Often Does Not Follow Through on Instructions and Fails to Finish Schoolwork



For students who do not follow through on instructions and fail to finish schoolwork, frequently utilized interventions include conferences, positive/token reinforcement, and punishment. In an ideal setting, conferences, positive/token reinforcement, and punishment would be practiced less, while self-management, behavior contracts, and use of school personnel would be more frequently used. A chi-square test of independence indicated that the relationship between position and the response cost intervention (currently used/used in the past) was statistically significant, $X^2(2, N=243) = 7.08, p < .05$. The strength of the relationship was .17, as indexed by Cramér's V statistic. This weak association suggests that special education teachers use response cost interventions more often than regular education and Title One teachers. The relationship between position and the peer involvement intervention (currently used/used in the past) was also statistically significant, $X^2(2, N=243) = 9.31, p < .01$. The strength of the relationship was .19, as indexed by Cramér's V statistic. This weak association suggests that regular education teachers use peer involvement interventions more often than special education and Title One teachers. The relationship between position and the positive/token reinforcement intervention (used in ideal setting) was also statistically significant, $X^2(2, N=199) = 13.37, p < .01$. The strength of the relationship was .26, as indexed by Cramér's V statistic. This weak association suggests that special education teachers would use positive/token reinforcement interventions in an ideal setting more often than regular education or Title One teachers.

Figures 8, 9, and 10 present the results of “Do Use or Have Used” and “Would Ideally Use” interventions chosen for the criterion “A student who often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort.” A sample size of 241 subjects (96.4% of the total sample) responded to the “Do Use or Have Used” interventions while 193 subjects (77.2% of the total sample) responded to the “Would Ideally Use” interventions. Figure 8 provides percentage distributions for both intervention categories across the total sample, while Figures 9 and 10 provide percentage summaries for both intervention categories across regular education, special education, and Title One teachers.

For students who avoid, dislike, or are reluctant to engage in tasks that require sustained mental effort, frequently utilized interventions include positive/token reinforcement, proximity, and peer involvement. In an ideal setting, proximity and peer involvement would be practiced less, while self-management, positive/token reinforcement, and use of school personnel would be more frequently used. A chi-square test of independence indicated that the relationship between position and the peer involvement intervention (currently used/used in the past) was statistically significant, $X^2(2, N=241) = 11.10, p < .01$. The strength of the relationship was .21, as indexed by Cramér’s V statistic. This weak association suggests that regular education teachers use peer involvement interventions more often than special education and Title One teachers. The relationship between position and the teacher/student cues intervention (currently used/used in the past) was also statistically significant, $X^2(2, N=241) = 9.77, p < .01$. The strength of the relationship was .20, as indexed by Cramér’s V statistic. This weak association suggests

Figure 8

Percentage of Current / Ideal Interventions for Total Sample, Criterion #3: A Student who Often Avoids, Dislikes, or is Reluctant to Engage in Tasks that Require Sustained Mental Effort

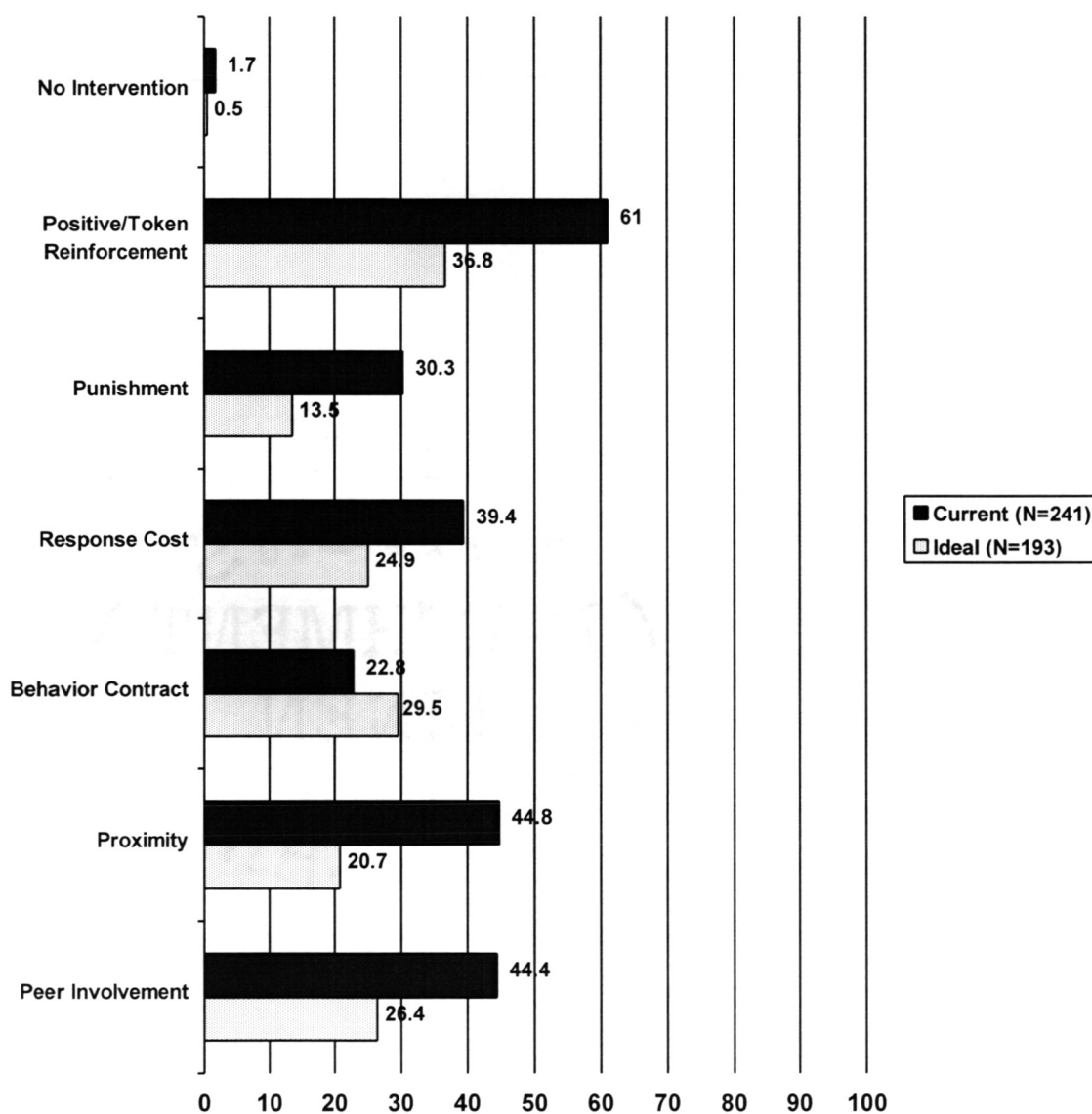


Figure 8 (Continued)

Percentage of Current / Ideal Interventions for Total Sample, Criterion #3: A Student who Often Avoids, Dislikes, or is Reluctant to Engage in Tasks that Require Sustained Mental Effort

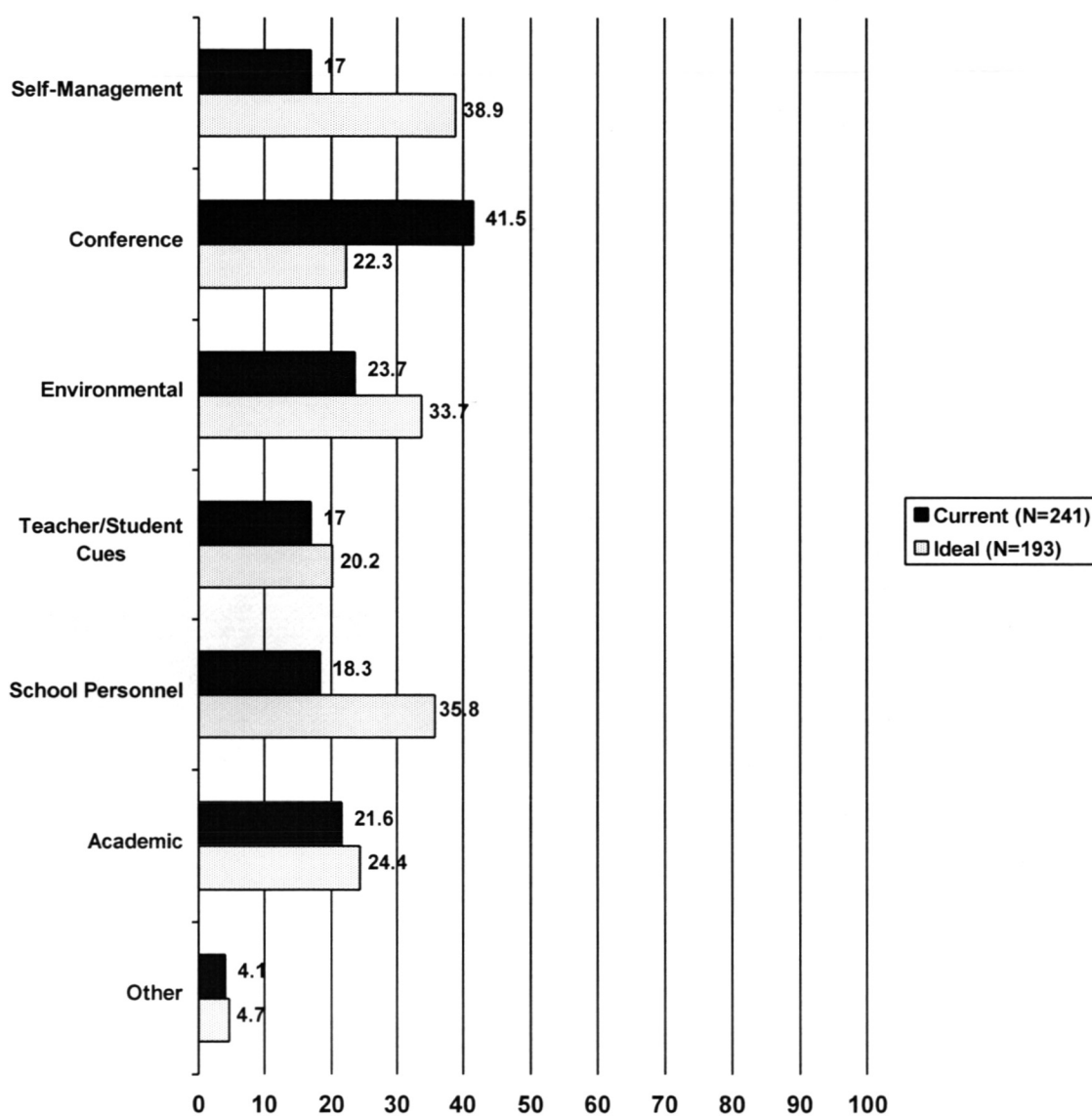


Figure 9

Percentage of Current Interventions by Position, Criterion #3: A Student who Often

Avoids, Dislikes, or is Reluctant to Engage in Tasks that Require Sustained Mental Effort

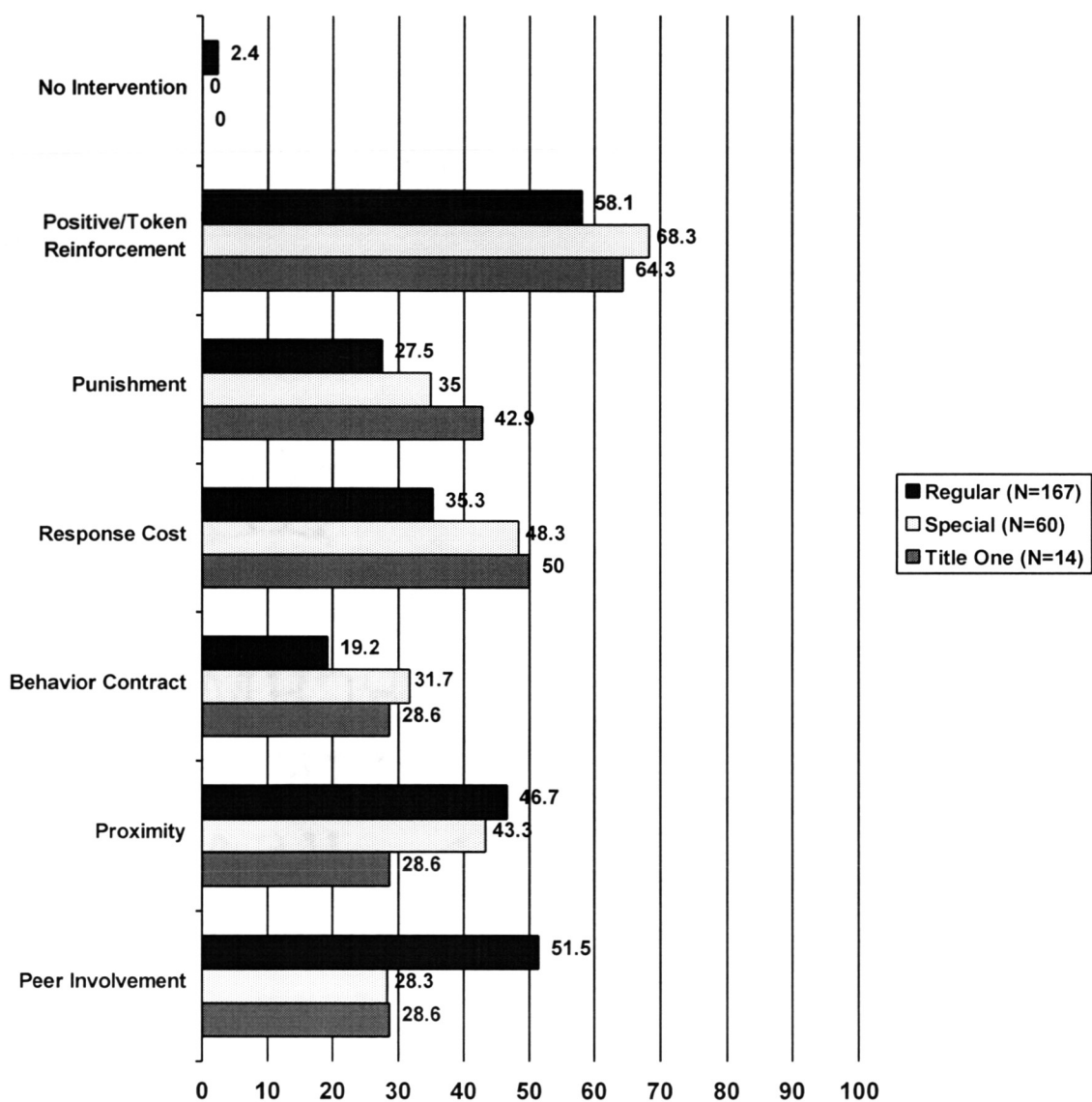


Figure 9 (Continued)

Percentage of Current Interventions by Position, Criterion #3: A Student who Often

Avoids, Dislikes, or is Reluctant to Engage in Tasks that Require Sustained Mental Effort

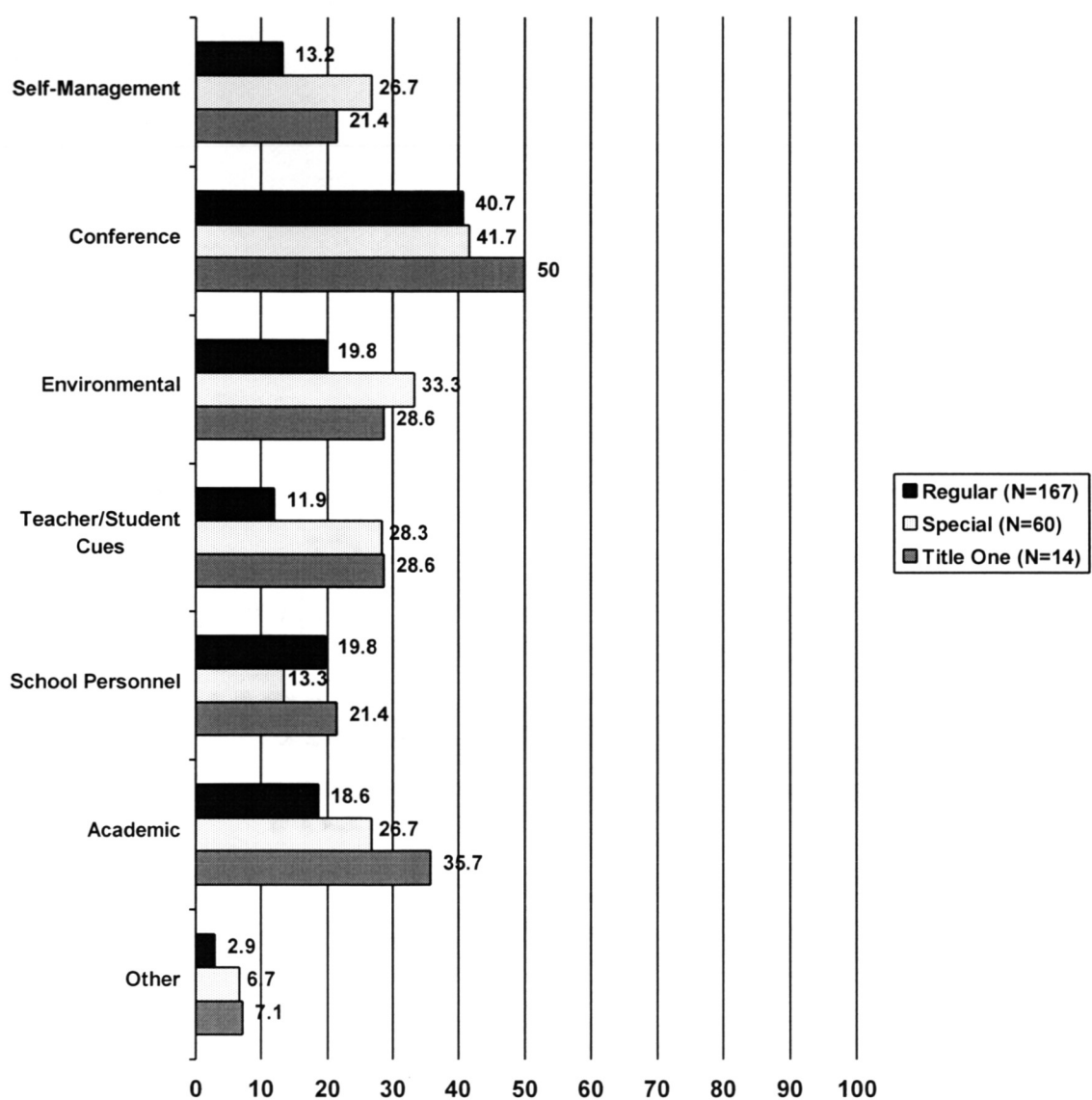


Figure 10

Percentage of Ideal Interventions by Position, Criterion #3: A Student who Often Avoids, Dislikes, or is Reluctant to Engage in Tasks that Require Sustained Mental Effort

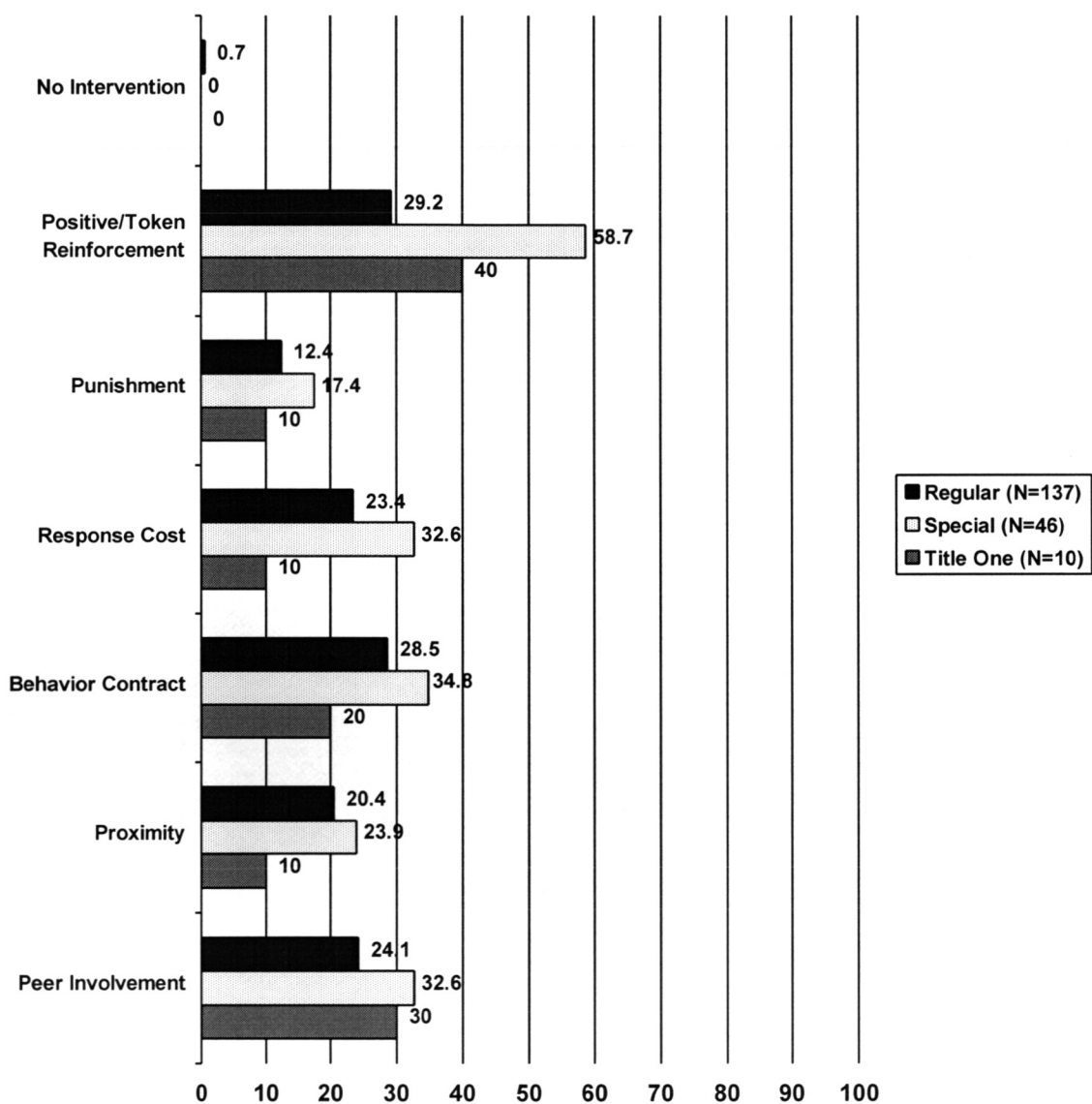
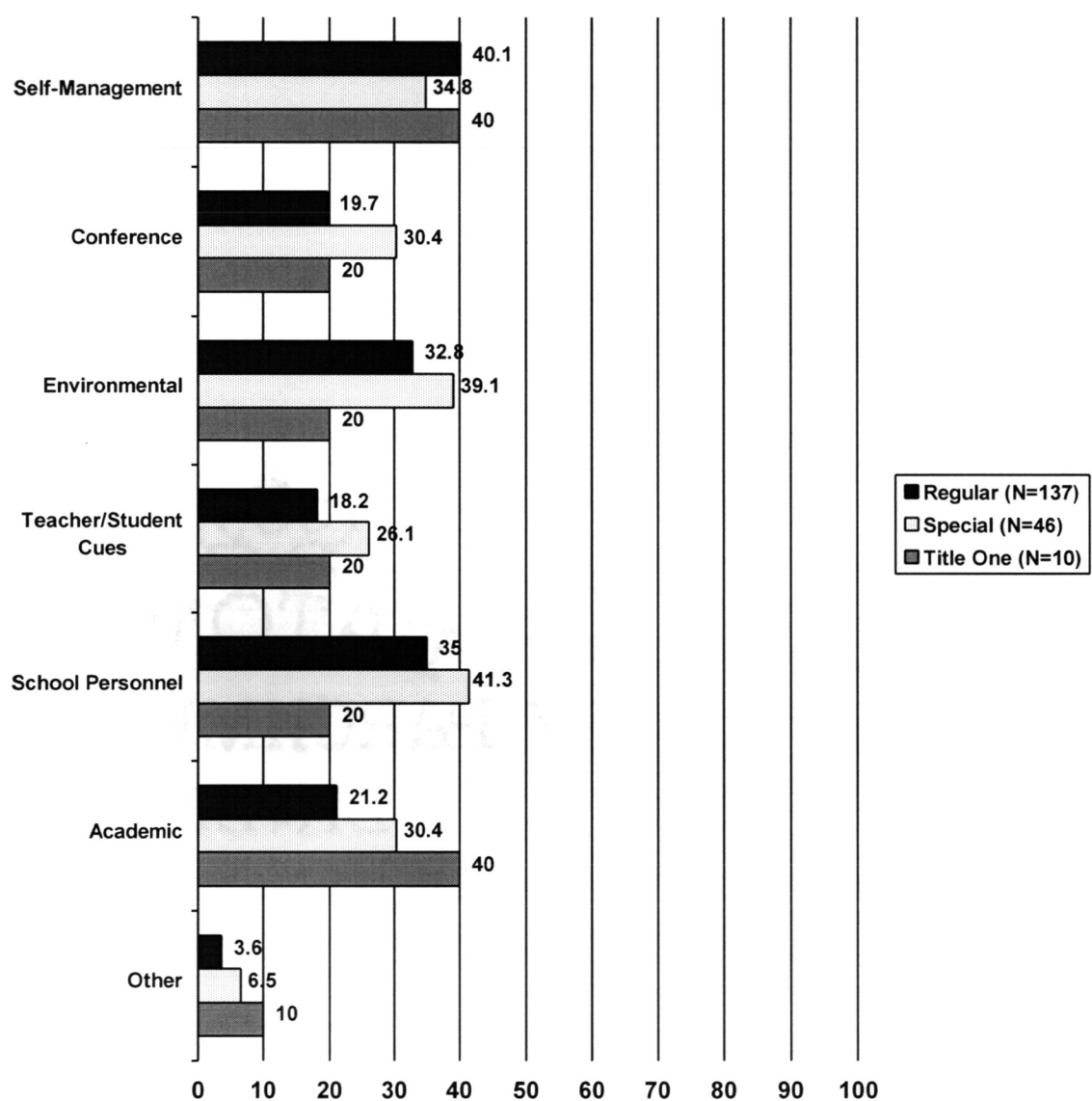


Figure 10 (Continued)

Percentage of Ideal Interventions by Position, Criterion #3: A Student who Often Avoids, Dislikes, or is Reluctant to Engage in Tasks that Require Sustained Mental Effort



that regular education teachers use teacher/student cues less often than special education and Title One teachers. The relationship between position and the positive/token reinforcement intervention (used in ideal setting) was also statistically significant, $X^2(2, N=199) = 13.37, p < .01$. The strength of the relationship was .26, as indexed by Cramér's V statistic. This relatively weak association suggests that special education teachers would use positive/token reinforcement interventions in an ideal setting more often than regular education and Title One teachers.

Figures 11, 12, and 13 present the results of "Do Use or Have Used" and "Would Ideally Use" interventions chosen for the criterion "A student who is often easily distracted by extraneous stimuli, such as the air conditioner, hall noise, or activity outside the classroom windows." A sample size of 239 subjects (95.6% of the total sample) responded to the "Do Use or Have Used" interventions while 190 subjects (76.0% of the total sample) responded to the "Would Ideally Use" interventions. Figure 11 provides percentage distributions for both intervention categories across the total sample, while Figures 12 and 13 provide percentage summaries for both intervention categories across regular education, special education, and Title One teachers.

For students who are easily distracted by extraneous stimuli, frequently utilized interventions include proximity and environmental changes. In an ideal setting, proximity would be practiced less than environmental changes, while self-management interventions would be used more frequently. A chi-square test of independence indicated no statistically significant relationships between teacher position and individual interventions for this criterion.

Figure 11

Percentage of Current / Ideal Interventions for Total Sample, Criterion #4: A Student who is Often Easily Distracted by Extraneous Stimuli

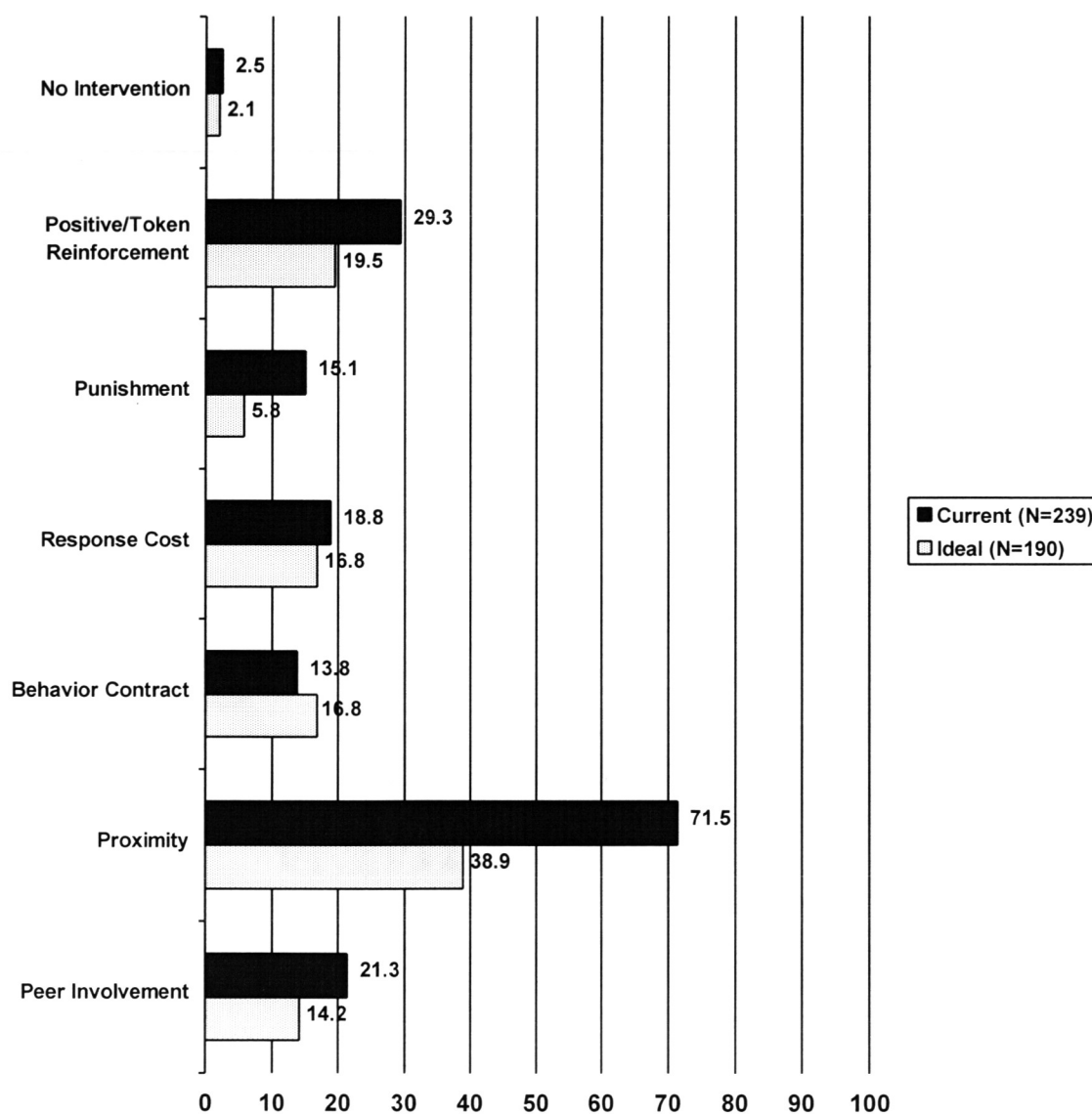


Figure 11 (Continued)

Percentage of Current / Ideal Interventions for Total Sample, Criterion #4: A Student who is Often Easily Distracted by Extraneous Stimuli

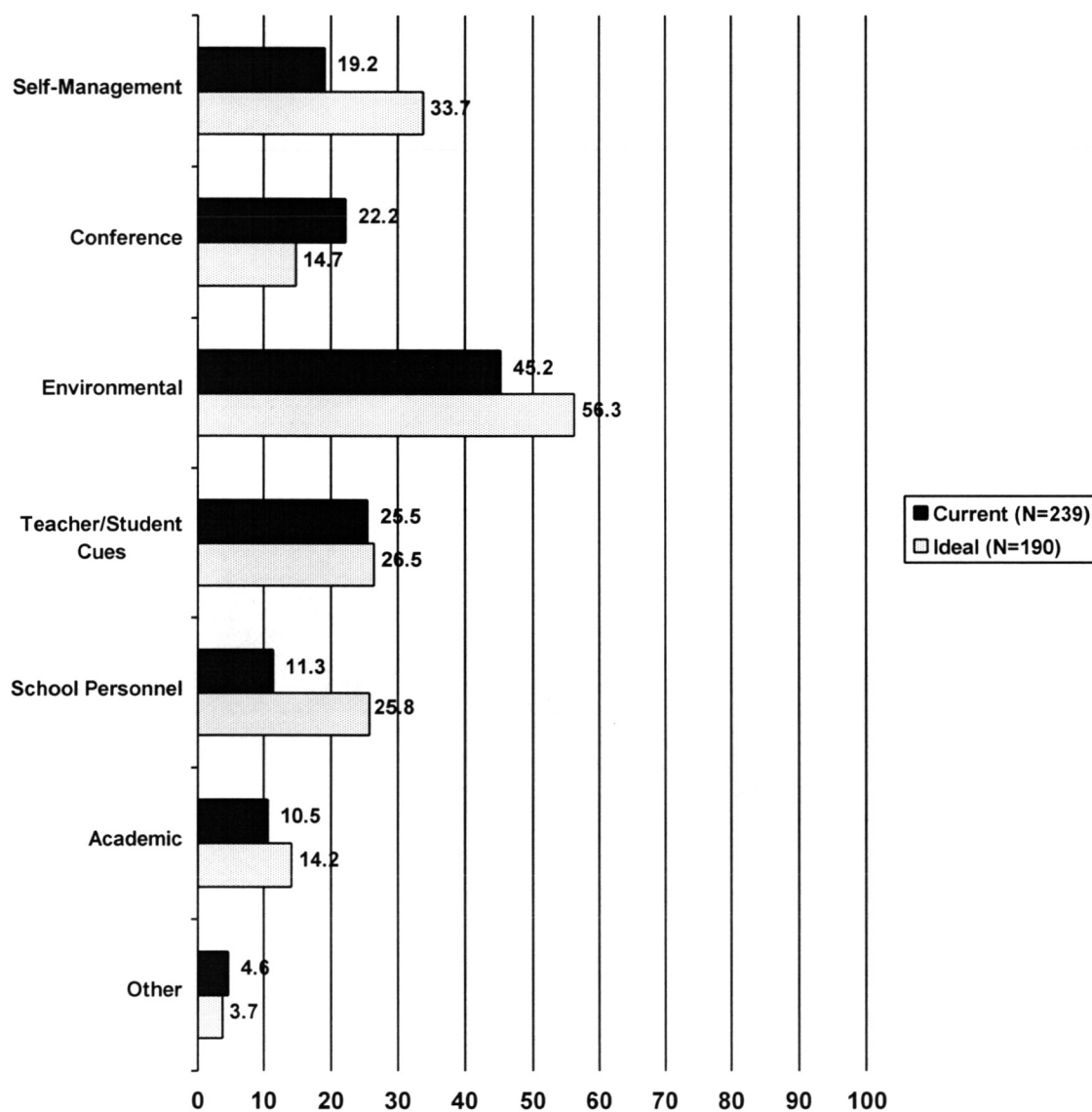


Figure 12

Percentage of Current Interventions by Position, Criterion #4: A Student who is Often Easily Distracted by Extraneous Stimuli

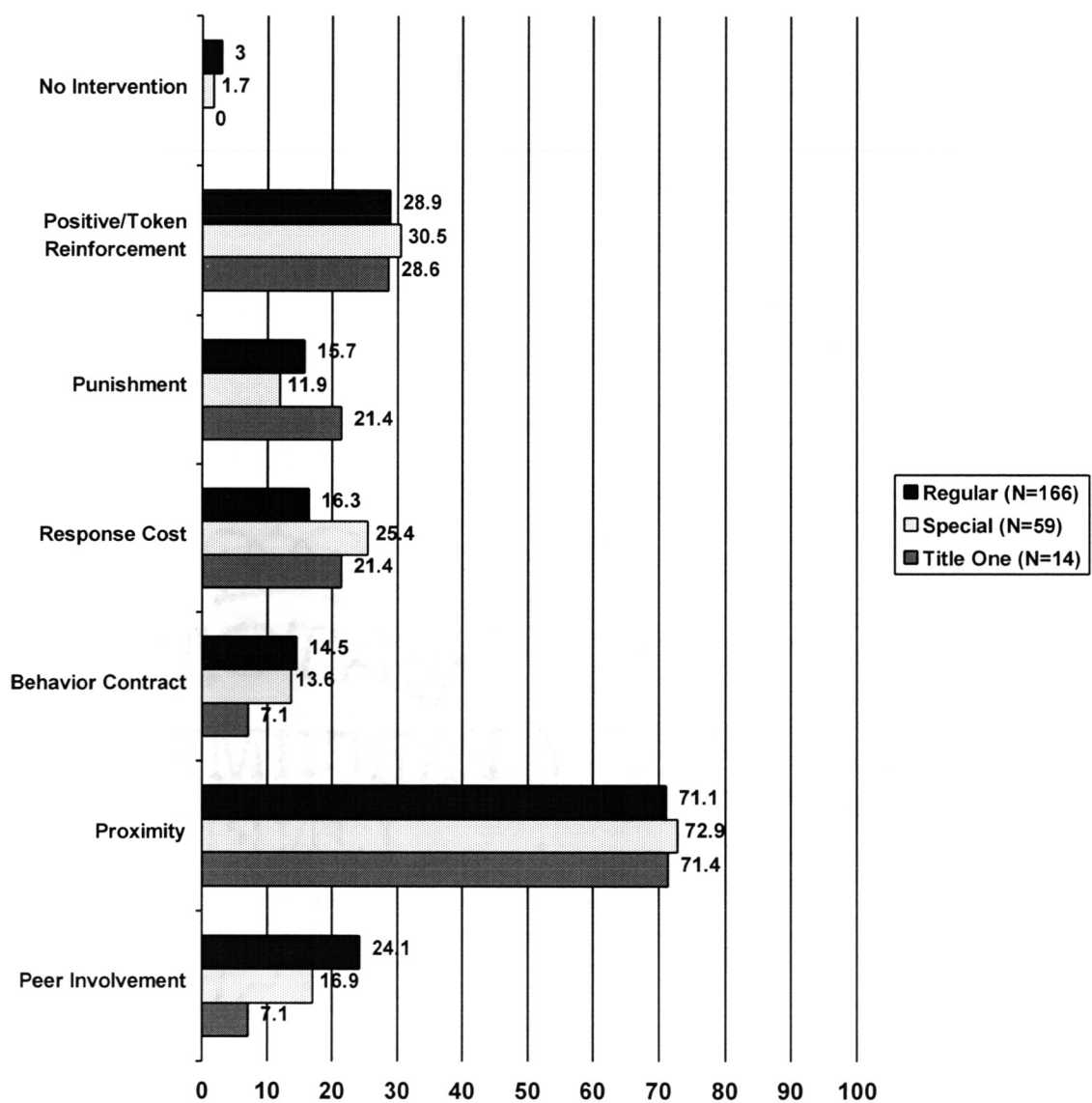


Figure 12 (Continued)

Percentage of Current Interventions by Position, Criterion #4: A Student who is Often Easily Distracted by Extraneous Stimuli

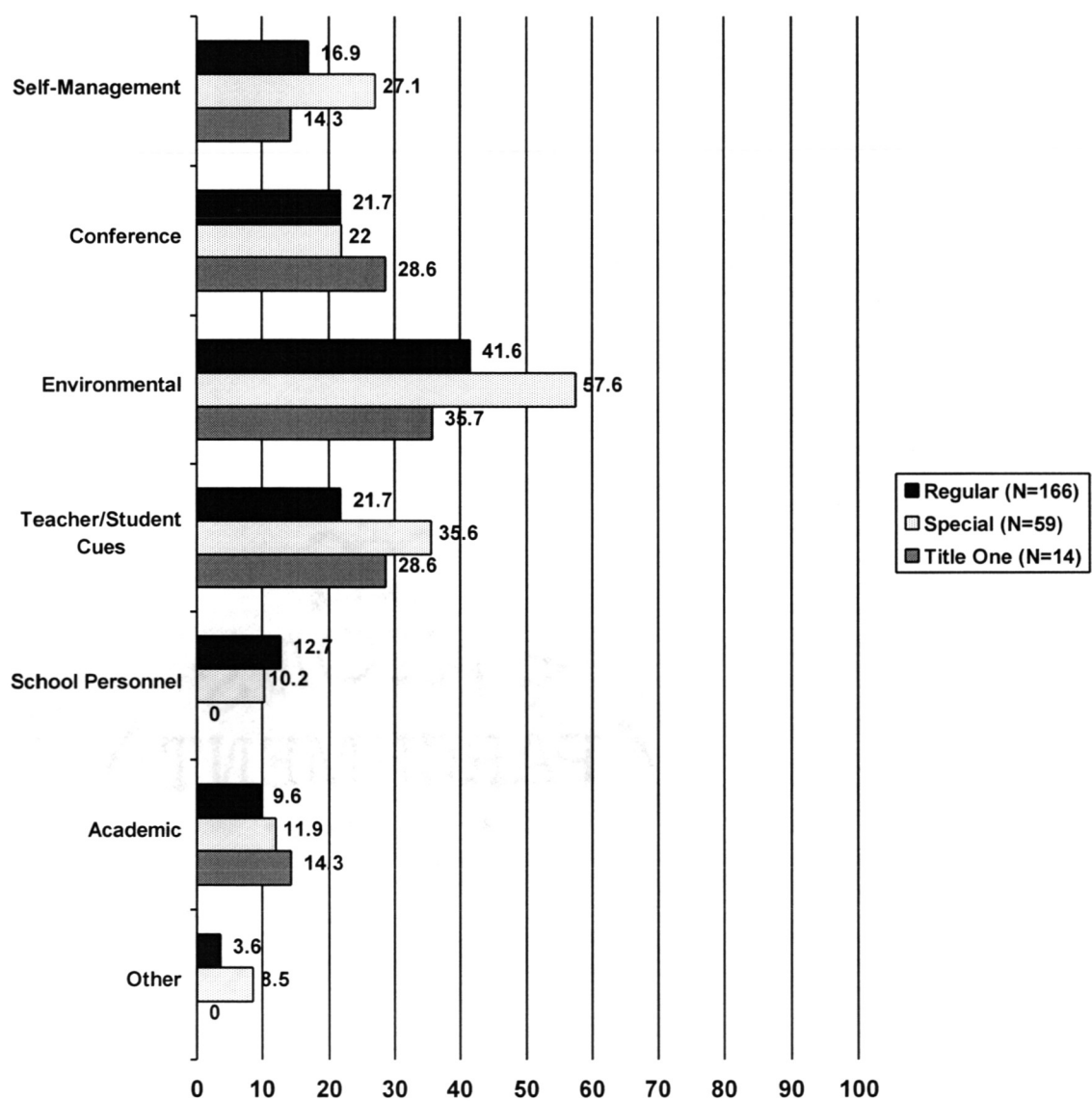


Figure 13

Percentage of Ideal Interventions by Position, Criterion #4: A Student who is Often Easily Distracted by Extraneous Stimuli

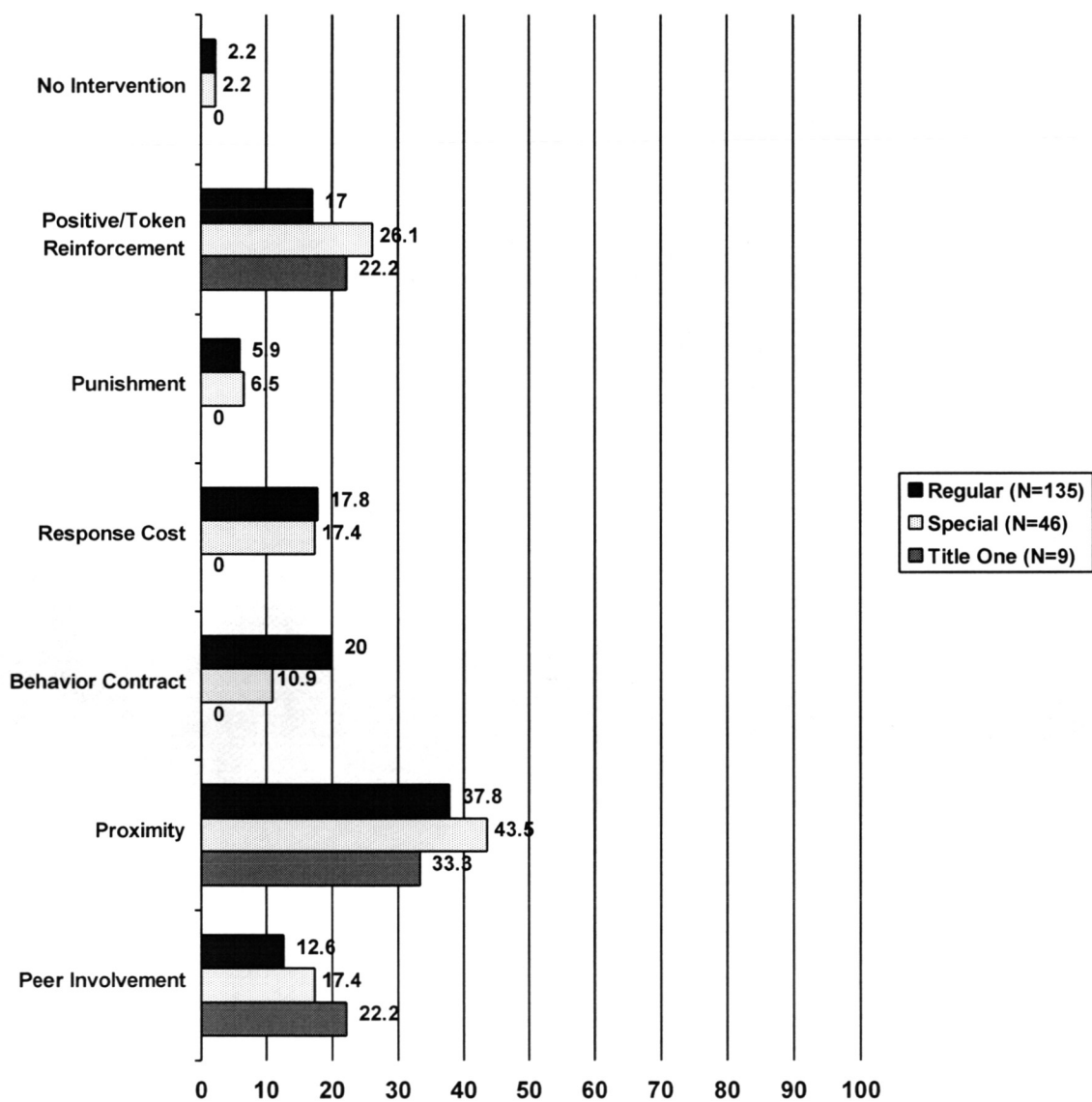
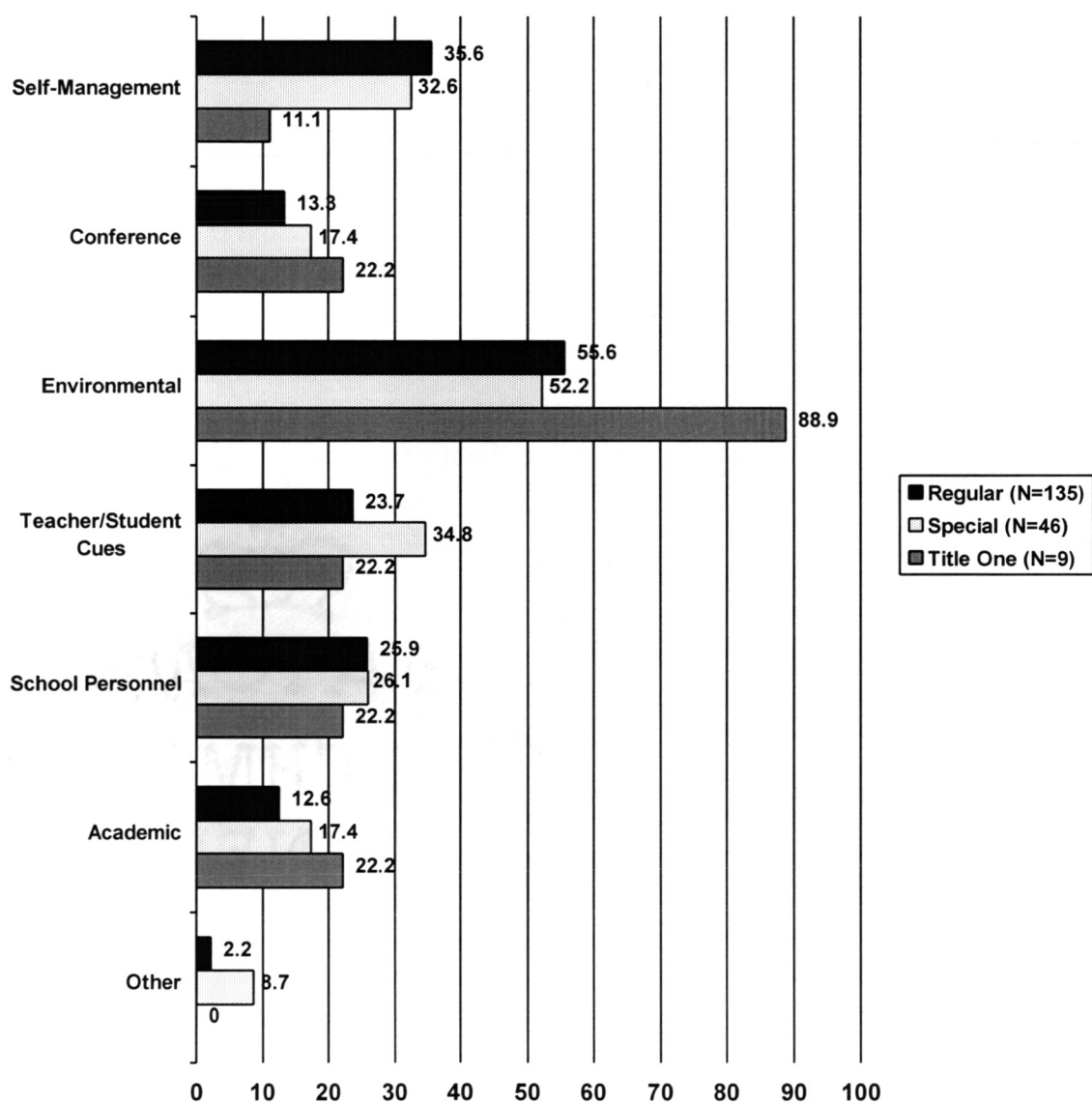


Figure 13 (Continued)

Percentage of Ideal Interventions by Position, Criterion #4: A Student who is Often Easily Distracted by Extraneous Stimuli



Figures 14, 15, and 16 present the results of “Do Use or Have Used” and “Would Ideally Use” interventions chosen for the criterion “A student who often leaves seat in classroom or in other situations in which remaining seated is expected.” A sample size of 241 subjects (96.4% of the total sample) responded to the “Do Use or Have Used” interventions while 196 subjects (78.4% of the total sample) responded to the “Would Ideally Use” interventions. Figure 14 provides percentage distributions for both intervention categories across the total sample, while Figures 15 and 16 provide percentage summaries for both intervention categories across regular education, special education, and Title One teachers.

For students who leave their seat in the classroom or in situations where remaining seated is expected, frequently utilized interventions include punishment, positive/token reinforcement, proximity, and response cost. In an ideal setting, punishment, positive/token reinforcement, proximity, and response cost would be practiced less, while self-management, teacher/student cues, and behavior contracts would be more frequently used. A chi-square test of independence indicated that the relationship between position and the response cost intervention (currently used/used in the past) was statistically significant, $X^2(2, N=241) = 6.09, p < .05$. The strength of the relationship was .16, as indexed by Cramér’s V statistic. This weak association suggests that regular education teachers use response cost interventions less often than special education and Title One teachers. The relationship between position and the teacher/student cues intervention (currently used/used in the past) was also statistically significant, $X^2(2, N=241) = 6.17, p < .05$. The strength of the relationship was .16, as indexed by Cramér’s V statistic. This weak association

Figure 14

Percentage of Current / Ideal Interventions for Total Sample, Criterion #5: A Student who Often Leaves Seat in Classroom or in Other Situations in Which Remaining Seated is Expected

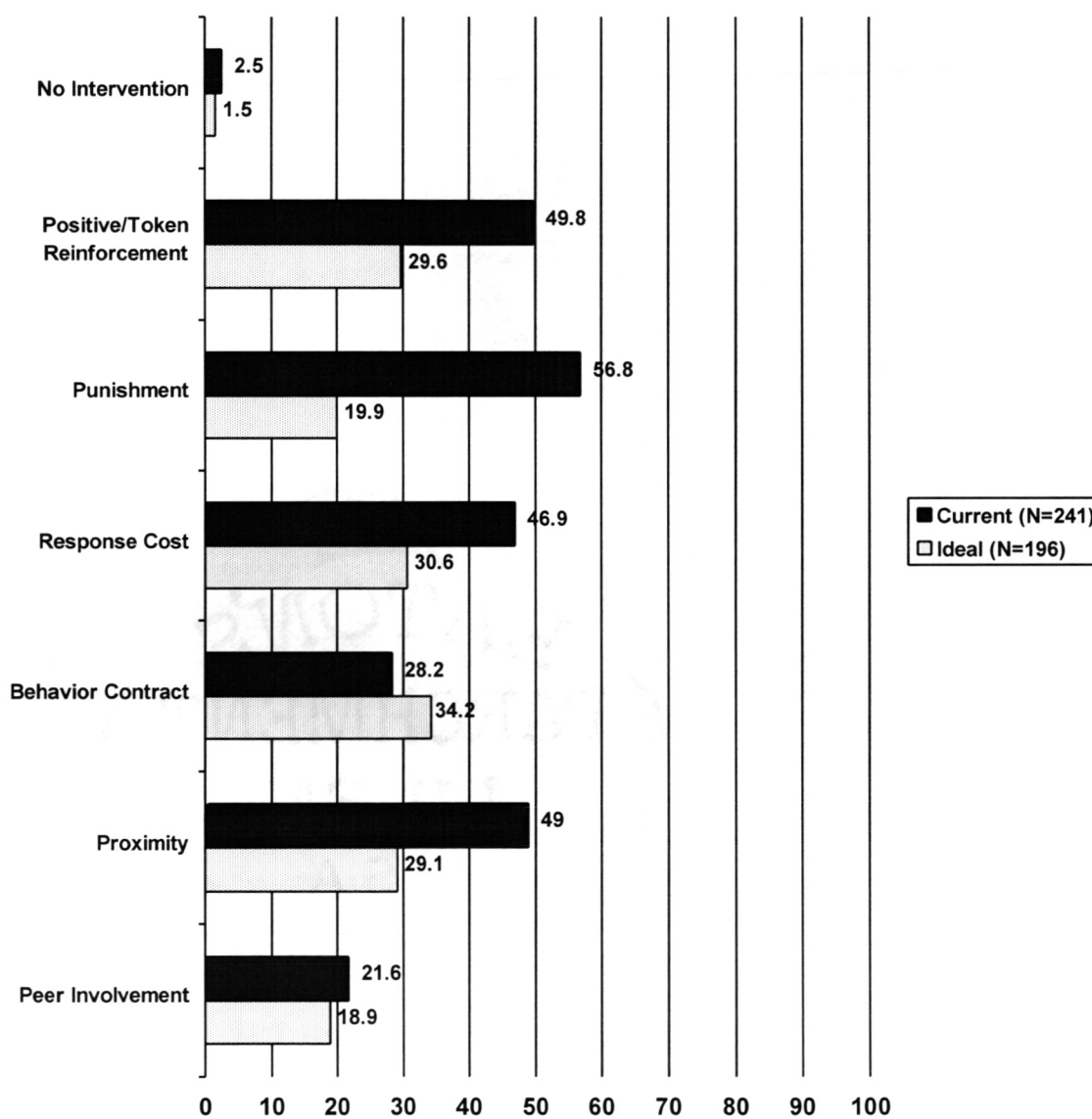


Figure 14 (Continued)

Percentage of Current / Ideal Interventions for Total Sample, Criterion #5: A Student who Often Leaves Seat in Classroom or in Other Situations in Which Remaining Seated is Expected

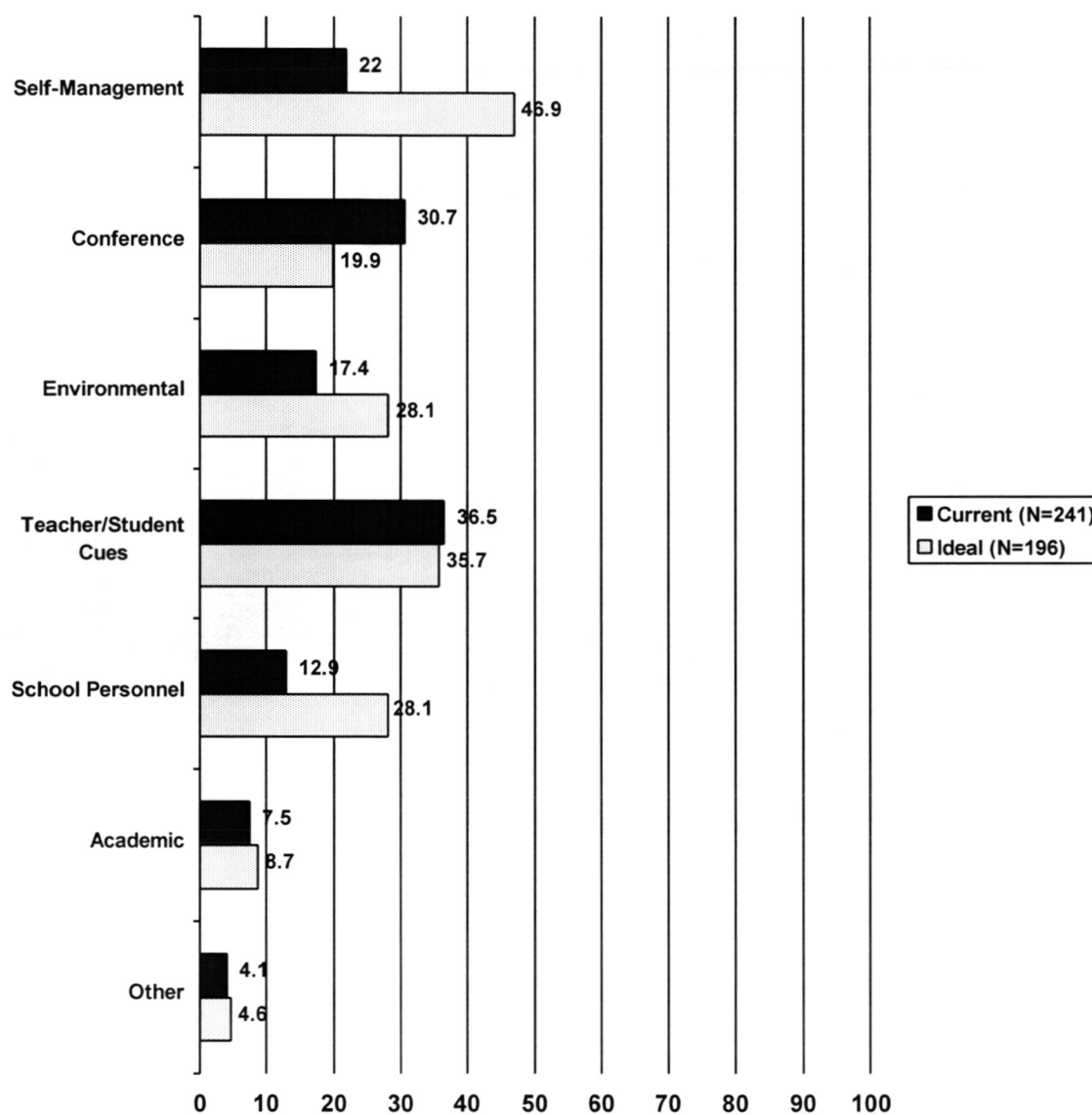


Figure 15

Percentage of Current Interventions by Position, Criterion #5: A Student who Often

Leaves Seat in Classroom or in Other Situations in Which Remaining Seated is Expected

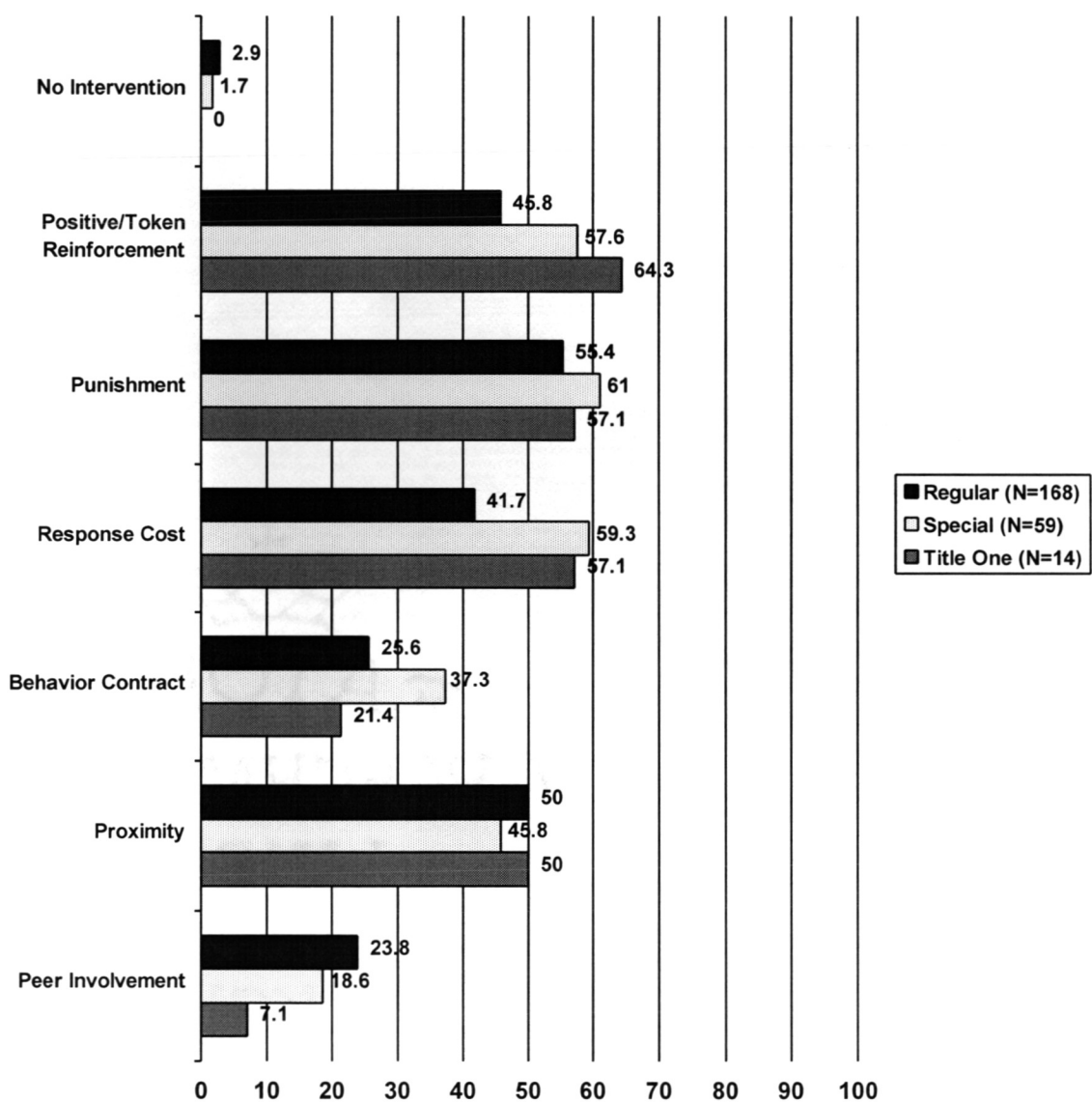


Figure 15 (Continued)

Percentage of Current Interventions by Position, Criterion #5: A Student who Often

Leaves Seat in Classroom or in Other Situations in Which Remaining Seated is Expected

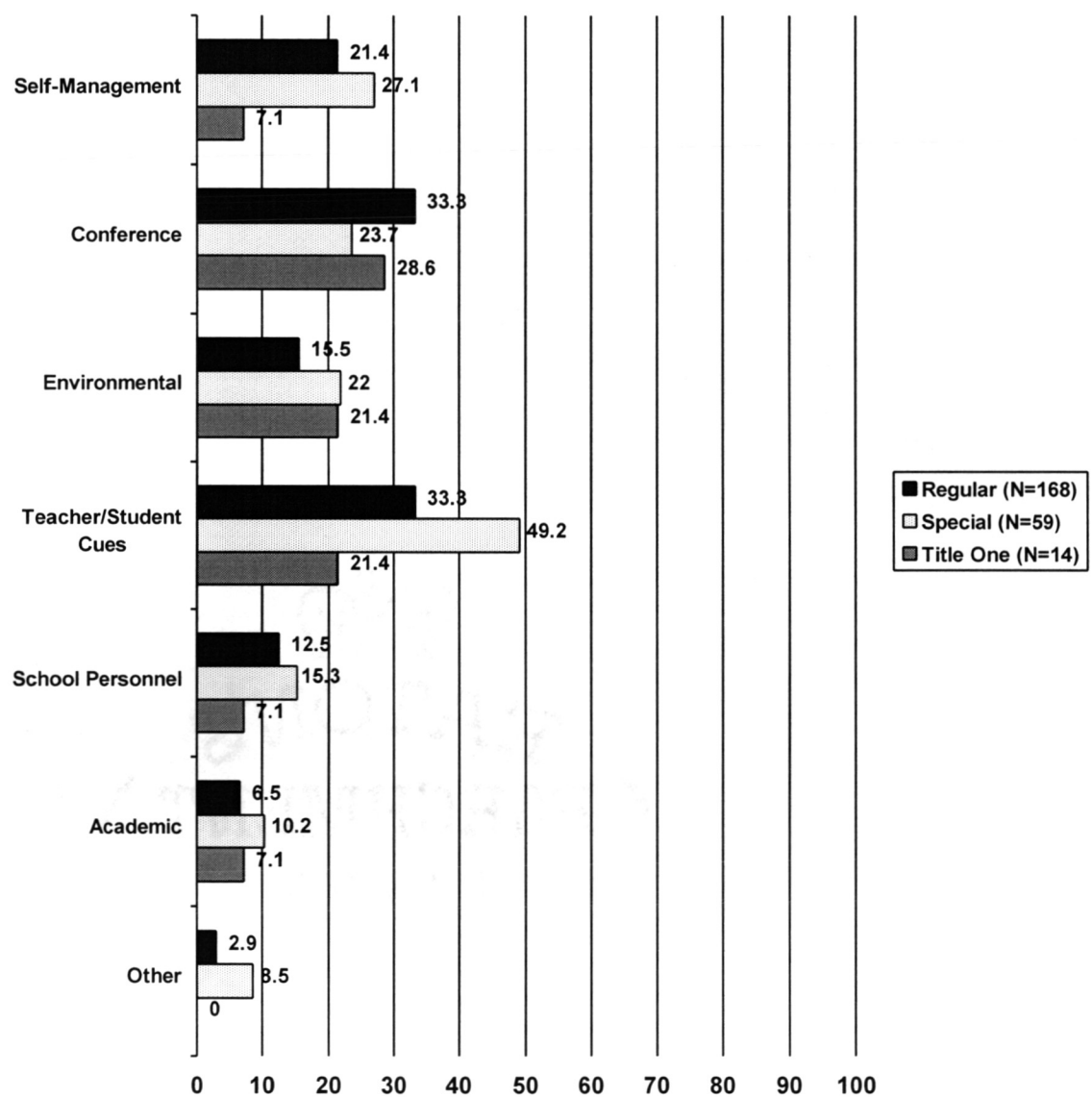


Figure 16

Percentage of Ideal Interventions by Position, Criterion #5: A Student who Often Leaves

Seat in Classroom or in Other Situations in Which Remaining Seated is Expected

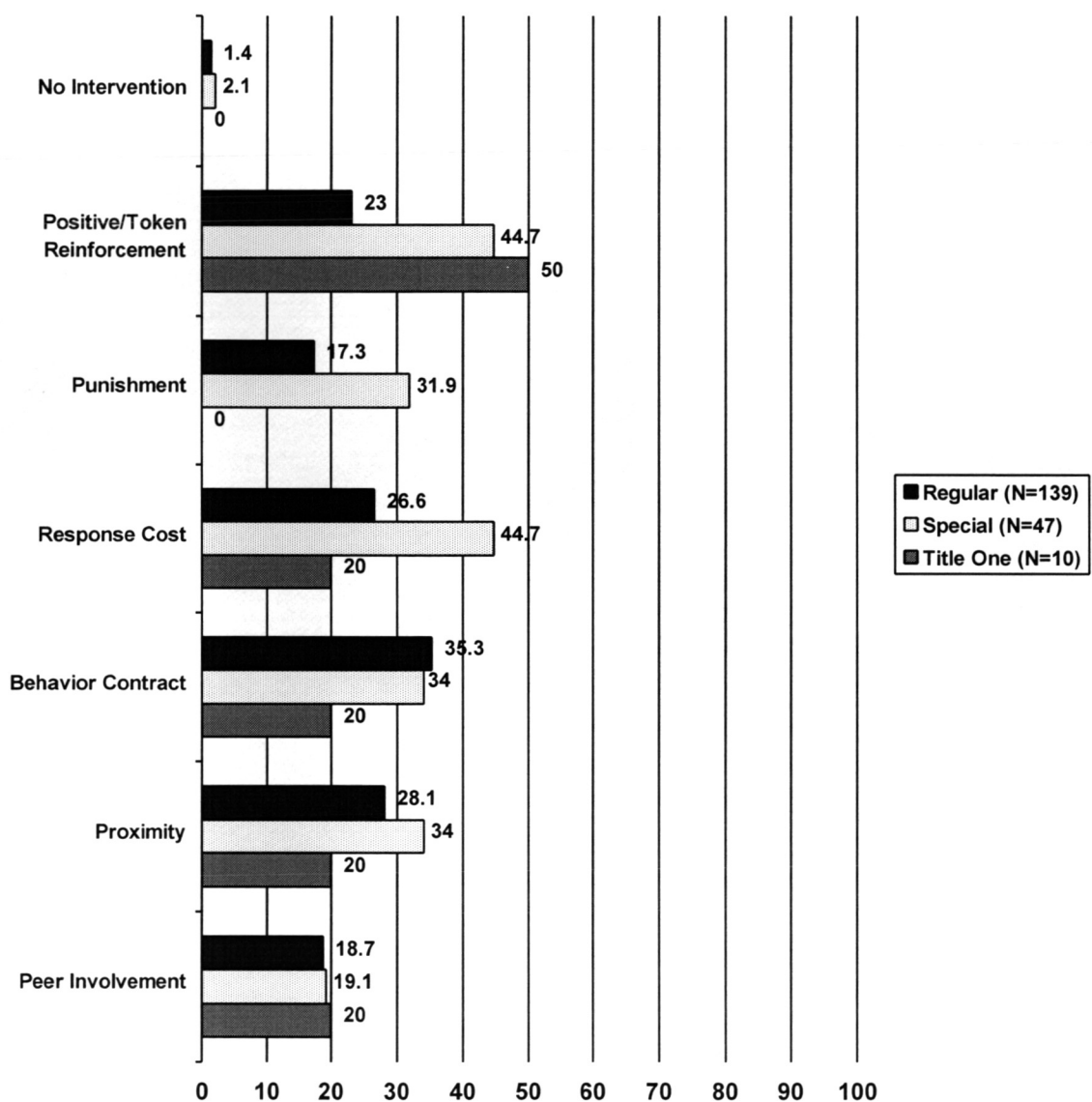
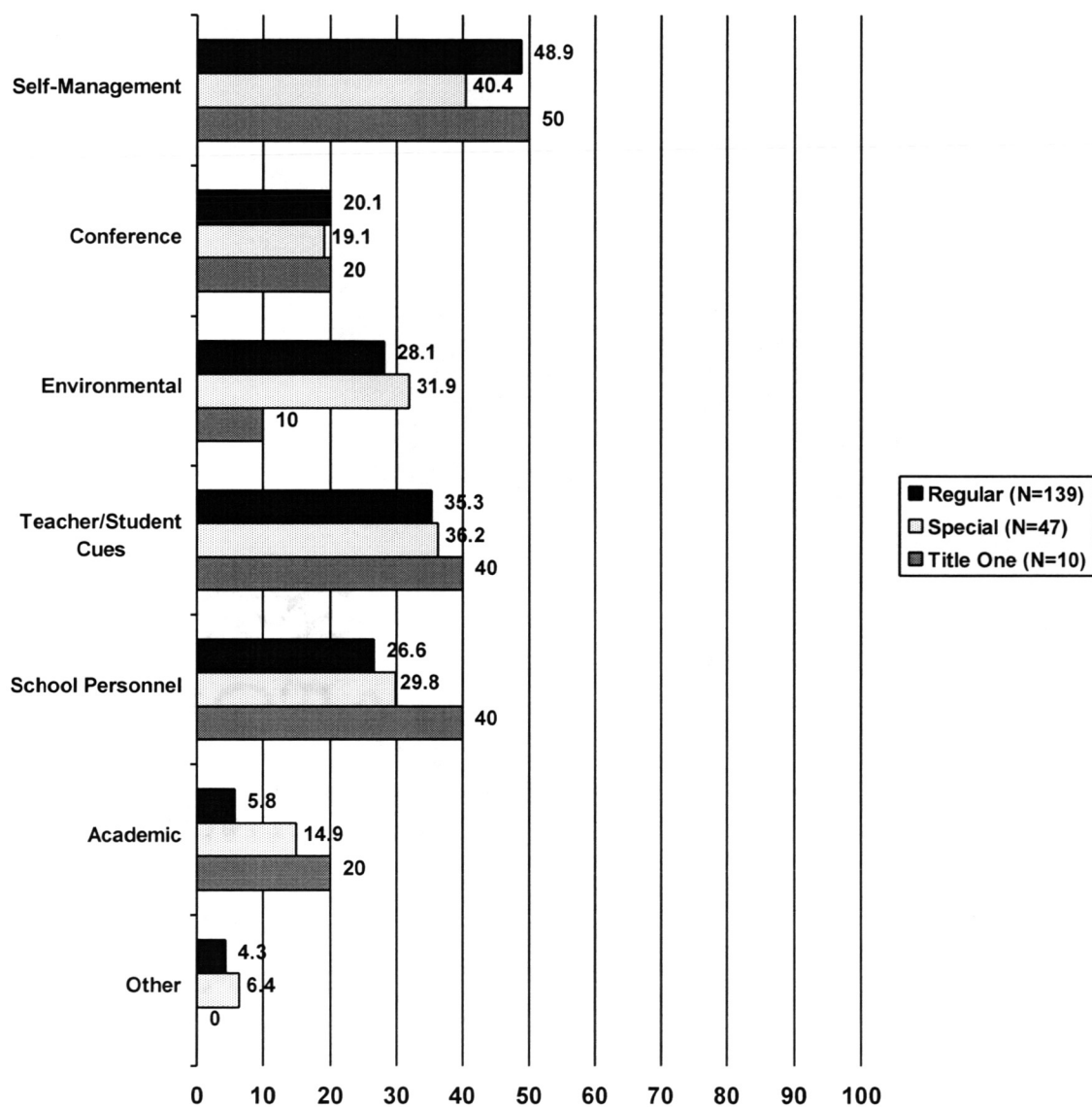


Figure 16 (Continued)

Percentage of Ideal Interventions by Position, Criterion #5: A Student who Often Leaves

Seat in Classroom or in Other Situations in Which Remaining Seated is Expected



suggests that special education teachers use teacher/student cues more often than regular education and Title One teachers. The relationship between position and the positive/token reinforcement intervention (used in ideal setting) was also statistically significant, $X^2(2, N=196) = 10.01, p < .01$. The strength of the relationship was .23, as indexed by Cramér's V statistic. This relatively weak association suggests that regular education teachers would use positive/token reinforcement interventions in an ideal setting less often than special education and Title One teachers. The relationship between position and the punishment intervention (used in ideal setting) was also statistically significant, $X^2(2, N=196) = 7.35, p < .05$. The strength of the relationship was .19, as indexed by Cramér's V statistic. This weak association suggests that special education teachers would use punishment in an ideal setting more often than regular education and Title One teachers.

Figures 17, 18, and 19 present the results of "Do Use or Have Used" and "Would Ideally Use" interventions chosen for the criterion "A student who often has difficulty playing or engaging in leisure activities quietly." A sample size of 241 subjects (96.4% of the total sample) responded to the "Do Use or Have Used" interventions while 193 subjects (77.2% of the total sample) responded to the "Would Ideally Use" interventions. Figure 17 provides percentage distributions for both intervention categories across the total sample, while Figures 18 and 19 provide percentage summaries for both intervention categories across regular education, special education, and Title One teachers.

For students who have difficulty playing or engaging in leisure activities quietly, frequently utilized interventions include positive/token reinforcement, punishment, response cost, and peer involvement. In an ideal setting, positive/ token reinforcement,

Figure 17

Percentage of Current / Ideal Interventions for Total Sample, Criterion #6: A Student who Often has Difficulty Playing or Engaging in Leisure Activities Quietly

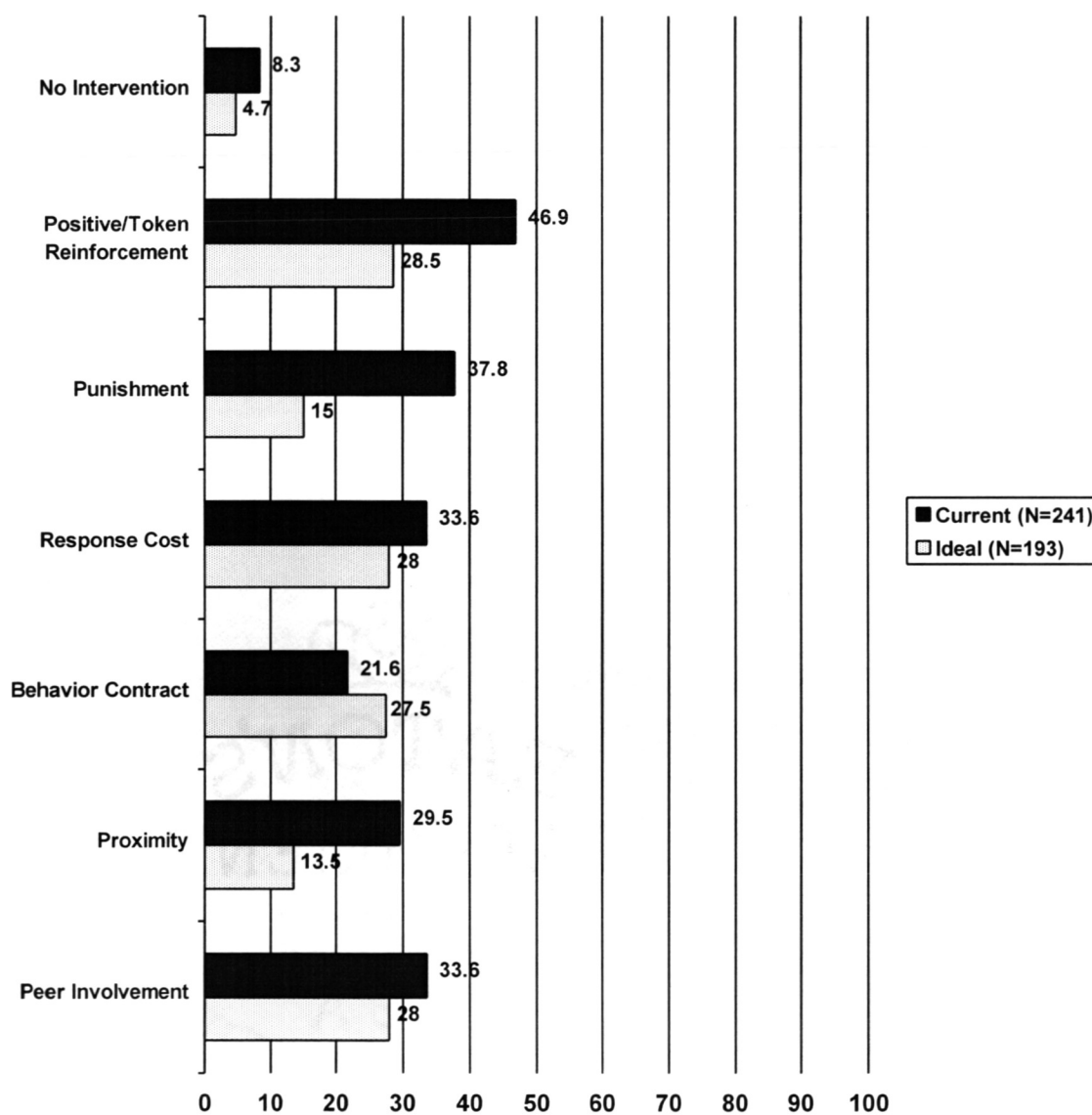


Figure 17 (Continued)

Percentage of Current / Ideal Interventions for Total Sample, Criterion #6: A Student who Often has Difficulty Playing or Engaging in Leisure Activities Quietly

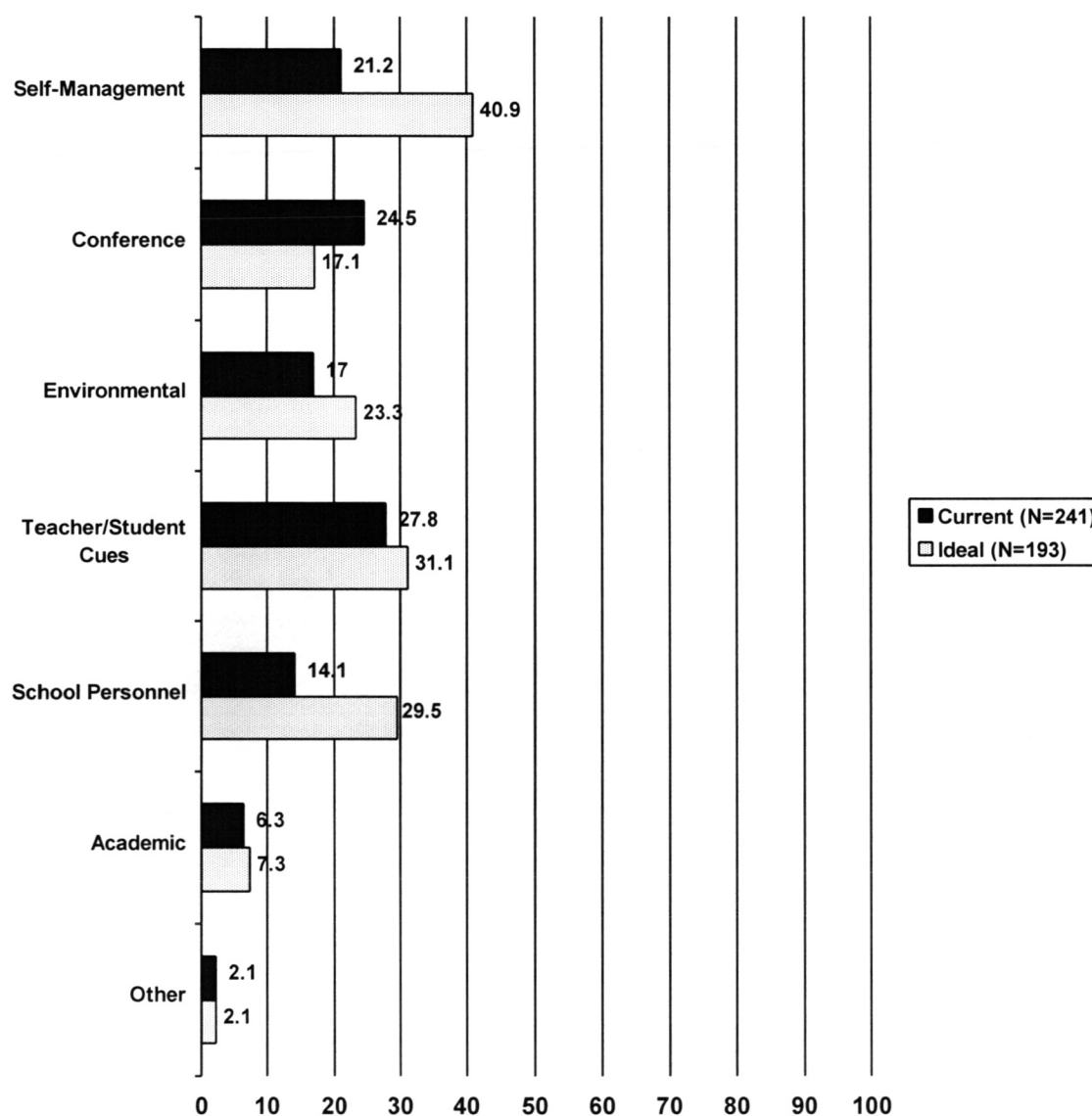


Figure 18

Percentage of Current Interventions by Position, Criterion #6: A Student who Often has Difficulty Playing or Engaging in Leisure Activities Quietly

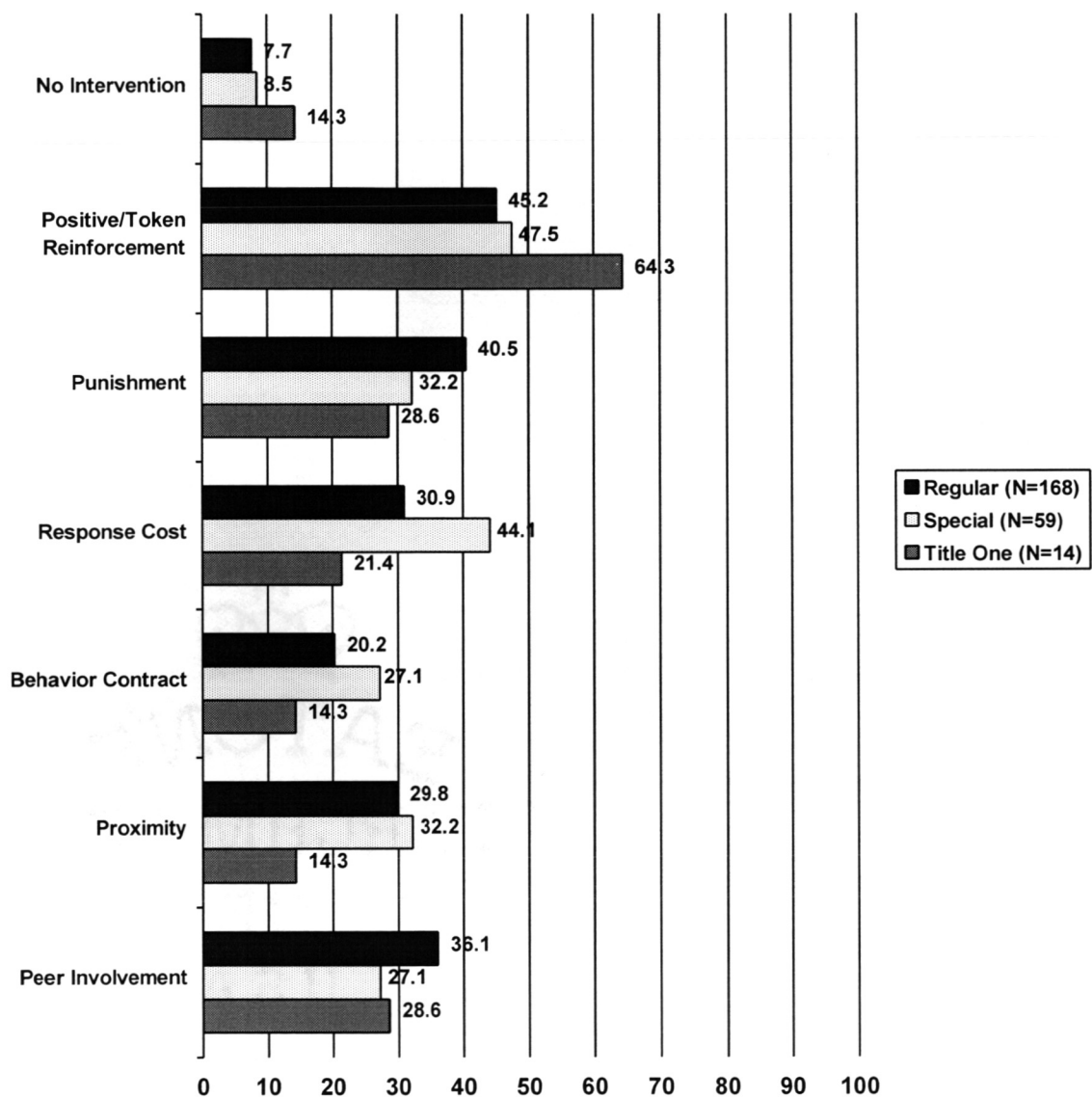


Figure 18 (Continued)

Percentage of Current Interventions by Position, Criterion #6: A Student who Often has Difficulty Playing or Engaging in Leisure Activities Quietly

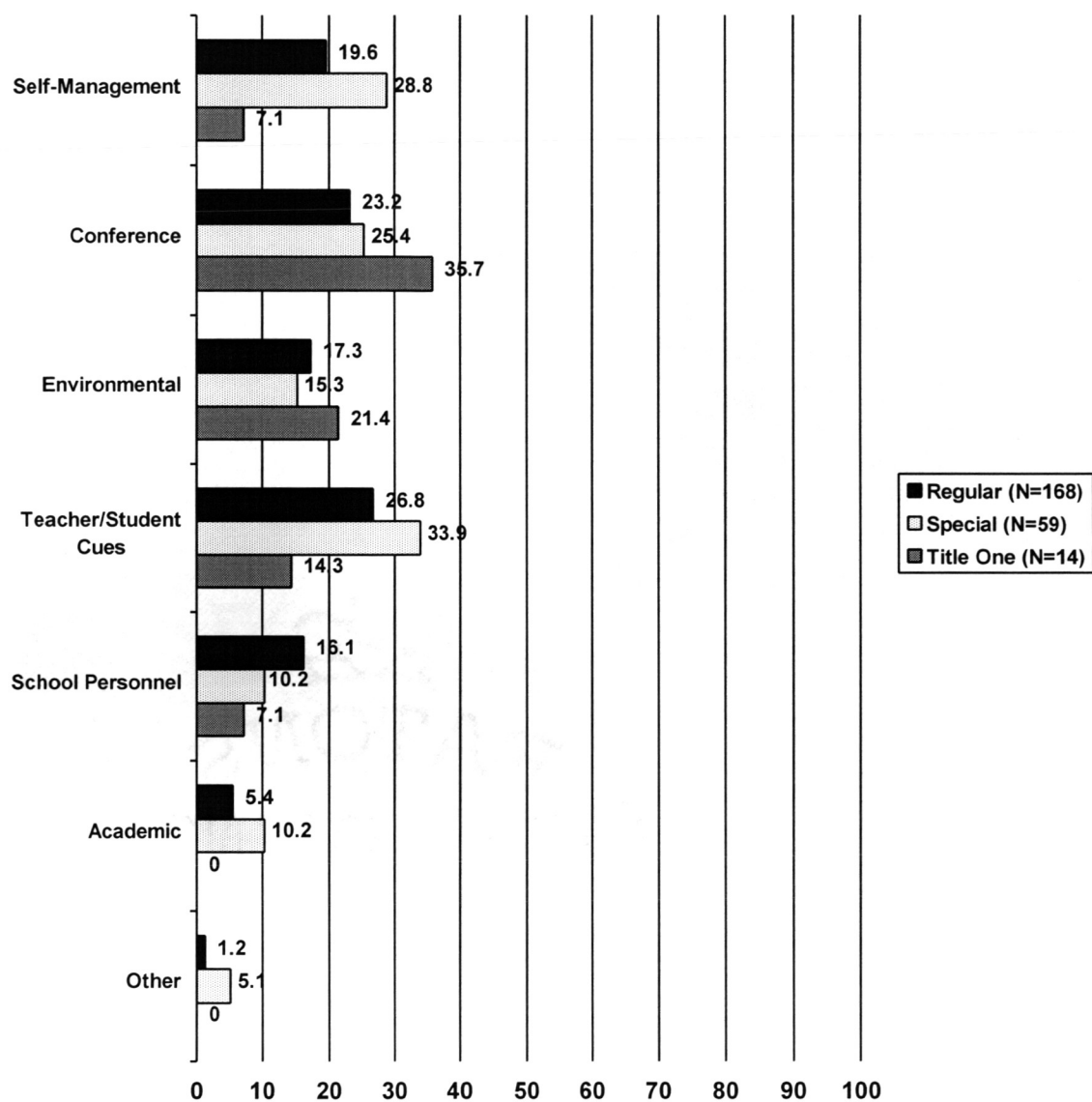


Figure 19

Percentage of Ideal Interventions by Position, Criterion #6: A Student who Often has
Difficulty Playing or Engaging in Leisure Activities Quietly

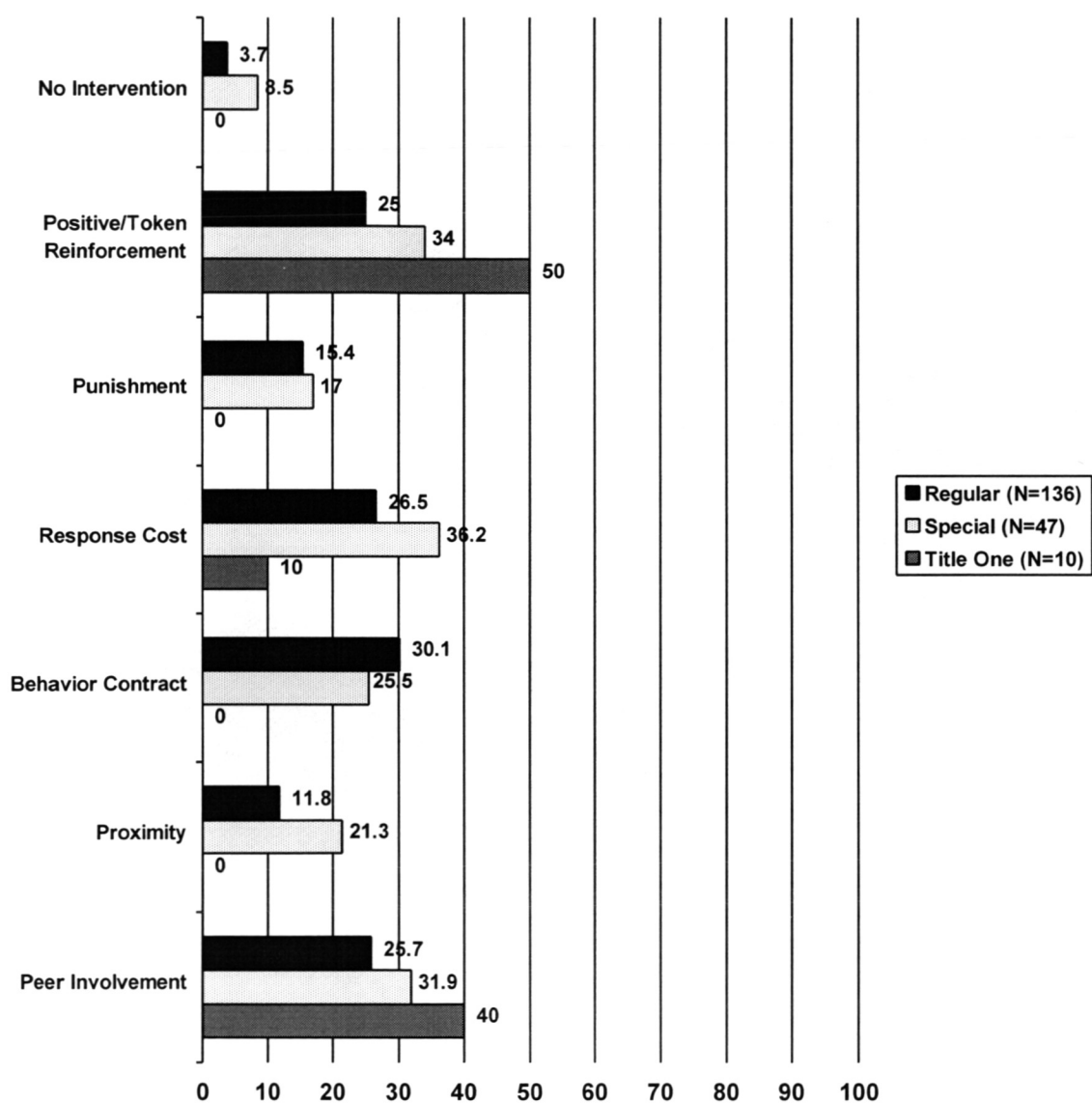
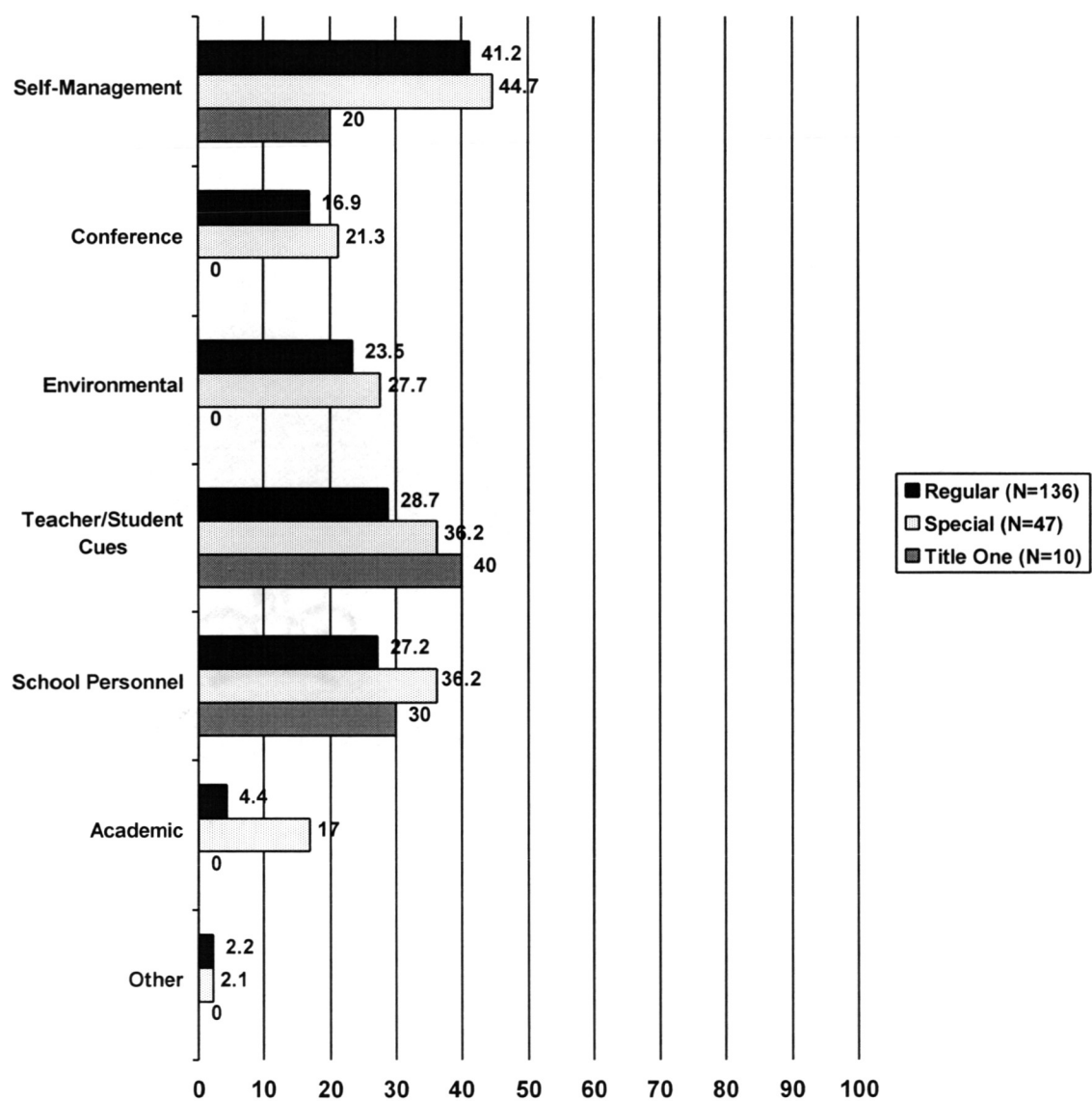


Figure 19 (Continued)

Percentage of Ideal Interventions by Position, Criterion #6: A Student who Often has
Difficulty Playing or Engaging in Leisure Activities Quietly



punishment, response cost, and peer involvement would be practiced less, while self-management, teacher/student cues, and use of school personnel would be more frequently used. A chi-square test of independence indicated that the relationship between position and the academic intervention (used in ideal setting) was statistically significant, $X^2(2, N=193) = 9.08, p < .05$. The strength of the relationship was .22, as indexed by Cramér's V statistic. This relatively weak association suggests that special education teachers would use academic interventions in an ideal setting more often than regular education and Title One teachers.

Figures 20, 21, and 22 present the results of "Do Use or Have Used" and "Would Ideally Use" interventions chosen for the criterion "A student who is often 'on the go' or acts as if 'driven by a motor'." A sample size of 238 subjects (95.2% of the total sample) responded to the "Do Use or Have Used" interventions while 191 subjects (76.4% of the total sample) responded to the "Would Ideally Use" interventions. Figure 20 provides percentage distributions for both intervention categories across the total sample, while Figures 21 and 22 provide percentage summaries for both intervention categories across regular education, special education, and Title One teachers.

For students who are often "on the go" or act as if "driven by a motor," frequently utilized interventions include proximity, positive/token reinforcement, and punishment. In an ideal setting, proximity, positive/ token reinforcement, and punishment would be practiced less, while self-management, teacher/student cues, and use of school personnel would be more frequently used. For interventions currently used or used in the past, a chi-square test of independence indicated that the relationship between position and the

Figure 20

Percentage of Current / Ideal Interventions for Total Sample, Criterion #7: A Student who is Often “On the Go” or Acts as if “Driven by a Motor”

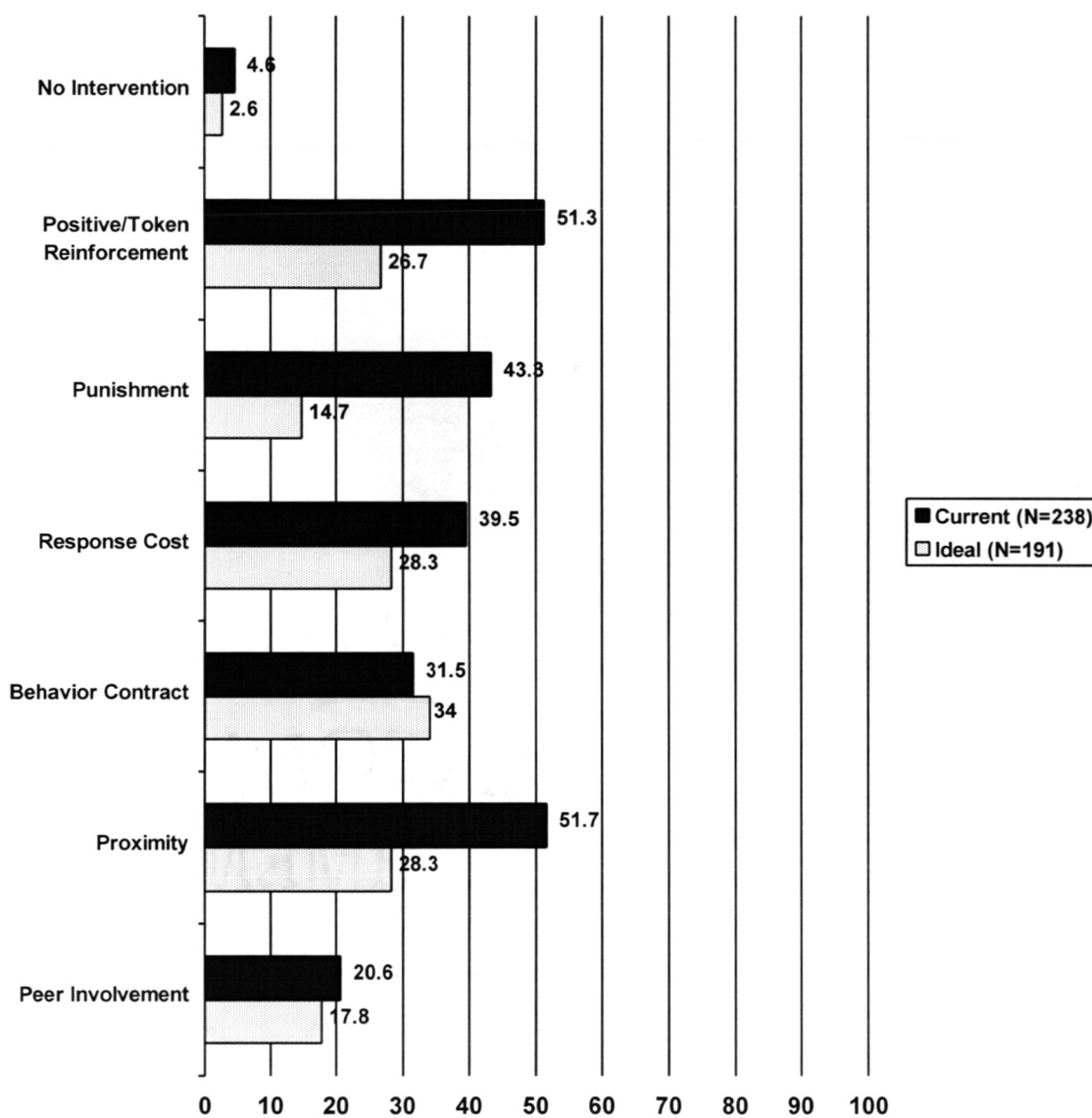


Figure 20 (Continued)

Percentage of Current / Ideal Interventions for Total Sample, Criterion #7: A Student who is Often "On the Go" or Acts as if "Driven by a Motor"

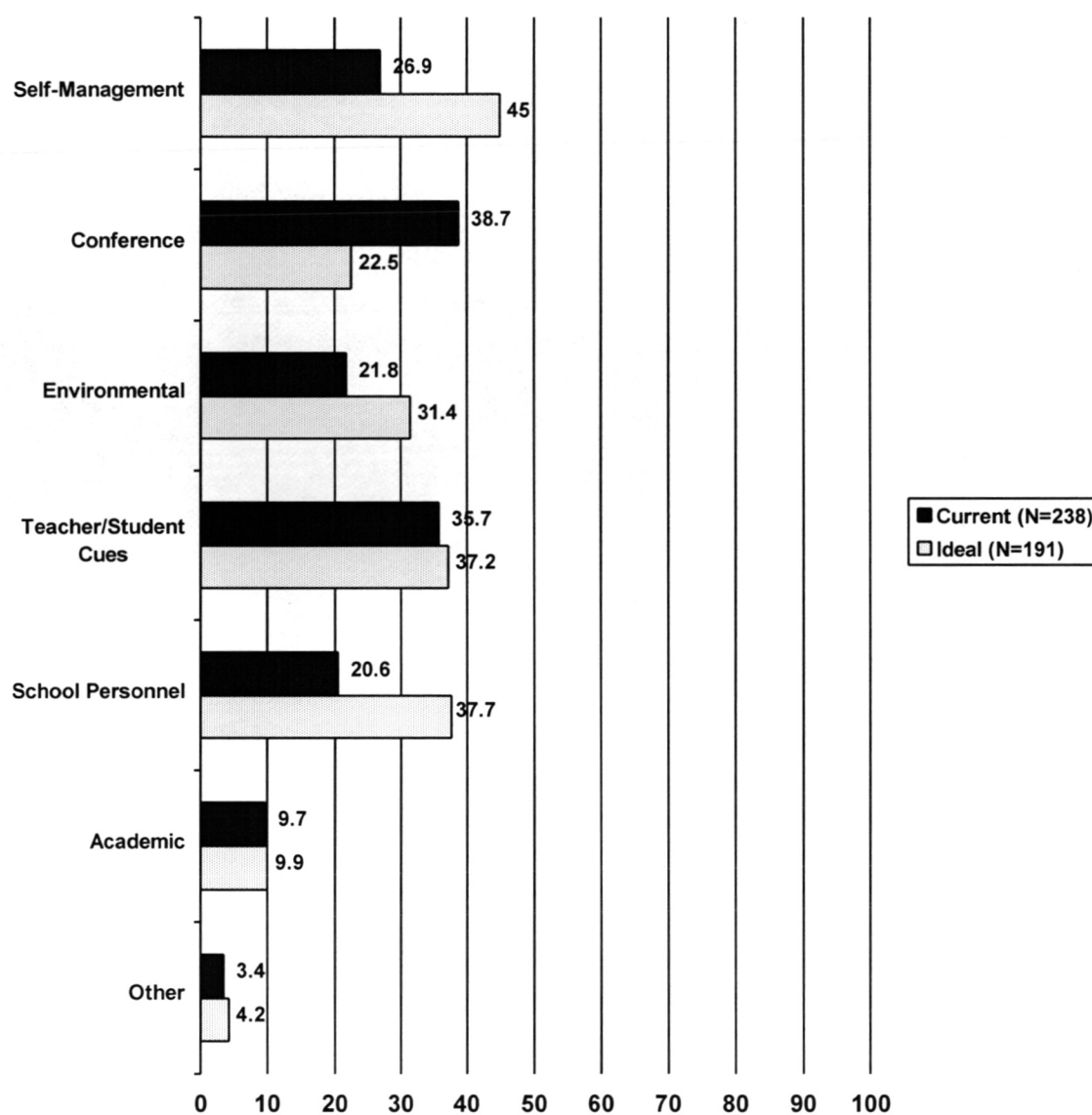


Figure 21

Percentage of Current Interventions by Position, Criterion #7: A Student who is Often
“On the Go” or Acts as if “Driven by a Motor”

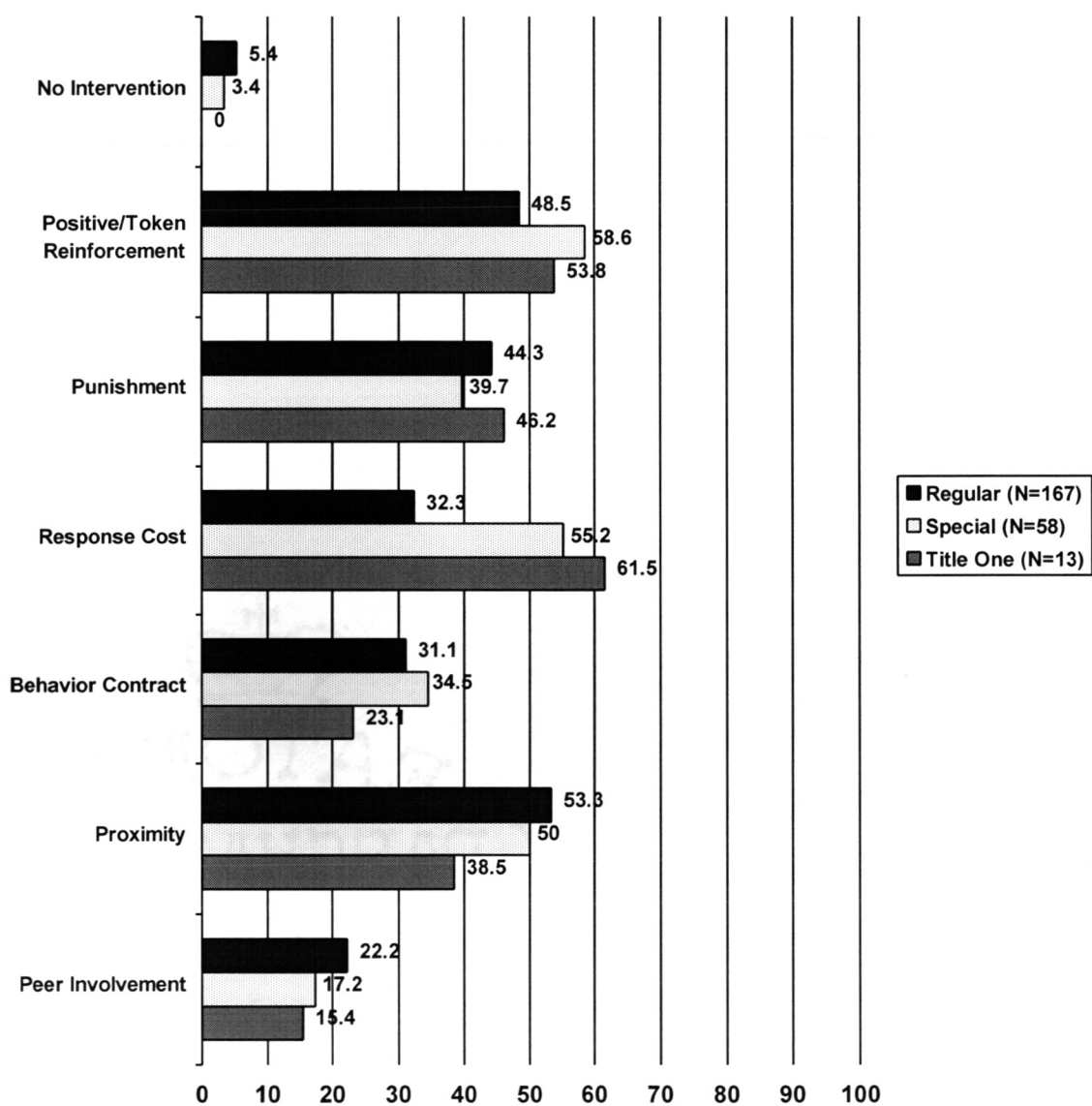


Figure 21 (Continued)

Percentage of Current Interventions by Position, Criterion #7: A Student who is Often “On the Go” or Acts as if “Driven by a Motor”

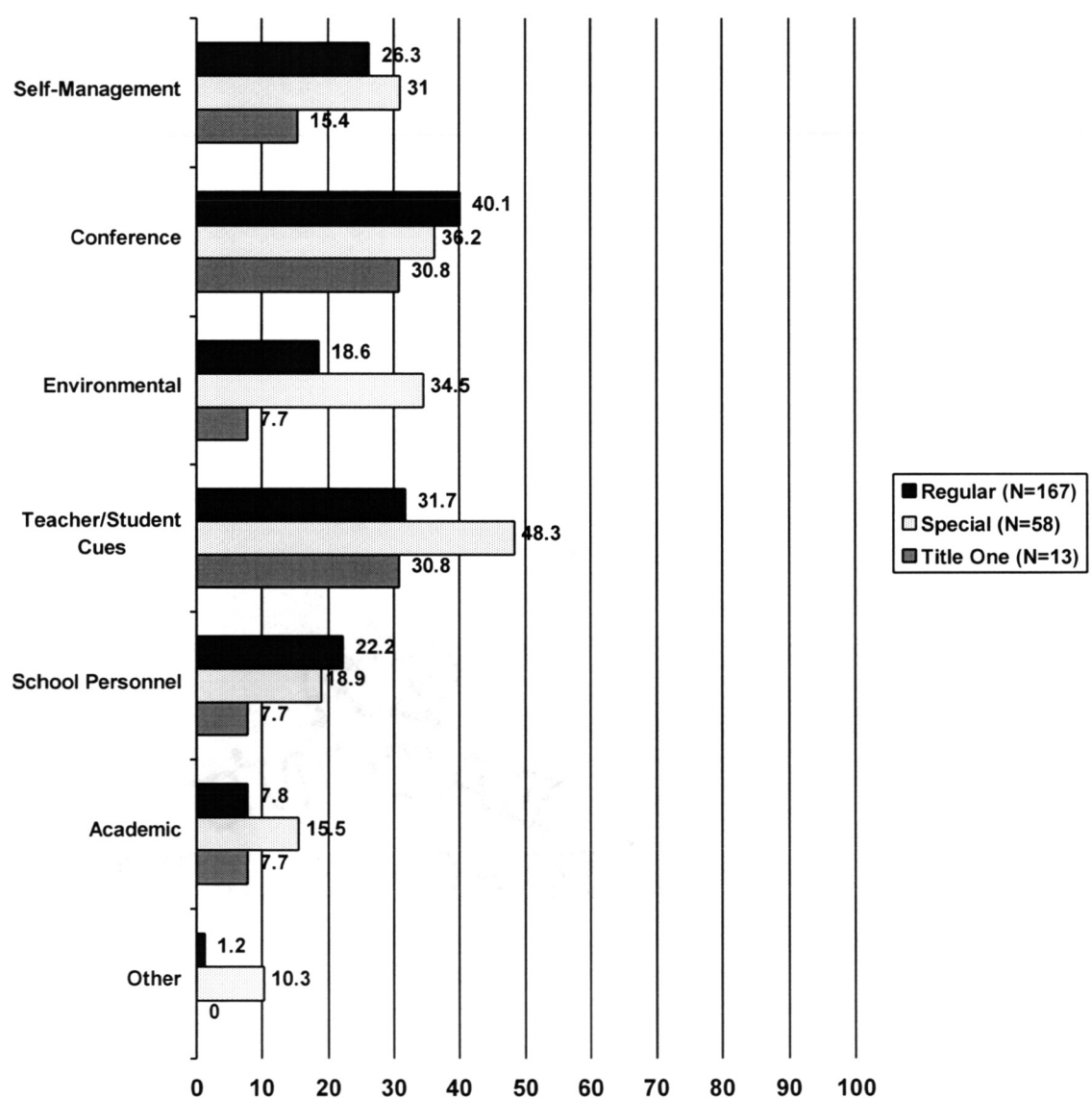


Figure 22

Percentage of Ideal Interventions by Position, Criterion #7: A Student who is Often “On the Go” or Acts as if “Driven by a Motor”

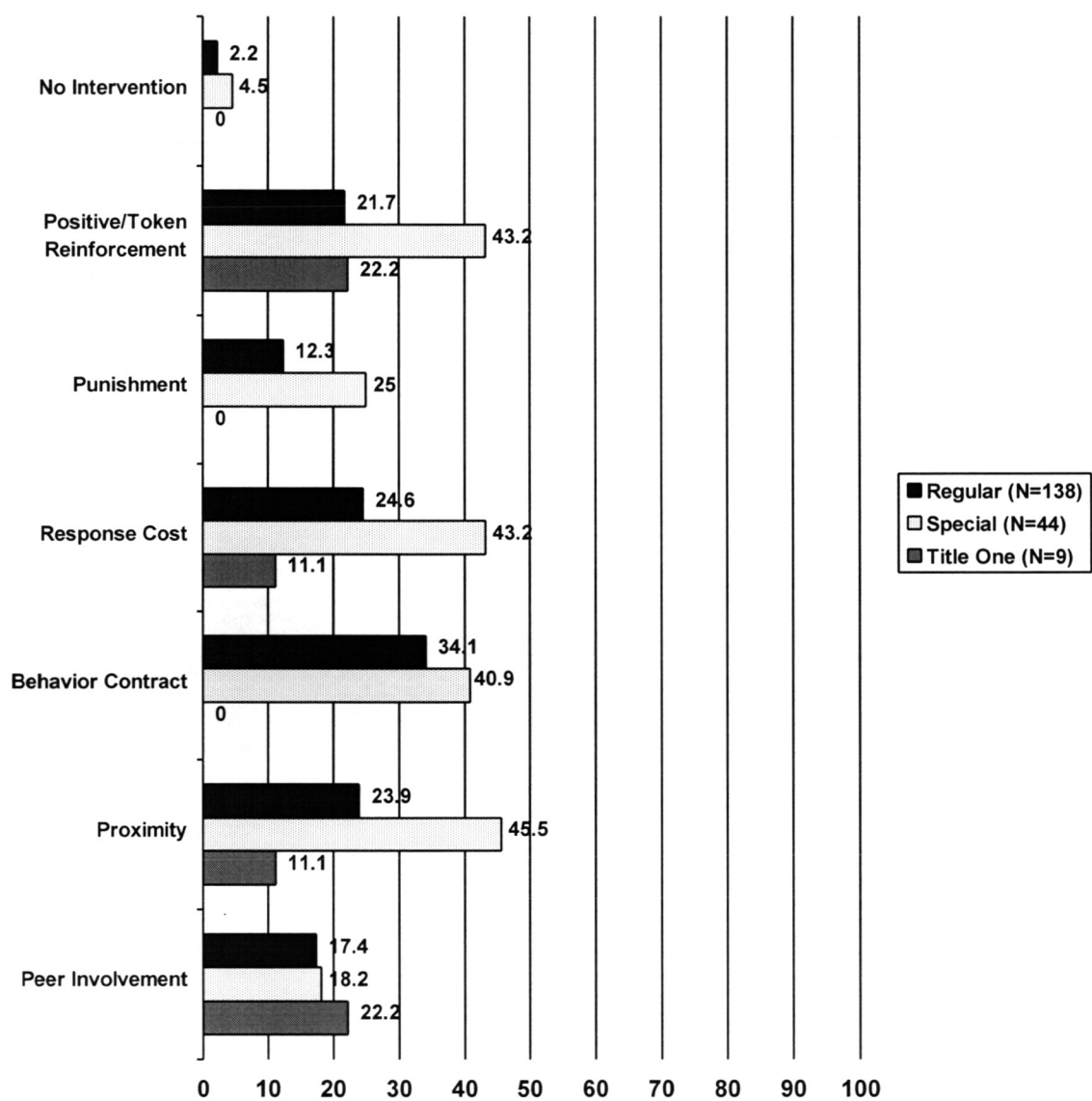
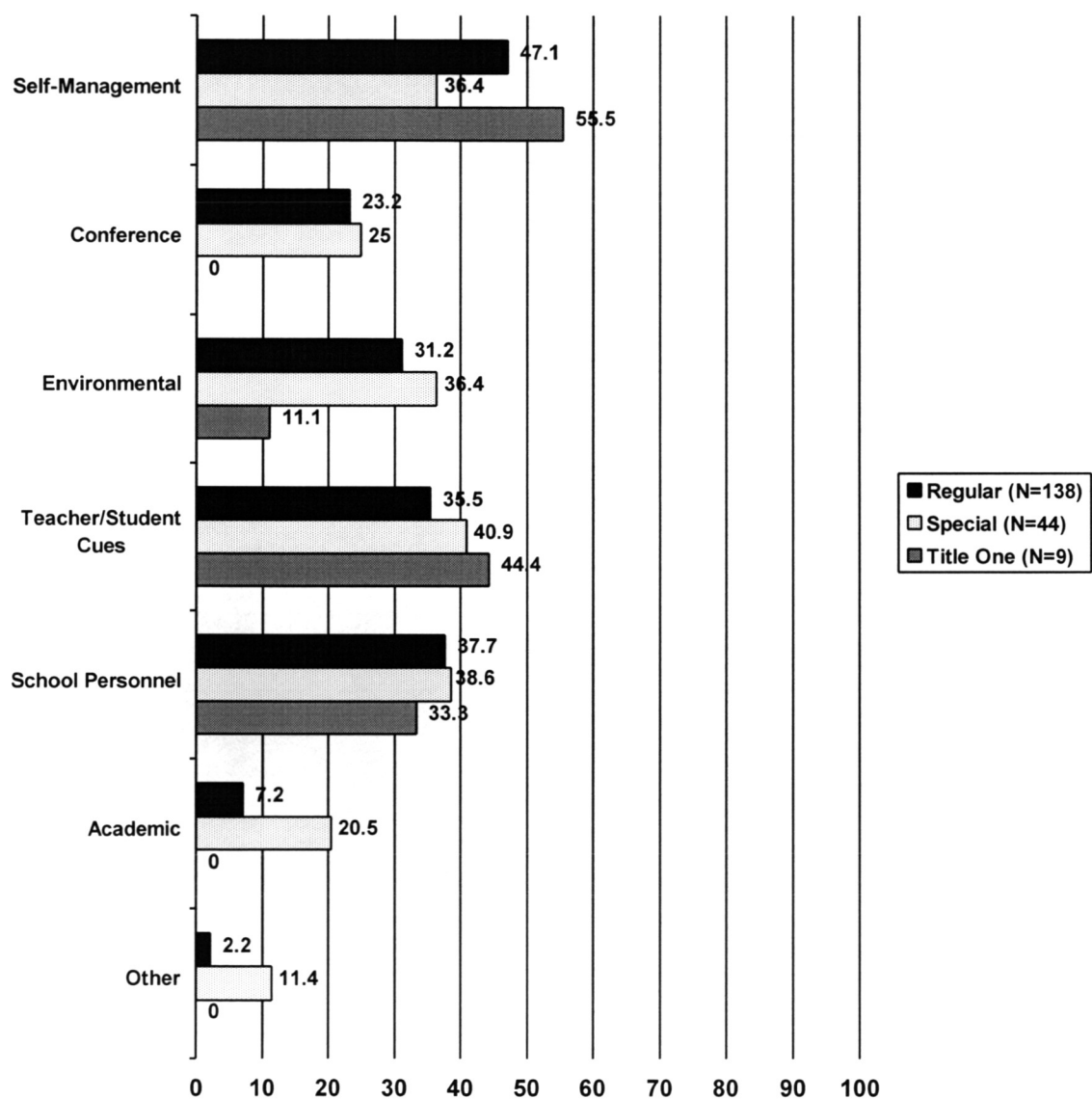


Figure 22 (Continued)

Percentage of Ideal Interventions by Position, Criterion #7: A Student who is Often “On the Go” or Acts as if “Driven by a Motor”



response cost intervention was statistically significant, $X^2(2, N=238) = 12.19, p < .01$. The strength of the relationship was .23, as indexed by Cramér's V statistic. This relatively weak association suggests that regular education teachers use response cost interventions less often than special education and Title One teachers. The relationship between position and the environmental intervention was also statistically significant, $X^2(2, N=238) = 8.00, p < .05$. The strength of the relationship was .18, as indexed by Cramér's V statistic. This weak association suggests that special education teachers use environmental interventions more often than regular education and Title One teachers. The relationship between position and the "Other" intervention choice was also statistically significant, $X^2(2, N=238) = 11.57, p < .01$. The strength of the relationship was .22, as indexed by Cramér's V statistic. This relatively weak association suggests that special education teachers use alternative "Other" interventions more often than regular education and Title One teachers.

For interventions which would be used in an ideal setting for students who are often "on the go" or act as if "driven by a motor," a chi-square test of independence indicated that the relationship between position and the positive/token reinforcement intervention was statistically significant, $X^2(2, N=191) = 7.93, p < .05$. The strength of the relationship was .20, as indexed by Cramér's V statistic. This relatively weak association suggests that special education teachers would use positive/token reinforcement interventions in an ideal setting more often than regular education and Title One teachers. The relationship between position and the response cost intervention was also statistically significant, $X^2(2, N=191) = 7.03, p < .05$. The strength of the relationship was .19, as

indexed by Cramér's V statistic. This weak association suggests that special education teachers would use response cost in an ideal setting more often than regular education and Title One teachers. The relationship between position and the proximity intervention was also statistically significant, $X^2(2, N=191) = 9.01, p < .05$. The strength of the relationship was .22, as indexed by Cramér's V statistic. This relatively weak association suggests that special education teachers would use proximity in an ideal setting more often than regular education and Title One teachers. The relationship between position and the academic intervention was also statistically significant, $X^2(2, N=191) = 7.54, p < .05$. The strength of the relationship was .20, as indexed by Cramér's V statistic. This relatively weak association suggests that special education teachers would use academic interventions in an ideal setting more often than regular education and Title One teachers. The relationship between position and the "Other" intervention choice was also statistically significant, $X^2(2, N=191) = 7.43, p < .05$. The strength of the relationship was .20, as indexed by Cramér's V statistic. This relatively weak association suggests that special education teachers would use alternative "Other" interventions in an ideal setting more often than regular education and Title One teachers.

Figures 23, 24, and 25 present the results of "Do Use or Have Used" and "Would Ideally Use" interventions chosen for the criterion "A student who often blurts out answers before questions have been completed." A sample size of 237 subjects (94.8% of the total sample) responded to the "Do Use or Have Used" interventions while 188 subjects (75.2% of the total sample) responded to the "Would Ideally Use" interventions. Figure 23

Figure 23

Percentage of Current / Ideal Interventions for Total Sample, Criterion #8: A Student who Often Blurts Out Answers Before Questions Have Been Completed

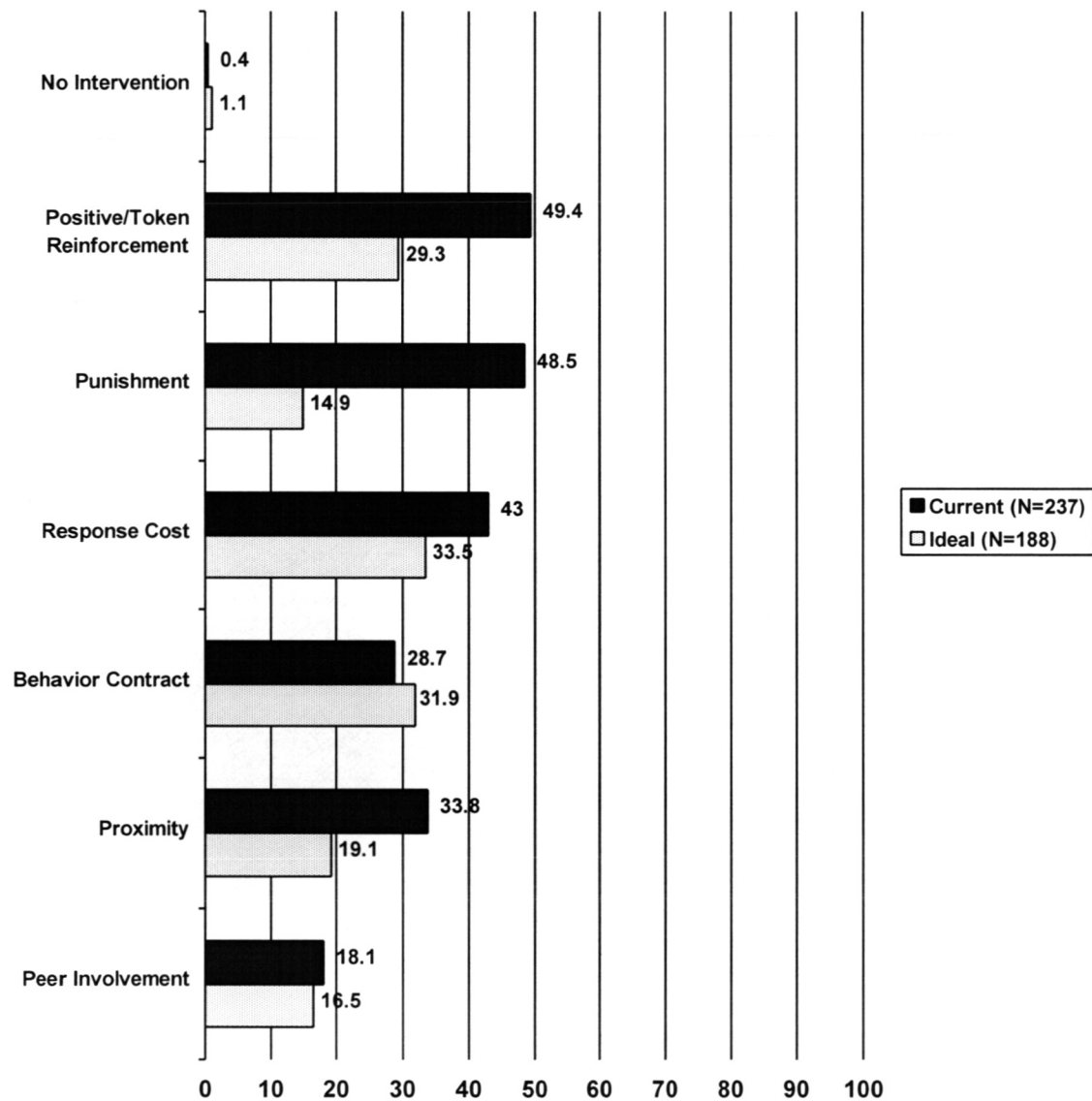


Figure 23 (Continued)

Percentage of Current / Ideal Interventions for Total Sample, Criterion #8: A Student who Often Blurts Out Answers Before Questions Have Been Completed

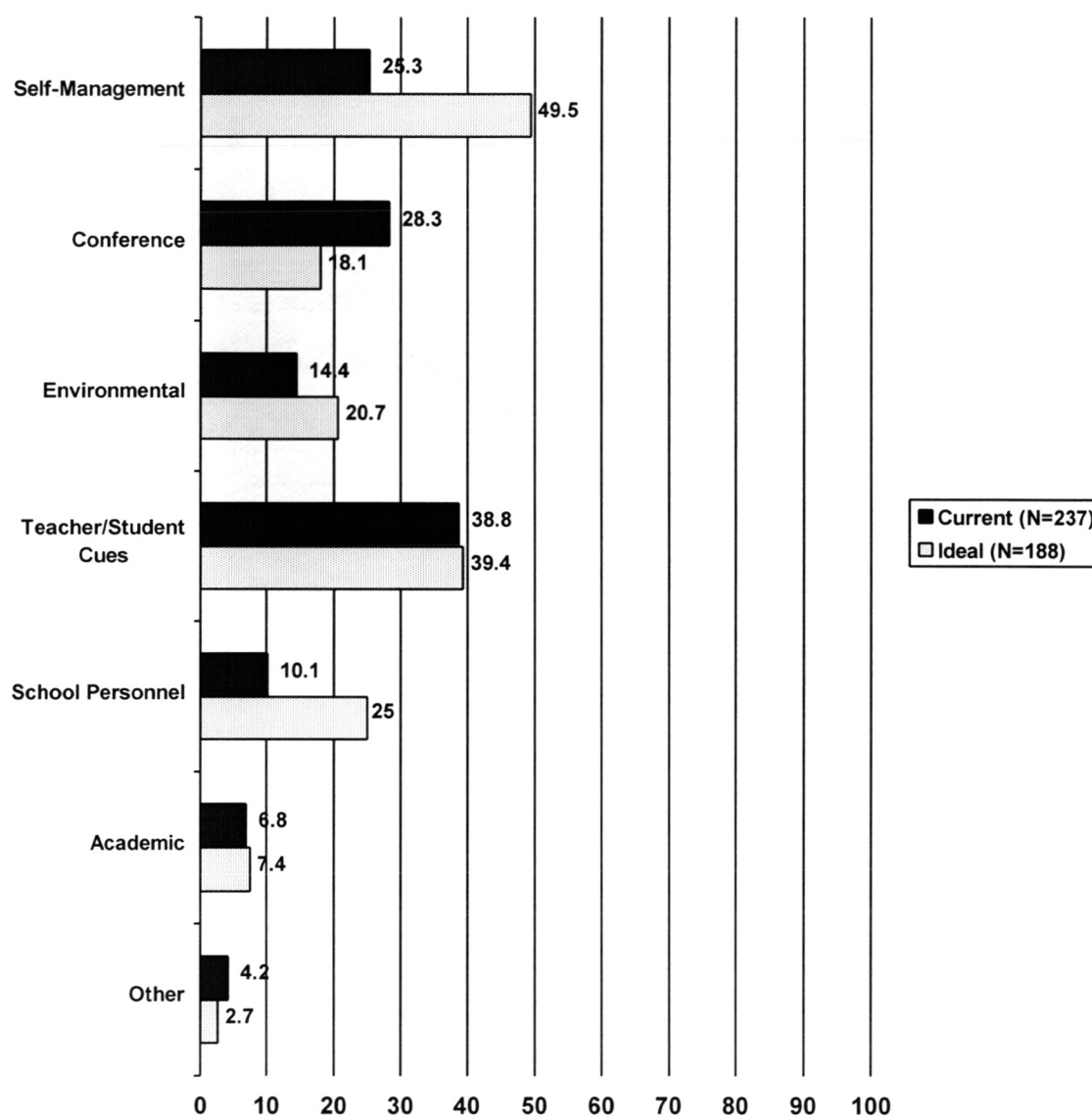


Figure 24

Percentage of Current Interventions by Position, Criterion #8: A Student who Often
Blurts Out Answers Before Questions Have Been Completed

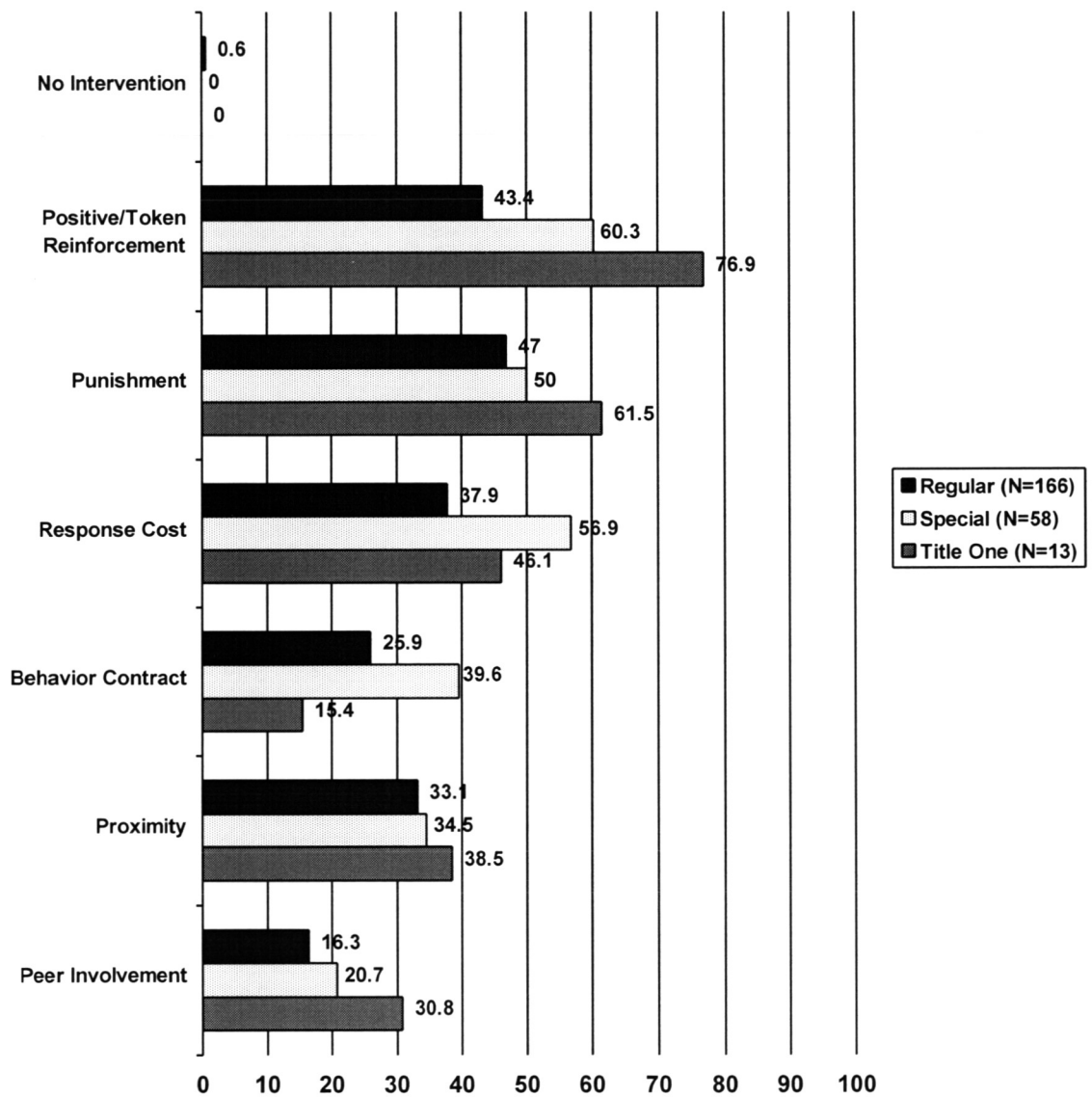


Figure 24 (Continued)

Percentage of Current Interventions by Position, Criterion #8: A Student who Often

Blurts Out Answers Before Questions Have Been Completed

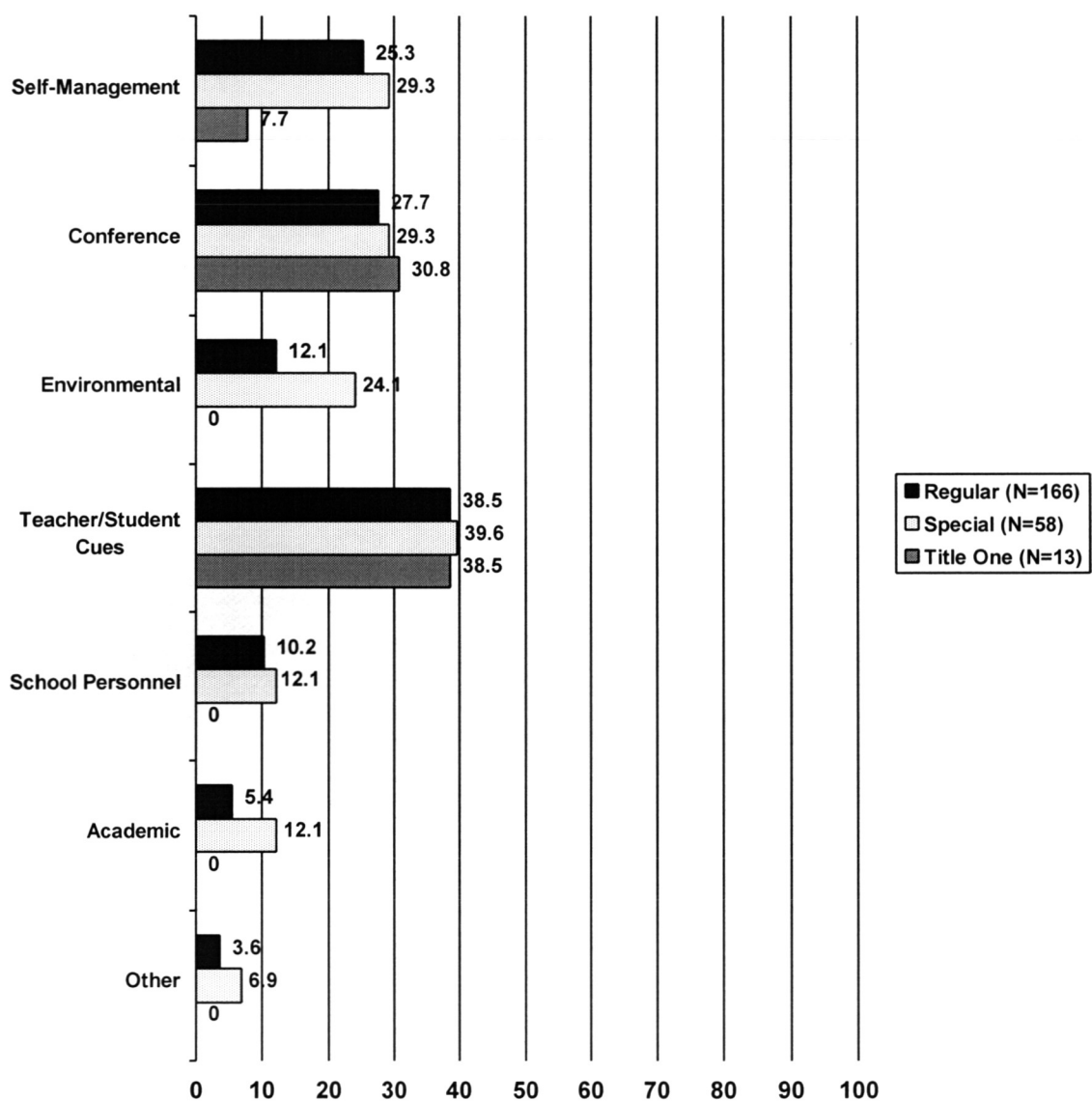


Figure 25

Percentage of Ideal Interventions by Position, Criterion #8: A Student who Often Blurts

Out Answers Before Questions Have Been Completed

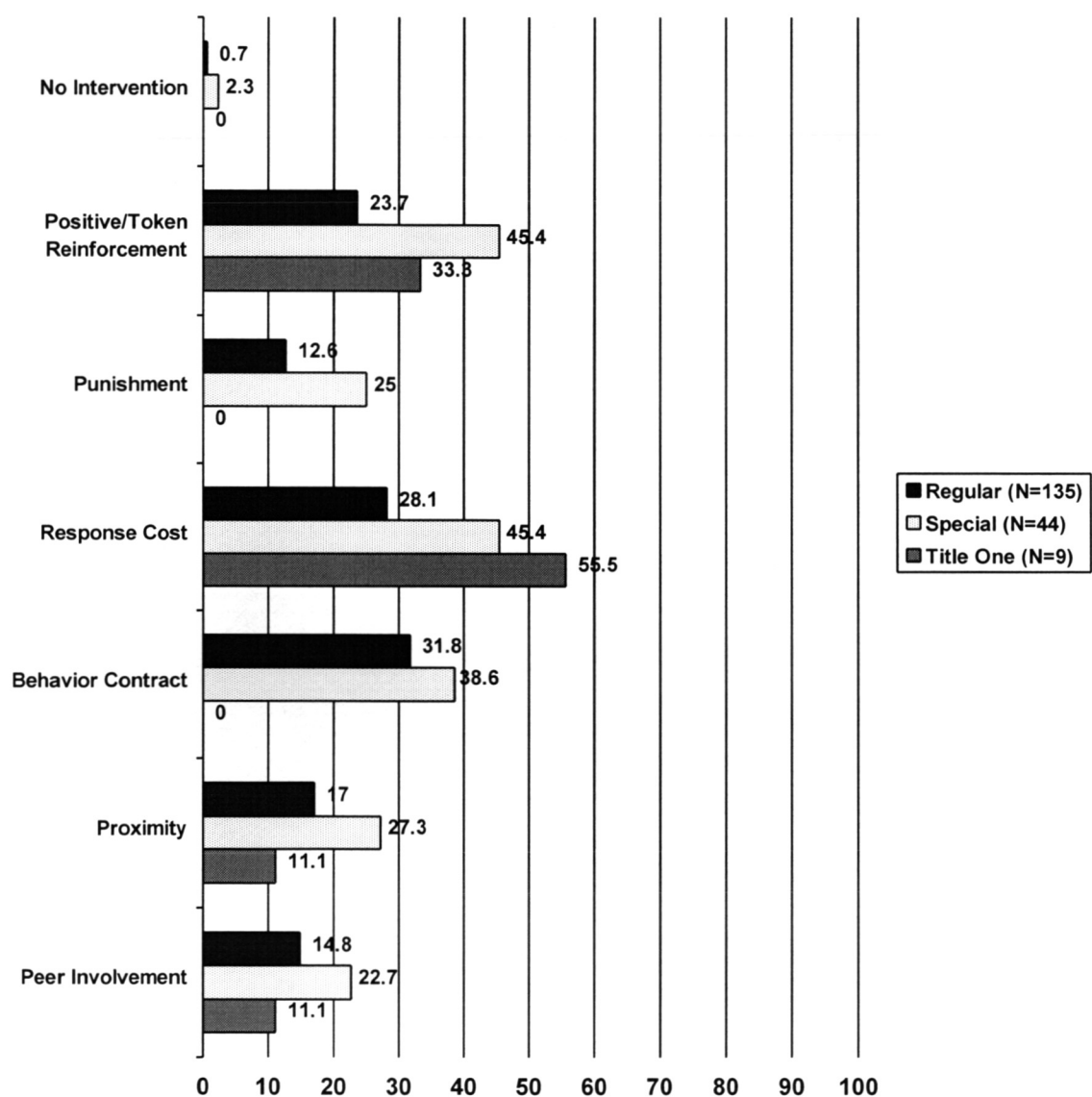
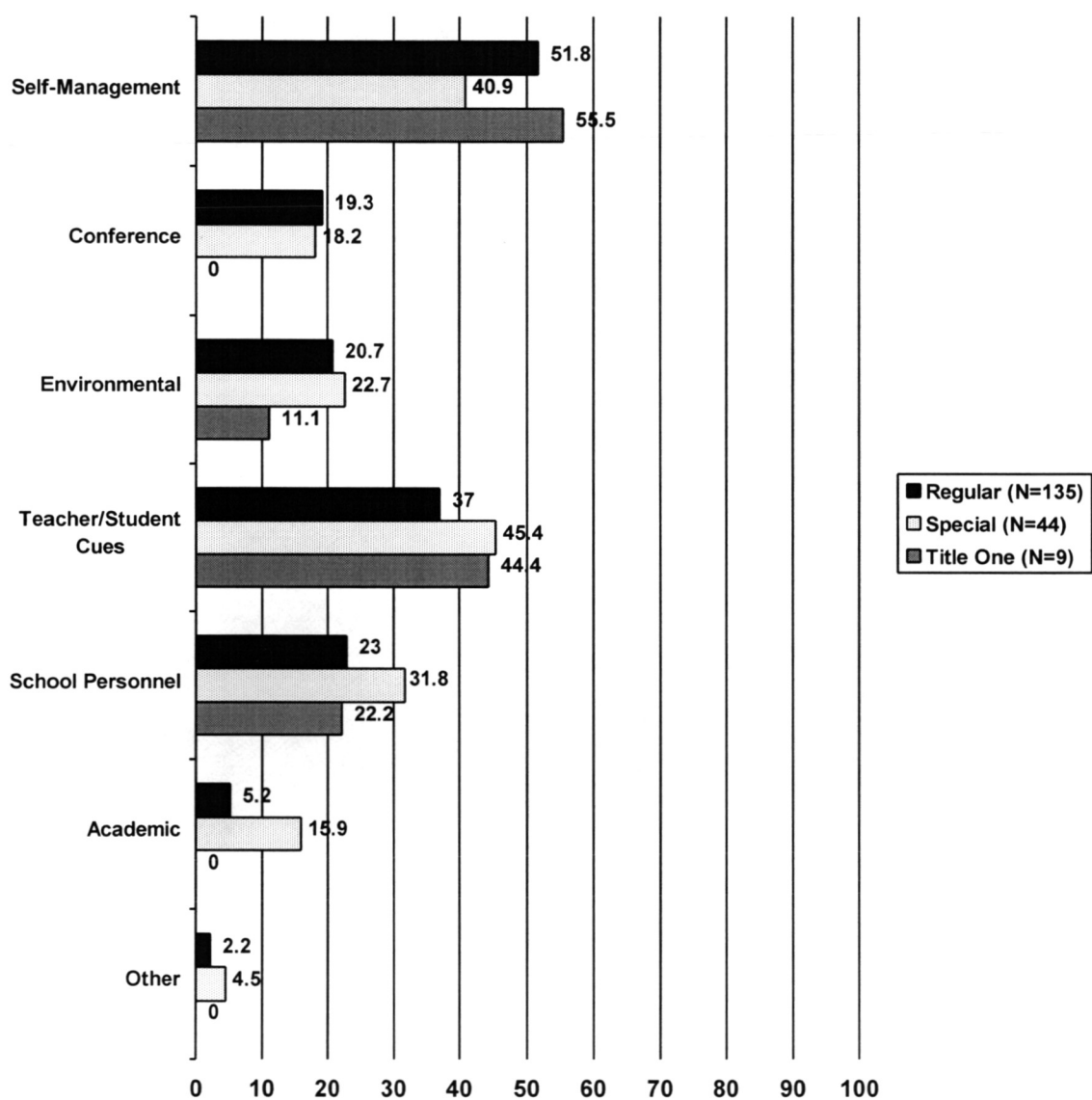


Figure 25 (Continued)

Percentage of Ideal Interventions by Position, Criterion #8: A Student who Often Blurts

Out Answers Before Questions Have Been Completed



provides percentage distributions for both intervention categories across the total sample, while Figures 24 and 25 provide percentage summaries for both intervention categories across regular education, special education, and Title One teachers.

For students who often blurt out answers before questions have been completed, frequently utilized interventions include positive/token reinforcement, punishment, response cost, and teacher/student cues. In an ideal setting, positive/ token reinforcement and punishment would be practiced less, while self-management, teacher/student cues, response cost, and behavior contracts would be more frequently used.

For interventions currently used or used in the past, a chi-square test of independence indicated that the relationship between position and the positive/token reinforcement intervention was statistically significant, $X^2(2, N=237) = 9.13, p<.05$. The strength of the relationship was .20, as indexed by Cramér's V statistic. This relatively weak association suggests that regular education teachers use positive/token reinforcement less often than special education and Title One teachers. The relationship between position and the response cost intervention was also statistically significant, $X^2(2, N=237) = 6.35, p<.05$. The strength of the relationship was .16, as indexed by Cramér's V statistic. This weak association suggests that special education teachers use response cost interventions more often than regular education and Title One teachers. The relationship between position and the environmental intervention was also statistically significant, $X^2(2, N=237) = 7.34, p<.05$. The strength of the relationship was .18, as indexed by Cramér's V statistic. This weak association suggests that special education teachers use environmental interventions more often than regular education and Title One teachers.

For interventions which would be used in an ideal setting for a student who often blurts out answers before questions have been completed, a chi-square test of independence indicated that the relationship between position and the positive/token reinforcement intervention was statistically significant, $X^2(2, N=188) = 7.66, p<.05$. The strength of the relationship was .20, as indexed by Cramér's V statistic. This relatively weak association suggests that special education teachers would use positive/token reinforcement interventions in an ideal setting more often than regular education and Title One teachers. The relationship between position and the response cost intervention was also statistically significant, $X^2(2, N=188) = 6.52, p<.05$. The strength of the relationship was .19, as indexed by Cramér's V statistic. This weak association suggests that regular education teachers would use response cost in an ideal setting less often than special education and Title One teachers. The relationship between position and the academic intervention was also statistically significant, $X^2(2, N=188) = 6.30, p<.05$. The strength of the relationship was .18, as indexed by Cramér's V statistic. This weak association suggests that special education teachers would use academic interventions in an ideal setting more often than regular education and Title One teachers.

Figures 26, 27, and 28 present the results of "Do Use or Have Used" and "Would Ideally Use" interventions chosen for the criterion "A student who often has difficulty awaiting his/her turn." A sample size of 238 subjects (95.2% of the total sample) responded to the "Do Use or Have Used" interventions while 186 subjects (74.4% of the total sample) responded to the "Would Ideally Use" interventions. Figure 26 provides

Figure 26

Percentage of Current / Ideal Interventions for Total Sample, Criterion #9: A Student who Often Has Difficulty Awaiting His / Her Turn

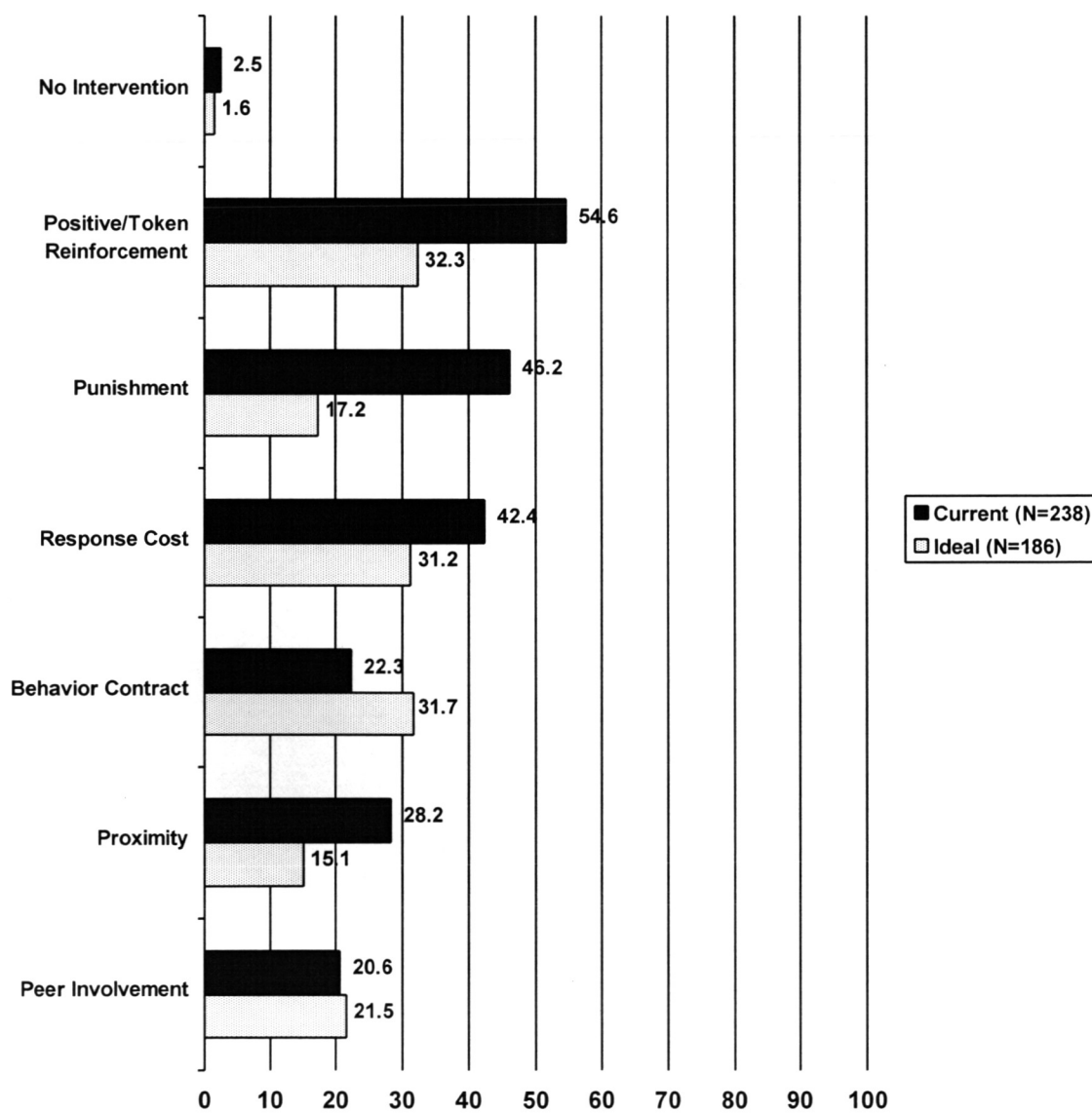


Figure 26 (Continued)

Percentage of Current / Ideal Interventions for Total Sample, Criterion #9: A Student who Often Has Difficulty Awaiting His / Her Turn

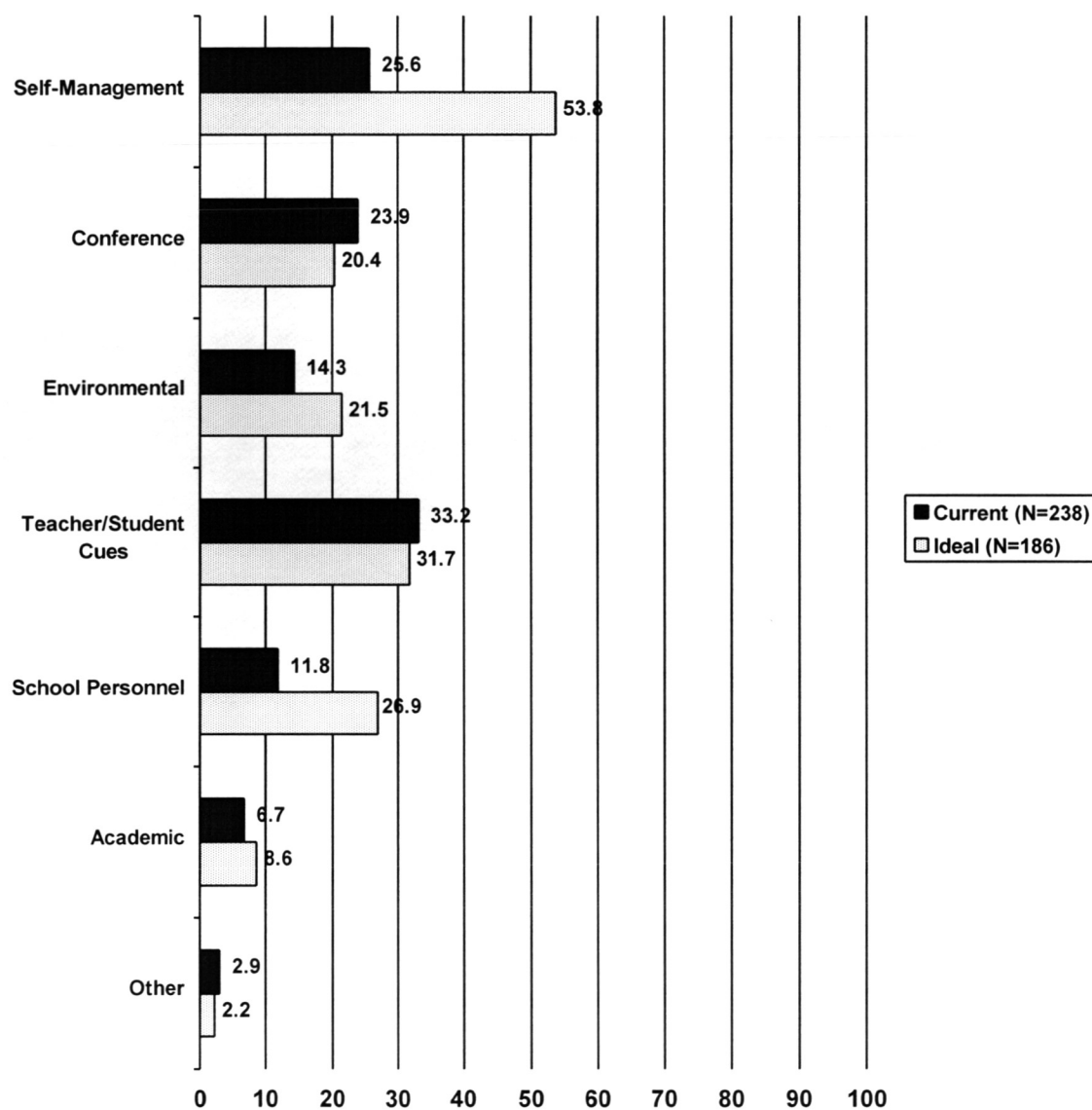


Figure 27

Percentage of Current Interventions by Position, Criterion #9: A Student who Often Has Difficulty Awaiting His / Her Turn

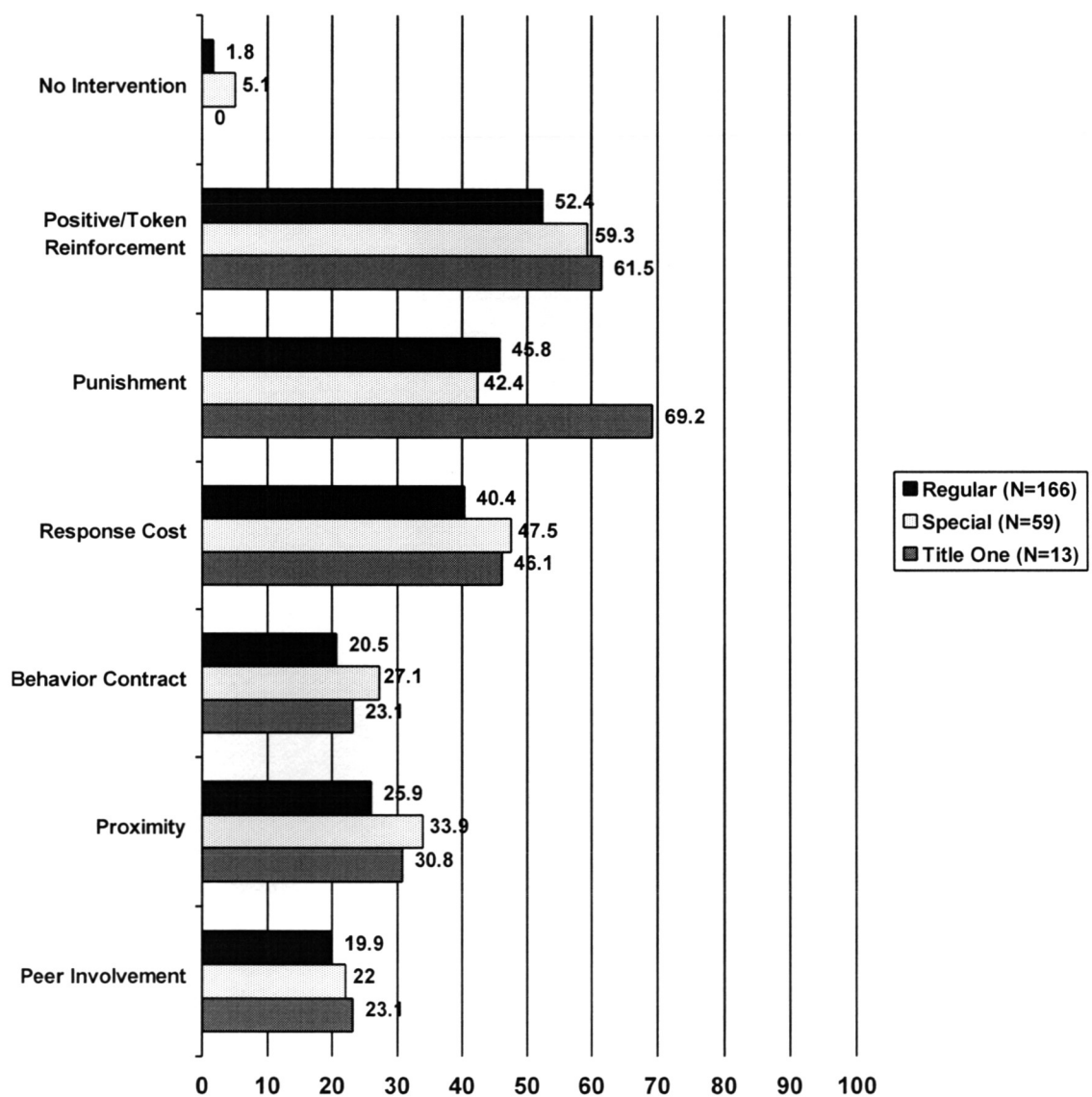


Figure 27 (Continued)

Percentage of Current Interventions by Position, Criterion #9: A Student who Often Has Difficulty Awaiting His / Her Turn

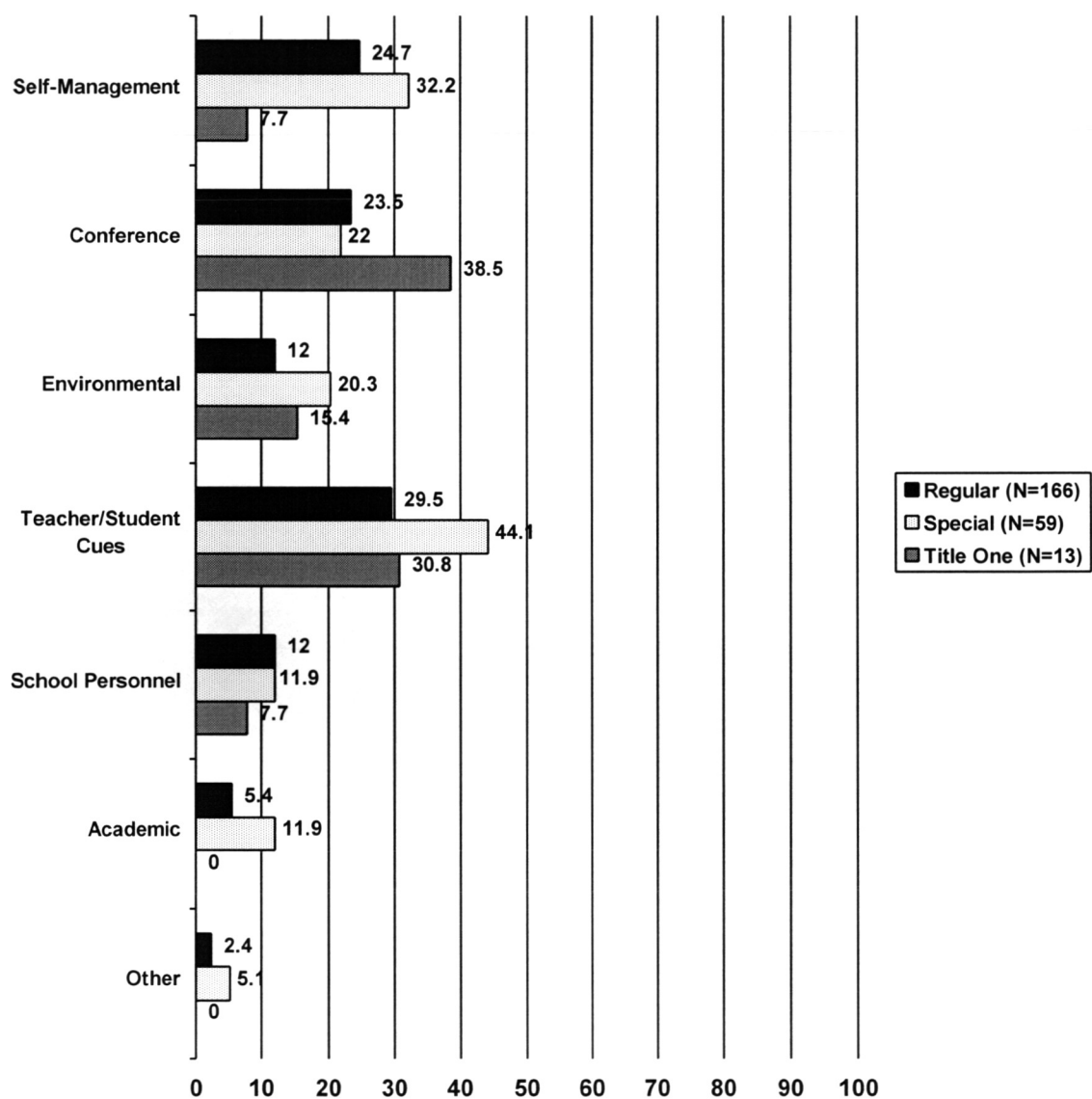


Figure 28

Percentage of Ideal Interventions by Position, Criterion #9: A Student who Often Has

Difficulty Awaiting His / Her Turn

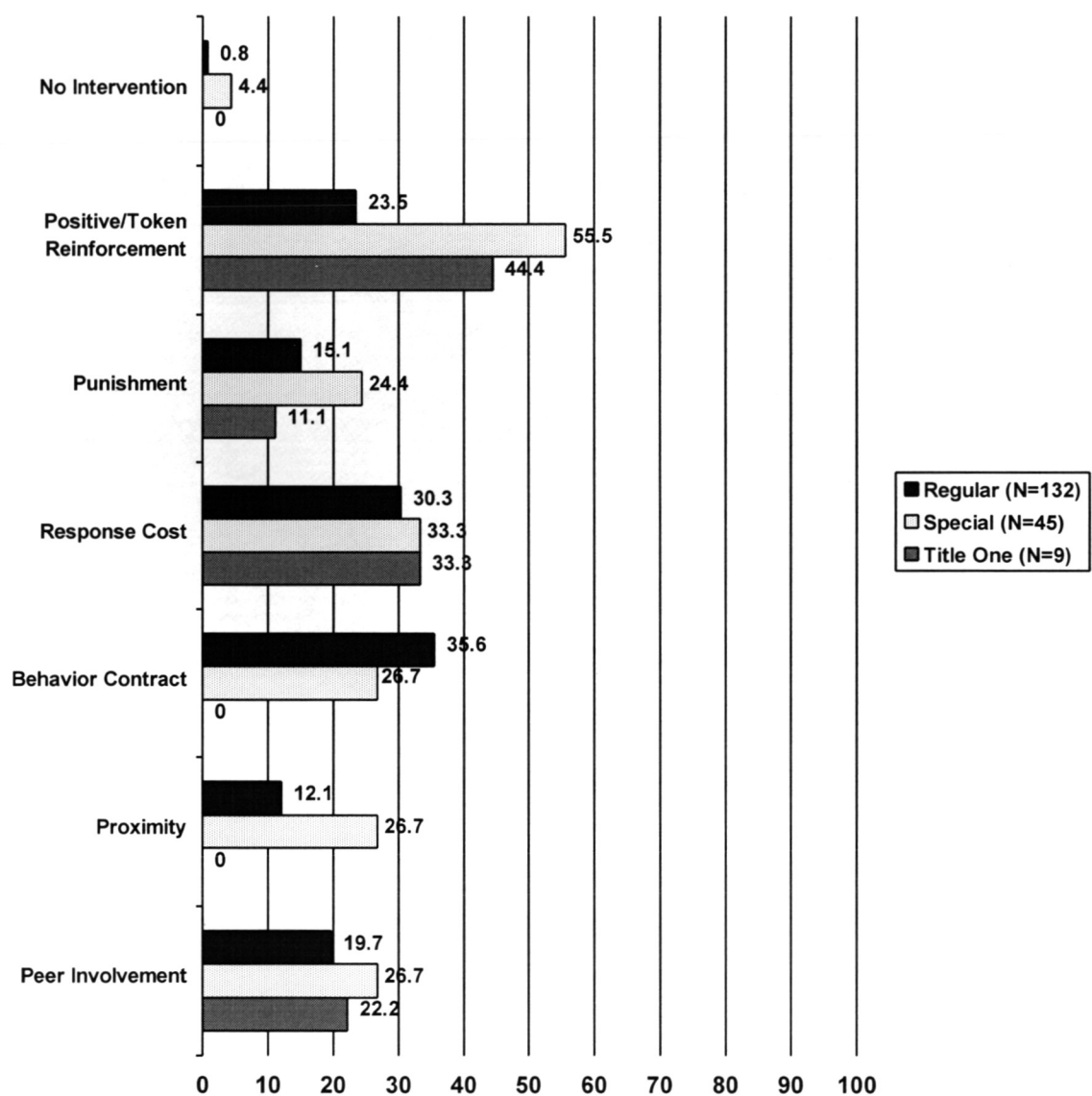
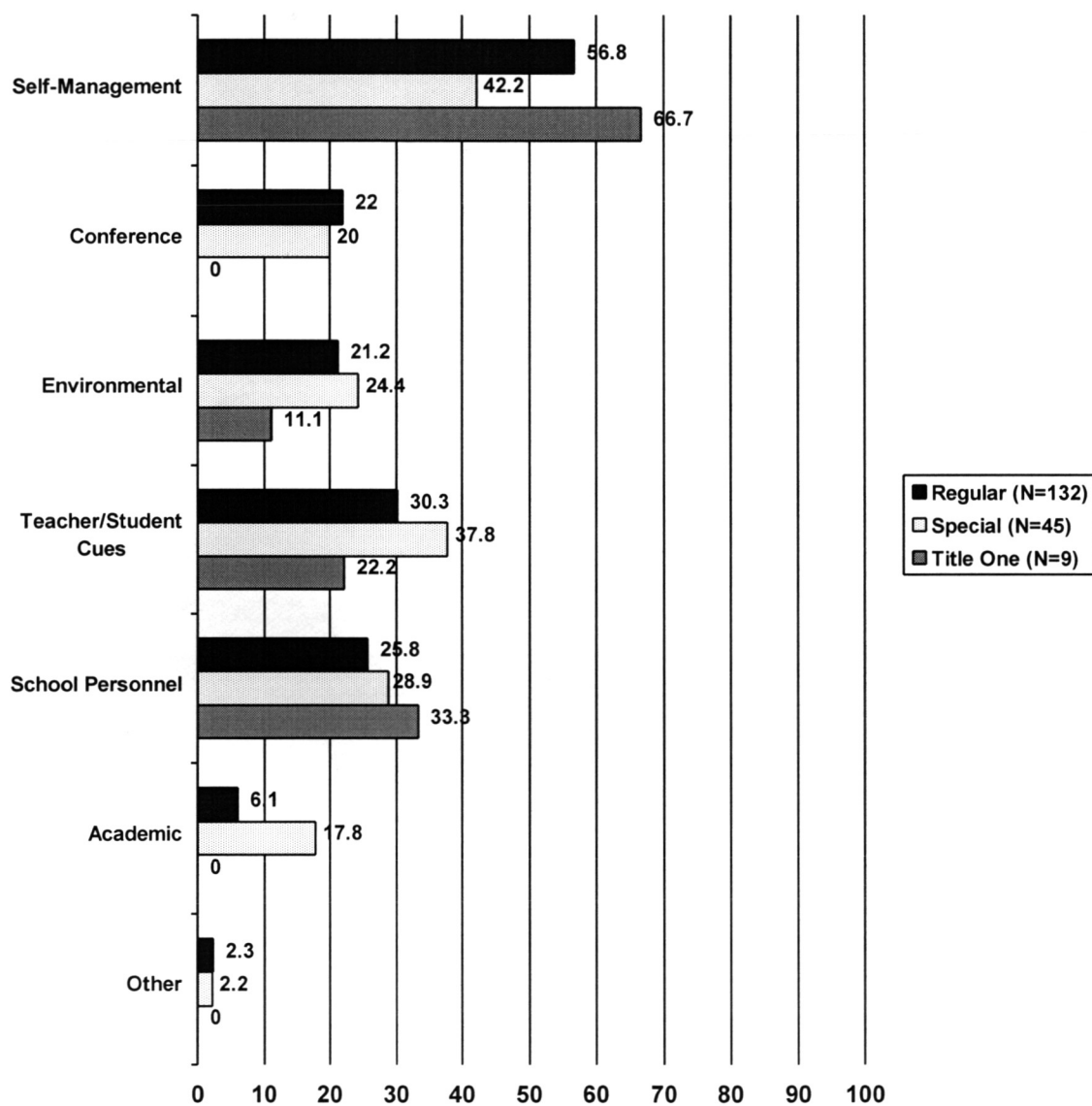


Figure 28 (Continued)

Percentage of Ideal Interventions by Position, Criterion #9: A Student who Often Has Difficulty Awaiting His / Her Turn



percentage distributions for both intervention categories across the total sample, while Figures 27 and 28 provide percentage summaries for both intervention categories across regular education, special education, and Title One teachers.

For students who often have difficulty awaiting their turn, frequently utilized interventions include positive/token reinforcement, punishment, response cost, and teacher/student cues. In an ideal setting, punishment would be practiced less, while self-management, positive/token reinforcement, behavior contracts, teacher/student cues, and response cost would be more frequently used.

For interventions currently used or used in the past, a chi-square test of independence indicated that no statistically significant relationships existed between teacher position and individual interventions. For interventions which would be used in an ideal setting for students who often have difficulty awaiting their turn, a chi-square test of independence indicated that the relationship between position and the positive/token reinforcement intervention was statistically significant, $X^2(2, N=186) = 16.44, p<.01$. The strength of the relationship was .30, as indexed by Cramér's V statistic. This association suggests that special education teachers would use positive/token reinforcement interventions in an ideal setting more often than regular education and Title One teachers. The relationship between position and the proximity intervention was also statistically significant, $X^2(2, N=186) = 7.23, p<.05$. The strength of the relationship was .20, as indexed by Cramér's V statistic. This relatively weak association suggests that special education teachers would use proximity interventions in an ideal setting more often than regular education and Title One teachers. The relationship between position and the

academic intervention was also statistically significant, $X^2(2, N=186) = 6.75, p < .05$. The strength of the relationship was .19, as indexed by Cramér's V statistic. This weak association suggests that special education teachers would use academic interventions in an ideal setting more often than regular education and Title One teachers.

Teacher Ratings of Importance on Issues Related to ADHD Students

The fourth research question in the study involved ratings of importance on a five-point Likert scale to a number of issues related to the teacher's role with respect to ADHD students. Table 5 presents the results of data analysis on the seven importance ratings. Overall, the survey participants indicated that knowledge of the assessment and intervention phases of ADHD students was important. Further training was also viewed as important, especially in regard to developing and implementing interventions which can be used with ADHD students. Across regular education, special education, and Title One teachers, little variation was noticed within the seven importance ratings. Having a selection of intervention techniques available to use in the classroom was rated highest in importance ($M = 4.78, SD = 0.51$), while receiving training in using assessment data to develop intervention strategies for ADHD students was rated lowest in importance ($M = 4.12, SD = 0.93$).

Other Issues Addressed in the Survey Questionnaire

Included in the survey questionnaire were several items that did not directly address the four main research questions. The items were designed to provide additional information about teacher involvement with ADHD students and training relevant to the assessment of ADHD and interventions for ADHD students. Although the additional items

Table 5

Responses of Subjects to Importance Ratings

	N=242 (8 Missing Responses)	<u>M</u> & <u>SD</u>	<u>Mdn</u>	mode
1. As a teacher, how important is it for you to know the diagnostic criteria for ADHD?		4.43 (0.87)	5.00	5.00
2. As a teacher, how important is it for you to be aware of the specific diagnostic criteria met by an ADHD student in his/her assessment?		4.46 (0.83)	5.00	5.00
3. As a teacher, how important is it for you to have a selection of intervention techniques available for you to use in the classroom?		4.78 (0.51)	5.00	5.00
4. As a teacher, how important is it for you to have the services of other professions (e.g., school counselor, school psychologist) available to help or consult with you on ADHD students?		4.63 (0.72)	5.00	5.00
5. As a teacher, how important is it for you to receive more training in ADHD assessment practices?		4.21 (0.91)	4.00	5.00
6. As a teacher, how important is it for you to receive more training in developing and implementing interventions which can be used with ADHD students?		4.45 (0.75)	5.00	5.00
7. As a teacher, how important is it for you to receive more training in using the data which is collected in the assessment process to develop intervention strategies for ADHD students?		4.12 (0.93)	4.00	5.00

were not directly related to the four main research questions, the subsequent findings from the items were applicable to the purposes of the research study.

After the items on the survey questionnaire (those investigating teachers' knowledge of ADHD criteria and diagnostic labels), the participants were asked which was more important to him/her in planning classroom interventions -- knowing the name of the diagnosis indicated for a student or knowing which characteristics were indicated for a student. For 89.6% of the respondents ($n=223$), knowledge of the characteristics for a student was rated as more important. Across positions, little variation was noted between regular education (89.1%), special education (91.8%), and Title One teachers (85.7%), who were all in agreement concerning the importance of knowing which characteristics were indicated by an ADHD student over knowing the student's diagnostic classification. A chi-square test of independence applied to the relationship between teachers' position and responses to this item was not significant, $X^2(2, N=249) = 0.59, p>.05$.

Another supplementary item in the survey questionnaire investigated the number of teachers in the sample who had instructed ADHD students in their classrooms. Participants were asked to indicate if, in the past two years, he/she had worked with or had in class a student diagnosed with ADHD. Nearly 85% of the participants ($n=211$) responded affirmatively, and results were roughly equivalent across regular education (82.2%), special education (93.4%), and Title One (78.6%) teachers. A chi-square test of independence applied to the relationship between teachers' position and responses to this item was not significant, $X^2(2, N=249) = 4.86, p>.05$.

After the survey questionnaire items requesting demographic information about the respondents, the participants were questioned about the types of training they had received relative to the assessment of ADHD and interventions for ADHD students. The resulting data show that self study using books and manuals, in-service training within the district, and self study using journals and newspapers were the most frequent sources of training for both the assessment of ADHD and interventions for students with ADHD across the sample population. Table 6 presents the frequency and percentage distributions for assessment training across the sample population, while Table 7 presents the frequency and percentage distributions for intervention training across the sample population. Both tables also present the frequency and percentage distributions for training across regular education, special education, and Title One teachers. Appendix C provides verbatim teacher responses to “Other Training” related to the assessment of ADHD and “Other Training” related to interventions for ADHD students.

Utilizing Table 6, comparisons by position indicate that a higher percentage of special education teachers have received assessment training through conferences or workshops and in undergraduate and graduate training than have regular education teachers and Title One teachers. Within Table 7, the percentage of special education teachers who have received training in interventions was also higher for all areas (excluding “No Training” and “Other Training”) than the regular education and Title One teachers. A smaller percentage of special education teachers, as compared to regular and Title One teachers, indicated “No Training” for both assessment training (Table 6) and intervention training (Table 7).

Table 6

Participant Responses to Assessment Training

	Total n=250	Regular Education n=175	Special Education n=61	Title One n=14
	N (%)	N (%)	N (%)	N (%)
- No Training	46 (18.4)	36 (20.6)	7 (11.5)	3 (21.4)
- In-Service Training Within the District	101 (40.4)	68 (38.9)	27 (44.3)	6 (42.9)
- Conference or Workshop Training	66 (26.4)	32 (18.3)	31 (50.8)	3 (21.4)
- Self Study (Books and Manuals)	115 (46.0)	76 (43.4)	33 (54.1)	6 (42.9)
- Self Study (Journals and Newspapers)	100 (40.0)	67 (38.3)	30 (49.2)	3 (21.4)
- Self Study (Computer On-Line Access)	1 (0.4)	0 (0.0)	1 (1.6)	0 (0.0)
- As Part of Undergraduate Coursework	55 (22.0)	33 (18.9)	21 (34.4)	1 (7.1)
- As Part of Graduate Coursework	63 (25.2)	40 (22.9)	20 (32.8)	3 (21.4)
- Other Training	12 (4.8)	7 (4.0)	3 (4.9)	2 (14.3)

Table 7

Participant Responses to Intervention Training

	Total n=250	Regular Education n=175	Special Education n=61	Title One n=14
	N (%)	N (%)	N (%)	N (%)
- No Training	51 (20.4)	40 (22.9)	6 (9.8)	5 (35.7)
- In-Service Training Within the District	92 (36.8)	61 (34.9)	26 (42.6)	5 (35.7)
- Conference or Workshop Training	64 (25.6)	34 (19.4)	27 (44.3)	3 (21.4)
- Self Study (Books and Manuals)	113 (45.2)	76 (43.4)	31 (50.8)	6 (42.9)
- Self Study (Journals and Newspapers)	96 (38.4)	65 (37.1)	29 (47.5)	2 (14.3)
- Self Study (Computer On-Line Access)	6 (2.4)	1 (0.6)	5 (8.2)	0 (0.0)
- As Part of Undergraduate Coursework	50 (20.0)	30 (17.1)	19 (31.1)	1 (7.1)
- As Part of Graduate Coursework	59 (23.6)	36 (20.6)	20 (32.8)	3 (21.4)
- Other Training	12 (4.8)	8 (4.6)	2 (3.3)	2 (14.3)

A final source of teacher input involved additional information provided by the participants in writing on the survey questionnaire. Three respondents added general comments to the pages of the survey questionnaire. The comments ranged from (a) comments about ADHD and the need for intervention resources, to (b) a call for training programs for parents of ADHD students, to (c) derogatory remarks about the research author and school psychology as a profession. A verbatim listing of the general comments is included in Appendix C.

Discussion

The purpose of the survey questionnaire research was to collect information concerning regular education, special education, and Title One teachers' (a) knowledge level with respect to the diagnostic criteria and diagnostic labels for ADHD, (b) intervention preferences for addressing ADHD student behaviors in the classroom, (c) interventions that they would use for ADHD student behaviors under ideal classroom circumstances, and (d) opinions concerning the importance of a number of issues related to ADHD and the classroom teacher. The goal of such a broad range of probes concerning ADHD students was two-fold. First, the classroom teacher is a rich source of information concerning this disorder and its treatment in the schools, although the research literature involving teachers' views on ADHD is sparse. Questioning teacher knowledge about ADHD, teacher preferences with respect to interventions for these students, and teacher opinions about issues relevant to ADHD students in the schools was intended to provide direction for further research involving those who, second only to a parent or guardian, spend more time with an ADHD student than any other adult. Second and more importantly, the goal of the research was to bridge the ADHD assessment and intervention phases by investigating what teachers currently know about an ADHD student beyond a meaningless categorical label. The data obtained through the survey questionnaire could be used in district in-service training for improving regular and special education services

for ADHD students. District personnel, from school psychologists to special education directors, could also utilize the research data in establishing methods designed to improve the development of intervention services for ADHD students after a diagnosis has been made. Teachers could also access the intervention data to determine the most common behavior management strategies for addressing ADHD behavior in the classroom. From classroom teacher to district superintendent, the survey research data contains information relevant to all school professionals, regardless of their level of involvement with the ADHD student.

Summary of Results

A sample of 250 participants from sixteen county school systems in central-western Kentucky responded to the survey questionnaire. The sample consisted primarily of regular education teachers and included special education teachers and Title One teachers. The majority of the respondents were females, and teachers from Kindergarten through sixth grade with one to thirty-one plus years of experience and Bachelor's degrees to Doctoral degrees were represented.

Concerning the first research question, which investigated teacher knowledge of ADHD criteria and diagnostic labels, the majority of the respondents were able to identify the 14 true ADHD criteria. Overall, a much smaller percentage of the respondents were able to correctly identify the false ADHD criteria, which included *DSM-IV* criteria for Depression, Conduct Disorder, Oppositional Defiant Disorder, and Generalized Anxiety Disorder. In regard to the *DSM-IV* diagnostic labels for ADHD, the majority of the respondents were unable to correctly identify any of the three current diagnostic

classifications for ADHD. However, a higher percentage of the respondents correctly identified ADHD, Combined Type as a current diagnostic label than ADHD, Predominantly Inattentive Type and ADHD, Predominantly Hyperactive-Impulsive Type. Across regular education, special education, and Title One teachers, identification of ADHD criteria and diagnostic labels was relatively consistent.

In relation to the second and third research questions, respondents were asked to indicate interventions that they currently use or have used in the past and interventions that they would use in an ideal setting for nine diagnostic ADHD behaviors. Across the interventions currently used or used in the past for ADHD behaviors, teachers indicated that the interventions they chose varied depending upon the type of behavior presented. However, positive reinforcement / token reinforcement, punishment, and response cost interventions were commonly chosen interventions for most of the nine behaviors. Notable variations included criterion number one (“A student who often fails to give close attention to details or makes careless mistakes in schoolwork”), where proximity, along with positive reinforcement / token reinforcement, were the most common interventions, and criterion number four (“A student who is easily distracted by extraneous stimuli”), where proximity and environmental changes were the most common interventions.

Across the interventions which would be used in an ideal setting for ADHD behaviors, teachers again indicated that the interventions they would choose varied depending upon the type of behavior presented. However, across the majority of the nine diagnostic behaviors, positive reinforcement / token reinforcement and punishment interventions were chosen less often by the participating teachers. Self-management

interventions were chosen significantly more often as interventions in an ideal setting, a pattern which indicates that for the majority of the teachers, a student's ability to manage his/her own behavior would be ideal, regardless of which behavior is noted. Variations to this pattern included criterion number one ("A student who often fails to give close attention to details or makes careless mistakes in schoolwork") and criterion number three ("A student who often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort"), where positive reinforcement / token reinforcement was still a commonly chosen intervention. Criterion number four ("A student who is easily distracted by extraneous stimuli") also varied from the self-management pattern, as environmental changes and proximity were the most common interventions.

The fourth research question involved asking the respondents to provide importance ratings for a number of issues related to teachers and the ADHD student on a five-point Likert scale. For all seven issues, measures of central tendency (i.e., means, medians, and modes) indicated consistently high importance ratings. Knowledge of ADHD criteria and the knowledge of which of those criteria are met by an ADHD student were both considered important information. A selection of available intervention techniques and the services of other professions (e.g., school counselor, school psychologist) for consultation concerning ADHD students were also considered important. The majority of the participants also indicated that further training would be beneficial in the areas of ADHD assessment, interventions, and utilizing assessment data in the development of intervention strategies. However, the data suggest that the participants were most interested in training that centered around the development and implementation

of interventions which can be used with ADHD students. The respondents also indicated that the least important of the seven issues involved receiving more training in using data collected in the assessment process to develop intervention strategies for ADHD students. This evidence supports the notion that teachers do not currently perceive the link between assessment and intervention to be important with respect to ADHD referrals.

In addition to the survey items related to the four primary research questions, a number of supplementary items were included for the purpose of providing research data related to teacher involvement with ADHD students. Respondents were asked to indicate whether knowledge of the diagnostic label for a student or whether knowledge of the diagnostic characteristics met by an ADHD student was more important in planning classroom interventions. The overwhelming majority of respondents indicated that knowledge of the characteristics met by an ADHD student was more important to them in planning interventions. Little variation was noted in this response pattern across regular education, special education, and Title One teachers. This finding would indicate that teachers are more interested in the behaviors that are interfering with the ADHD student's learning processes than in a label handed to them by a diagnostic professional.

The participants were also asked to indicate if he/she had worked with or had in his/her class a student diagnosed with ADHD in the past two years. The majority of the respondents replied affirmatively to this item, indicating that over the course of a two year period with classrooms between 20 to 35 students, a teacher is likely to instruct a student diagnosed with ADHD. This finding corresponds to national estimates that ADHD students comprise 3-5% of the school population.

The participating teachers were also asked to indicate the types of training they had received concerning assessment practices and intervention practices for ADHD students. The results indicated that there is no single, consistent method that teachers are using to become knowledgeable about ADHD assessment and intervention. Relative to assessment training, the participants responded that self-study using books and manuals, self-study using journals and newspapers, and in-service training within the district were the most common avenues of training in this area. Across teacher positions, special education teachers also indicated that conference or workshop training was a common source of assessment training, along with undergraduate and graduate coursework curriculums. In relation to intervention training, the participants responded that self-study using books and manuals, self-study using journals and newspapers, and in-service training within the district were the most common avenues of training in this area. Across teacher positions, special education teachers again indicated that conference or workshop training was a common source of intervention training, along with undergraduate and graduate coursework curriculums. For both assessment training and intervention training, a higher percentage of special education teachers indicated that they had received training in these areas than did the regular education and Title One teachers. Although the content of assessment and intervention training related to ADHD may be both dated and lacking in the systematic utilization of assessment data in the planning of interventions, an assessment of the quality of ADHD training was beyond the scope of this research study.

In summary, the 250 respondents in the present research study have indicated that knowledge of the specific diagnostic criteria and classifications for ADHD is limited at this

time. Interventions currently utilized by the teachers, although varying with respect to particular behaviors, commonly included positive / token reinforcement, punishment, and response cost. When asked about interventions they would utilize in an ideal setting, the respondents indicated that self-management interventions would be used more often. The respondents indicated that further training in assessment and intervention for ADHD students was important, along with training involving the development and implementation of interventions which can be used with ADHD students. The majority of the respondents indicated that they had instructed an ADHD student in the past two years, and typical resources for training related to this population included self-study using books and manuals, self-study using journals and newspapers, and in-service training.

Strengths and Limitations

A strength of the research study mentioned earlier was the utility of the survey data for all school personnel, from administrators to classroom teachers, interested in providing appropriate educational opportunities for ADHD students. Administrative personnel could incorporate the research data into in-service training for district employees directly involved in the provision of services to ADHD students. An applicable finding from the research data involves a lack of training in recognizing the range of behaviors which are utilized in the diagnosis of ADHD. Training in this area would underscore the importance of differential diagnosis, and the research data could be used to illustrate the fact that “ADHD- like” behaviors are often attributed to ADHD when a completely different condition is causing the behavior problems.

The currently used and ideal setting interventions chosen by the survey respondents yield additional research data applicable to in-service providers. The findings could be used to emphasize the differences between the interventions most often chosen for ADHD behaviors and the interventions teachers feel would be more appropriate in a best-case scenario. The findings could also be used to illustrate the similarities and discrepancies between interventions chosen by teachers and those interventions which the research literature suggest are most effective for ADHD behaviors. For example, the survey data indicate that positive reinforcement / token reinforcement, punishment, and response cost interventions are commonly utilized by teachers. The research literature suggests that positive / token reinforcement, punishment, and response cost interventions, when properly implemented, can be effective in the treatment of ADHD behaviors (Fiore et al., 1993). Interventions chosen as “ideal” for ADHD behaviors included less utilization of positive / token reinforcement and punishment and an increase in self-management interventions. As mentioned earlier, this pattern indicates that a student’s ability to manage his/her own behavior would be viewed as “ideal” by many of the participating teachers. However, the research literature does not support this point-of-view, as self-management strategies such as self-monitoring and self-reinforcement have been described as minimally effective in the treatment of ADHD behaviors (DuPaul & Stoner, 1994; Fiore et al., 1993). The research data can thus be used to increase teachers’ awareness of intervention practices which are effective and those which, despite their appeal to the classroom teacher, lack substantial research evidence to support their use.

The research data could also serve as a catalyst for progressive school systems seeking to make changes in their evaluation process for students referred for an ADHD evaluation. School systems could make adaptations which would utilize assessment information from the diagnostic professional in developing an intervention plan for an ADHD student. Regardless of the level of involvement with the student population, the results of the survey research provide relevant data for most school system employees.

Another strength of the research study is evidenced by its design. The survey intentionally focused on the teacher, since he/she represents a vital source of information about the interaction of an ADHD student's behavior with the instructional atmosphere of the classroom. A primary contributor to the assessment process leading to the diagnosis of ADHD, the classroom teacher also serves an integral role in the intervention process for the ADHD student. The involvement of classroom teachers with ADHD students cuts across the boundaries of regular and special education, as 50% of ADHD students receive educational instruction from regular education teachers alone, while 15% of ADHD students with severe behavioral impairments receive instruction from special education teachers alone. The other 35% of ADHD students receive educational services from both regular and special education teachers (Lerner et al., 1995).

From the standpoint of a school psychologist, the teacher has the capability of implementing a successful intervention plan with an ADHD student given the appropriate information concerning the assessment results and consultation concerning the intervention strategy. However, the intervention plan for a single student cannot take precedence over the instructional objectives for the entire class. Therefore, it is of primary importance that

the opinions, knowledge levels, and training of classroom teachers are addressed concerning this condition. The research data provide a preliminary data base for investigating the teacher's viewpoint in relation to ADHD students and creates a foundation for further research in this area.

In hindsight, the research study revealed limitations resulting from its production and dispersion in the school systems included in the survey. Mail questionnaire return rates range from 5-10% to 30% or more (Alreck & Settle, 1995). The return rate for this survey (39.5%), although reasonable for a private survey of professionals, could have been improved. Many of the 16 district contact persons, when commenting on their respective return rates, indicated that many teachers were unwilling to undertake the additional task of completing a survey questionnaire so close to the conclusion of the school year. Several contact persons stated that, in addition to room inventories, final grades, and instructional wrap-up which mark the end of the school year, many teachers would not allocate 12-15 minutes of their time to completing a survey. An additional comment common among the contact persons stated that if the survey questionnaire had been mailed to each of the 633 participants instead of being delivered by someone within the district familiar with the teachers, the response rate would have assuredly been lower.

Another limitation of the research study design can be found in the layout of survey items related to the first research question on true and false ADHD criteria and the fourth research question on importance ratings by teachers. In the results from both of these questions, the possibility exists that a response set pattern for answering these items (also known as "yea- or nay-saying") may have slightly diluted the research findings. Given the

high percentage of respondents who correctly identified true ADHD diagnostic criteria, the low percentage of respondents who were able to correctly identify false ADHD diagnostic criteria, and the skewed distribution of means, medians, and modes for the importance ratings, it is possible to explain some of the results for these two questions by indicating that a response set existed among the participants. In hindsight, utilizing an equal number of true ADHD criteria and false ADHD criteria (there were 14 true ADHD criteria and six false ADHD criteria) may have partially controlled for the possibility of a response set pattern in determining the respondents' knowledge level of ADHD criteria. In regard to the importance ratings, instructing the respondent to rank order the seven issues according to its importance to him/her may have controlled for the possibility of a response set pattern in the importance ratings. However, any justification of the results must be tempered by the plausible explanation that the results were a relatively true representation of both the teacher's knowledge level with respect to ADHD diagnostic criteria and the teacher's attitudes toward the importance of the issues related to ADHD students.

A final limitation of the survey research results was the possibility that the term "ideal" used in the third research question to describe those interventions which teachers would use in an ideal setting may have been interpreted differently by the respondents. In the context of the survey, the term "ideal" setting was meant to imply a small class size, zero time constraints on the teacher, adequate financing for implementing interventions, adequate training in intervention practices, and other resources such as assisting school personnel (e.g., teacher aides). Although descriptive examples of what is meant by "ideal" were included in the survey questionnaire instructions, some respondents still may have

been unsure of the meaning of “ideal” as it appeared in the survey text. Other teachers may have assumed that the interventions they currently use or used in the past were indeed “ideal” (see General Comments in Appendix C).

Implications and Future Direction for Research

While the results of the present study provide useful research data concerning the input of classroom teachers on Attention-Deficit Hyperactivity Disorder, there is a clear necessity for further research to supplement and expand the database in this area. A larger sample size encompassing a greater geographical area would be desirable in expanding the generalizability of the research findings. The inclusion of administrative and support staff in future research might also provide supplementary data in this area. Another direction for future research would be to survey a national sample of school psychologists in order to determine training needs for personnel in this field by narrowing the focus of the survey to what the school psychologist does between the time that the assessment process has ended and the intervention planning process begins. In addition to expanding the data base related to the involvement of school personnel with ADHD students, follow-up research could lead to the determination of reliability statistics involving data collected through surveys in this area. By addressing the limitations of the present research and building upon its strengths, further documentation of the need to update and improve assessment and intervention training for classroom teachers and to develop more appropriate practices in providing services to ADHD students can be initiated.

Overall, the research study has presented findings based on a wide range of topics related to ADHD and the schools, from knowledge of diagnostic criteria and labels used in

assessment to current and ideal intervention practices to training related to ADHD students. The intention of the survey questionnaire was to provide insight into teacher awareness and training needs related to the ADHD student. The results indicate that the link between the assessment and intervention phases is weak at best and that a need exists among school personnel for further training in the utilization of assessment data in intervention planning.

Across the positions of school board member, superintendent, student support staff, principal, regular education teacher, special education teacher, Title One teacher, and classified staff, the ADHD student represents a challenge to balancing the educational goals of instruction with the management of difficult behavior. With respect to school psychologists in particular, it is imperative that he/she continue to educate, consult, and train school personnel in the best practices currently available for addressing the unique needs of ADHD students. Now and in the future, those best practices should involve the incorporation of assessment data into the development of appropriate intervention plans for ADHD students. The school psychologist should also maintain direct involvement with the ADHD student, from pre-referral interventions to the assessment process to intervention planning and beyond. The ultimate goal of such practices will be to transcend the notion of “behavioral management” (which consumes and depletes the teacher’s time, effort, patience, and sense of accomplishment) so that he/she can continue with a teacher’s intended purpose: To instruct and educate.

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Appendix A
Survey Questionnaire



Department of Psychology

Bowling Green, KY 42101
502-745-2695

Dear Teacher:

You are asked to take part in a research project conducted by Matt Lockett, a graduate student at Western Kentucky University and a school psychologist intern in the Breckinridge County, Kentucky schools. The purpose of the study is to investigate regular and special education teachers' knowledge and intervention practices for students diagnosed with Attention-Deficit Hyperactivity Disorder (ADHD). Your participation will last approximately 15 minutes.

The ADHD diagnosis is usually made by psychologists, pediatricians, and other physicians on the basis of a number of characteristics which describe the disorder. Several hundred teachers in central Kentucky are involved in this research project. We hope to use the information from this study to increase teacher's knowledge about interventions for ADHD students. Results of the findings will be provided for each participating school.

Please be assured that your responses will be strictly confidential and will remain completely anonymous, even to the research project author. The responses you return will be grouped with other participants and will not be interpreted individually.

Thank you in advance for your time and effort. Your participation is sincerely appreciated. For more information concerning the research as well as the results of the survey, you may contact the researcher, Matt Lockett, at (502) 756-2186 [Daytime] or (502) 756-6054 [Evening].

Matthew B. Lockett
Matthew B. Lockett, B.A.
Research Project Author

William F. Pfohl
William F. Pfohl, Psy.D.
Faculty Advisor

PLEASE RETURN THE COMPLETED SURVEY TO YOUR SCHOOL CONTACT PERSON BY MAY 30, 1996. THE CONTACT PERSON WITHIN YOUR SCHOOL IS

A. Please mark those characteristics which you believe are currently used in the diagnosis of Attention-Deficit Hyperactivity Disorder (ADHD) in students?

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	YES	NO	DO NOT KNOW
1. Often fails to give close attention to details or makes careless mistakes in schoolwork, job, or other activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Often seems lazy or unwilling to complete daily activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Often does not follow through on instructions and fails to finish schoolwork or chores (not due to oppositional behavior or failure to understand instructions)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Often experiences fatigue or loss of energy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Often has difficulty organizing tasks and activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Often experiences failure in school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is often easily distracted by extraneous (i.e., irrelevant) stimuli (e.g., air conditioner, hall noise, activity outside room windows)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Often irritable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Often leaves seat in classroom or in other situations in which remaining seated is expected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Often deliberately annoys people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Often has difficulty playing or engaging in leisure activities quietly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Is often "on the go" or acts as if "driven by a motor"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Often has difficulty awaiting turn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Often loses temper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Often blurts out answers before questions have been completed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Some hyperactive or inattentive symptoms that caused impairment were present before age seven	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Some impairment from the symptoms is present in two or more settings (e.g., at school [or work] and at home)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. There is clear evidence of clinically significant impairment in social, academic, or occupational functioning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B. There are currently three names which can be used to describe ADHD students. Mark three choices which you believe are the labels used in the diagnosis of ADHD.

- ☐ Attention-Deficit Hyperactivity Disorder, Predominantly Inattentive Type
- ☐ Attention-Deficit Disorder With Hyperactivity
- ☐ Attention-Deficit Hyperactivity Disorder
- ☐ Attention-Deficit Hyperactivity Disorder, Predominantly Hyperactive-Impulsive Type
- ☐ Attention-Deficit Disorder Without Hyperactivity
- ☐ Attention-Deficit Hyperactivity Disorder, Combined Type

Which would be more important to you in planning classroom interventions for an ADHD student: knowing the name of the ADHD diagnosis (see Question B.) or knowing which ADHD characteristics were indicated for the student (see Question A.)? Please choose one answer.

- ☐ Knowing the diagnosis
- ☐ Knowing the characteristics

In the past two years, have you worked with / had in your class a student diagnosed with ADHD?

- ☐ Yes
- ☐ No

Questions A. through G. will be used in providing descriptive information about those who participate in the survey. The answers you provide will be added to those from other respondents and will be presented as overall group characteristics. Simply check one most appropriate box.

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A. Position Held:

- Regular Education Teacher ☐
 Special Education Teacher ☐
 Title One Teacher ☐

B. Primary Grades Taught:

- Kindergarten - Grade One ☐
 Grade Two - Grade Three ☐
 Grade Four - Grade Six ☐
 Special Education Resource Teacher (students from all grades) ☐

C. Number of Years Teaching Experience:

- One to Five Years ☐
 Six to Ten Years ☐
 Eleven to Fifteen Years ☐
 Sixteen to Twenty Years ☐
 Twenty-One to Thirty Years ☐
 Thirty-One Plus Years ☐

D. Degree Level Held at the Present Time:

- Bachelor's Degree or Rank III Certification ☐
 Master's Degree or Rank II Certification ☐
 Master's Degree + hours needed for Rank I ☐
 Doctoral Degree ☐

E. Gender:

- Female ☐
 Male ☐

F. What type of training have you received pertaining to the assessment of ADHD?

(Mark all that apply)

- No Training ☐
 Inservice training within the district ☐
 Conference or workshop training ☐
 Self Study (Books and Manuals) ☐
 Self Study (Journals, Newspapers) ☐
 Self Study (Computer On-Line Access) ☐
 As part of undergraduate coursework ☐
 As part of graduate coursework ☐
 Other (list in the space to your right) ☐

G. What type of training have you received pertaining to interventions for ADHD students? (Mark all that apply)

- No Training ☐
 Inservice training within the district ☐
 Conference or workshop training ☐
 Self Study (Books and Manuals) ☐
 Self Study (Journals, Newspapers) ☐
 Self Study (Computer On-Line Access) ☐
 As part of undergraduate coursework ☐
 As part of graduate coursework ☐
 Other (list in the space to your right) ☐

The following items are characteristics used to diagnose students with ADHD. You will be asked to indicate the interventions which you do use or have used for ADHD students. You will also be asked to indicate the interventions you would IDEALLY use for ADHD students if you had unlimited resources. If you have not worked with an ADHD student, then relate your responses to interventions for students with disruptive behavior problems or those having difficulty paying attention in the classroom.

DIRECTIONS: Detach the Interventions Sheet stapled at the end of the survey. Using the intervention choices numbered 1-14, place a check mark next to the number of the intervention(s) you “do use or have used” in the classroom with ADHD students or students with similar behavioral patterns. Often, an intervention is chosen because of limitations on your time, financial resources, the availability of additional school personnel to assist you, etc. Given the ideal environment where none of these limitations existed, place a check mark next to the number of the intervention(s) you “would ideally use” for ADHD students or students with similar behavioral patterns. For both groups of numbers, mark as many boxes as apply for you.

A student who often fails to give close attention to details or makes careless mistakes in schoolwork.

DO USE OR HAVE USED

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

WOULD IDEALLY USE

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

A student who often does not follow through on instructions and fails to finish schoolwork (not due to oppositional behavior or failure to understand instructions).

DO USE OR HAVE USED

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

WOULD IDEALLY USE

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

A student who often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as challenging schoolwork or homework).

DO USE OR HAVE USED

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

WOULD IDEALLY USE

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

A student who is often easily distracted by extraneous (i.e., irrelevant) stimuli, such as the air conditioner, hall noise, or activity outside the classroom windows.

DO USE OR HAVE USED

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

WOULD IDEALLY USE

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

A student who often leaves seat in classroom or in other situations in which remaining seated is expected.

DO USE OR HAVE USED

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

WOULD IDEALLY USE

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

A student who often has difficulty playing or engaging in leisure activities quietly.

DO USE OR HAVE USED

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

WOULD IDEALLY USE

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

A student who is often "on the go" or acts as if "driven by a motor".

DO USE OR HAVE USED

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

WOULD IDEALLY USE

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

A student who often blurts out answers before questions have been completed.

DO USE OR HAVE USED

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

WOULD IDEALLY USE

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

A student who often has difficulty awaiting his/her turn.

DO USE OR HAVE USED

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

WOULD IDEALLY USE

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7
☐8 ☐9 ☐10 ☐11 ☐12 ☐13 ☐14

For the remaining questions, please pick a number from the scale to show how important each of these statements is to you concerning Attention-Deficit Hyperactivity Disorder (ADHD):

NOT IMPORTANT 1 2 3 4 5 VERY IMPORTANT

As a teacher, how important is it for you to know the diagnostic criteria for ADHD? _____

As a teacher, how important is it for you to be aware of the specific diagnostic criteria met by an ADHD student in his/her assessment? _____

As a teacher, how important is it for you to have a selection of intervention techniques available for you to use in the classroom? _____

As a teacher, how important is it for you to have the services of other professions (e.g., school counselor, school psychologist) available to help or consult with you on ADHD students? _____

As a teacher, how important is it for you to receive more training in ADHD assessment practices? _____

As a teacher, how important is it for you to receive more training in developing and implementing interventions which can be used with ADHD students? _____

As a teacher, how important is it for you to receive more training in using the data which is collected in the assessment process to develop intervention strategies for ADHD students? _____

THANK YOU FOR YOUR PARTICIPATION. YOUR TIME AND EFFORT IN CONTRIBUTING TO THIS PROJECT IS GREATLY APPRECIATED.

DETACH SHEET

Interventions Sheet

Your choices for interventions include the following: (If an intervention you use is not listed below or is not similar to one of the interventions listed below, please mark "Other" and describe it on the back of this sheet). It might be helpful to briefly skim over the list before continuing with the survey items. Use of medication by students, although often occurring at school, does not constitute a "teacher involved" intervention.

1. **No intervention** implemented for this item.
2. **Positive reinforcement or token reinforcement** - verbal rewards (praise), material rewards (food or objects), activity rewards (game, computer time), token economy, etc.
3. **Punishment** - verbal reprimands, use of time-out, loss of privileges, movement within the classroom, removal from classroom, detention, etc.
4. **Response Cost** - combines positive reinforcement and punishment. Points, stars, tokens, etc. can be accumulated (in order to gain rewards) or lost (as punishments).
5. **Behavior Contract** - document signed by teacher(s) and student and stating objective(s), rewards the student can earn, schedule rewarding will be based on, etc.
6. **Proximity** - moving the student's desk closer to the yours, teaching while standing in the student's vicinity, placing hand on his/her shoulder to redirect, etc.
7. **Peer Involvement** - using other students in the class for peer tutoring, monitoring, establishment of the classroom rules, etc.
8. **Self-Management** - student is trained and then uses self-monitoring of behavior, self-reinforcement of positive behavior, maintains a homework notebook, etc.
9. **Conference** - teacher meets with or makes phone calls with parents, teacher meets with student alone, teacher consults other school personnel concerning behavior of student, etc.
10. **Environmental** - (whole class) - changes in presentation of academic material, soft music during work periods, color printouts rather than black and white, small groups, reduction/removal of items/objects/things/etc. which distract students from the teacher, posting classroom rules and daily time schedule, etc.
11. **Teacher/Student Cues** - signals established by the teacher and the student which the teacher uses to redirect him/her without disrupting activity in the classroom by speaking.
12. **School Personnel** - teacher involves school psychologist, school counselor, etc. for consultation, social skills training, counseling, study/organizational skills training, etc.
13. **Academic** - addressing academic issues in the areas of reading, math, language arts, spelling, writing, etc. which result from inattention and/or behavior problems
14. **Other**

Appendix B
Development of First and Third Sections
of the Survey Questionnaire

The characteristics of ADHD students utilized in Part A. of the first section of the survey were obtained from the *DSM-IV* (1994). Of the 20 items listed, only 14 were diagnostic criteria for ADHD. The other six items were obtained from *DSM-IV* diagnoses for Depression, Conduct Disorder, Oppositional Defiant Disorder, and Generalized Anxiety Disorder. An effort was made to include a number of true ADHD criteria in proportion with the number of criteria presented in the *DSM-IV* under the subheadings of Inattention, Hyperactivity, and Impulsivity. Of the six diagnostic labels listed in Part B. of the first section, three are current labels and three are dated diagnostic labels from *DSM-III* and *DSM-III-R*.

The diagnostic criteria from *DSM-IV* were also utilized for the third section of the survey. Nine criteria were presented, and again an attempt was made to present the criteria in proportion to the *DSM-IV* subheadings of Inattention, Hyperactivity, and Impulsivity. The list of 14 common intervention practices from which the teacher chose for each criterion was developed based on intervention practices discussed in the literature from Barkley (1990), DuPaul & Stoner (1994), and Fiore et al. (1993) as well as a survey conducted by Ringer, Doerr, Hollenshead, & Wills at Louisiana State University, Shreveport (1993). Categories of interventions included in the Ringer et al. survey resulted from an earlier study by the authors (1990). Although the Ringer et al. survey focused more on academic interventions, the survey did include a checklist of behavioral interventions for regular and special education teachers to choose from. The interventions

included reinforcement techniques, behavior plans, punishment, proximity, conferences, peer tutoring, other, and none of the above (1993).

In discussing behavioral interventions in the classroom, Barkley included teacher attention, rewards and token systems, verbal reprimands, ignoring, time-out, response cost, and suspension (1990). Classroom management strategies detailed by DuPaul & Stoner included token economies, behavior contracts, response cost, time-out, and student self-monitoring (1994). From the Office of Special Education and Rehabilitative Services (OSERS) sponsored “Center” at the Research Triangle Institute in North Carolina, Fiore, Becker, & Nero reviewed behavioral and educational interventions for children with ADHD, some of which were not classroom-based. The interventions included positive reinforcement or token reinforcement, behavior reduction strategies, response cost, cognitive-behavioral therapy or self-instruction, parent or family training, task stimulation or environmental stimulation, and biofeedback (1993). The twelve categories chosen for inclusion in the research survey questionnaire (as well as “No Intervention” and “Other”) represented the majority of the broad areas mentioned in the research literature as effective classroom intervention strategies. The use of medications was not listed as an intervention since the survey focused only on “teacher-involved” interventions.

Appendix C

Verbatim Written Teacher Comments

on “Other” Statements or as General Comments

Other Training Pertaining to the Assessment of ADHD

- "Practical experience"
- "Have had to complete rating scales quite a few times on students in my class"
- "Completing rating scales, observations, involved in testing"
- "Parent of ADHD child"
- "C.H.A.D.D."
- "Information from parents, materials from parents"
- "Information from parent of an ADHD child who goes to many C.H.A.D.D. meetings"
- "Working with these children in class and speaking with parents and school psychologists and school counselors"
- "Pamphlet type information sheets"
- "TV news reports"
- "Hands on - filling out assessment forms on children"
- "Physician conference"

Other Training Pertaining to Interventions for ADHD

- "Practical experience"
- "On job training"
- "C.H.A.D.D."
- "Interventions suggested by parents, doctor's evaluations"
- "Information from parent of an ADHD child who goes to many C.H.A.D.D. meetings"
- "Working with these children in class and speaking with parents and school psychologists and school counselors"

- "List of suggestions from a psychologist at a learning center"
- "Contact with psychologist, because I have two children with (one with hyperactivity and one without)"
- "SBARC recommendations; TV news reports"
- "Doing them"
- "On the job experience - trial and error"
- "Advice from other teachers"

Other Interventions Currently Used or Used in the Past

(includes criteria numbered #1 through #9)

#1 - "Let student share work with another"

#1, #7, #8, #9 - "Give as much individual attention as possible; Give praise/positive comments whenever possible; Build on the students strengths, not weaknesses; Refrain from being critical; If student needs a reprimand, do not make a public display - do in private; Try to develop the student's positive self-concept"

#3 - "Alter assignment"

#5 - "Can have two seats in room"

Other Interventions Used in Ideal Setting

(includes criteria numbered #1 through #9)

#1, #9 - "Aide; team teacher; aide in room full time!; small class size"

#1, #2, #3, #7 - "Aide"

#1, #2, #3, #4, #5, #7 - "Give as much individual attention as possible; Give praise/positive comments whenever possible; Build on the students strengths, not

weaknesses; Refrain from being critical; If student needs a reprimand, do not make a public display - do in private; Try to develop the student's positive self-concept"

#5 - "Can have two seats in room"

General Comments

- "More and more children that are coming into the schools today are exhibiting many of these characteristics. It is helpful to know interventions we can use to help pinpoint trouble areas until the long process of a referral can be done. These techniques are also helpful with other children!"
- "How about establishing training programs for the parents of these children. By the time we get them for a short 9 1/4 months - there's not a lot any one person can do."
- "For all of these [the nine criteria under which interventions were listed] I have used whatever was appropriate or convenient at the moment, most of the time spontaneous activities. I've expected a certain behavior and the students have acted accordingly - Maybe if you taught for a few years you would understand. Everything is this [an ideal intervention]; unfortunately, we don't live in an ideal world. So why discuss this. The problem with all this is in a classroom with 20-30 children it is impossible and asking too much for a teacher to concentrate so much time and effort for one student. The people who are out of the classroom expect too much of a regular classroom teacher! I also feel that there are too many children diagnosed with this [ADHD] and given a pill - discipline, understanding, and attention would be better. Which could be used if money was put into more classroom teachers rather than the fringe people."