THE USE OF ADAPTIVE BEHAVIOR INFORMATION BY SCHOOL PSYCHOLOGISTS IN THE PSYCHOLOGICAL EVALUATION OF SECONDARY AGE STUDENTS

by

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(ABSTRACT)

An analysis of how adaptive behavior information is obtained and used by school psychologists with secondary age students was the focus of this investigation. School psychologists are often considered to be important sources of information regarding the initial identification and programming of students placed in special education classes. Because the adaptive behavior instruments developed for public school use have emphasized the initial placement/identification of elementary age students, it was not known how school psychologists approach the adaptive behavior issue with secondary age students. This question was critical in light of research indicating the poor post secondary transition of many handicapped students and the limited training of school psychologists in providing services for secondary age students. The study was undertaken to examine the dynamics of practicing school psychologists' current use of adaptive behavior information in the psychological assessment of secondary age students.

To gather the data needed for the study, a questionnaire was mailed to a representative sample of the membership of the National Association of School Psychologists residing in the United States. An 81.4% return rate was obtained. One hundred eighty-seven school psychologists practicing primarily in the schools provided data used in the study.

The results of this study indicate that if school psychologists are to adequately address the post secondary needs of secondary age students, they will need to become familiar with newer adaptive behavior instruments which address issues beyond the non-biased assessment of mild mentally retarded students. Reforms in current re-evaluation practices are needed to facilitate the use of adaptive behavior instruments that can help facilitate the post secondary transition of secondary age students. Also, training programs need to place greater emphasis in skill development for optimal psychological services with secondary age students. More research is needed regarding the experience/continuing education factor mentioned earlier. Also, test publishers need to encourage the development and marketing of new adaptive behavior instruments which can better help to facilitate the post secondary transition of this population.

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CHAPTER 1

Introduction

Concern for the ability of individuals to lead a productive life and take part in the affairs of the community was expressed as far back as the early Greek and Roman civilizations (Oakland and Goldwater, 1979). Mental competence was determined in regard to behaviors that were viewed as important within specific social and cultural norms. This emphasis on social competence as a major criterion for normal behavior extended throughout the nineteenth and early twentieth centuries (Lambert, Windmiller, Tharinger, and Cole, 1981; Oakland and Goldwater, 1979).

Emphasis on social competence was included in many turn of the century definitions of intelligence and mental retardation (Coulter and Morrow, 1978b; Oakland and Goldwater, 1979). For example, Binet stated in 1906 that "the most general formula we can adopt is this: An individual is normal if he is able to conduct his affairs of life without having need of supervision of others, if he is able to do work sufficiently remunerative to supply his own personal needs and finally if his intelligence does not unfit him for the social environment of his parents" (Coulter, 1980). Despite Binet's multidimensional definition, modern approaches to identifying mental retardation have tended to rely almost

exclusively on an individual's performance on standardized psychometric techniques involving a sample of cognitive and motor skills (Lambert, Windmiller, Tharinger, and Cole, 1981).

The emphasis on psychometric approaches in identifying mental retardation has been used, to a large extent, by public school personnel (Mercer, 1970, 1973, 1978). This method was widely used throughout the United States in the 1950's when states began to provide special education services to the mentally retarded. The passage of Public Law 94-142 (Education for All Handicapped Children Act of 1975) and judicial decisions involving Diana v. State of California (1970), Guadalupe v. Tempe Elementary District (1972), and Larry P. v. Riles (1974, 1979) forced public educators and psychologists to address the issue of social competence as well as intellectual functioning in placing students in special education classes.

In each of these cases, the use of individual intelligence tests as the sole criteria for special class placement was ruled illegal. It was decided that disproportionate numbers of minority children were placed in classes for the mild mentally retarded without regard for their culturally relevant environment. Consequently, nondiscriminatory assessment techniques must now be utilized in gathering data regarding possible special education placement.

Responding to the need for nondiscriminatory assessment procedures, school psychologists have explored the use of adaptive behavior measurement scales as a possible supplement to traditional intelligence tests (Lambert, Wilcox, and Gleason, 1974; Tucker, 1977). The American Association of Mental Deficiency defines adaptive behavior as "the effectiveness or degree in which the individual meets the standard of personal independence and social responsibility expected of his age" (Grossman, 1973). Therefore, these scales are designed to account for factors in an individual's social competence that are not manifested in more conventional intellectually oriented techniques.

Adaptive Behavior Instrumentation

Coulter (1980) reported two surveys to determine what adaptive behavior instruments were being used in the public schools. The results of both surveys ranked the AAMD Adaptive Behavior Scale-Public School Version (ABS-PS), and the Vineland Social Maturity Scale (VSMS) as the two instruments most commonly used for special education placement decisions. Since the results of these surveys were first reported, the Adaptive Behavior Inventory for Children (ABIC) has been used frequently in some localities (Boyd, Slay, and Shiver, 1981; Coulter, 1980). In addition to these scales, a new instrument which has been addressed in the school psychology

literature and is likely to gain more attention in regard to the nondiscriminatory assessment issue is the Children's Adaptive Behavior Scale (CABS) (Richmond and Horn, 1980).

Lambert (1979) reported that the ABS-PS was developed in response to the assessment needs created by federal mandates. This scale was developed using the same format as the original AAMD Adaptive Behavior Scale. The major difference between the two scales is that the public school version was normed on public school handicapped students rather than institutionalized subjects. Also, there is a difference in the age norms of the two scales. The institutional sample ranges in age from 3 to 69 years, whereas the public school version was normed with children aged 7 years, 3 months to 13 years, 2 months. Close examination of these norms indicated that the use of the ABS-PS in placing students in special education classes is questionable because the sample was not normally distributed and an overall level of adaptive behavior is not obtainable. This is supported by at least one study which indicates that Part I of the ABS-PS does not differentiate between children who are mildly retarded and slow learners (Bailey and Richmond, 1979). Consequently, accurate prediction of an individual's relative level of adaptive functioning is limited (Bailey and Richmond, 1979; Coulter, 1980). Also, the upper limit of the ABS-PS norms only addresses adaptive behavior for early

adolescents. Thus, its utility with secondary school age students appears to be questionable.

The Vineland Social Maturity Scale (VSMS) was developed for use with individuals from birth to 30 years of age. Although this age range appears appropriate for use with the population served by public schools, its norms are generally considered to be dated and there is no measure of maladaptive behavior in the scale (Taylor, Warren, and Slocumb, 1979).

Both the ABIC and the CABS were developed in response to the nondiscriminatory assessment issue. The ABIC is part of the System of Multicutural Pluralistic Assessment (SOMPA). The standardization sample included 700 Hispanics, 700 Blacks, and 700 Anglo children ranging in age from 5 years to 11 years, 11 months (Baca and Cervantes, 1978; Mercer, 1977). The CABS is a new self-reporting instrument developed for children aged 5 through 10 years. Like the ABIC, it is normed on an inappropriate sample for addressing adolescent needs (Richmond and Horn, 1980). It appears that the emphasis on the nondiscriminatory identification/placement dimension of adaptive behavior measurement by public schools has encouraged the development of scales which address the age ranges of children who are typically evaluated for initial special education placement.

In assessing the adaptive functioning of secondary school students, it might be assumed that the use of this type of instrument has limited value. That is, most high school students referred for psychological evaluations have already been placed in special education classes and they are usually re-evaluated for the sole purpose of determining continuation in the program. Consequently, initial identification and placement are seldom made at the secondary level.

The few adaptive behavior instruments that address adolescents were, for the most part, developed by individuals in the field of mental retardation. These scales tend to focus on the needs of institutionalized clients (Coulter and Morrow, 1978c). A common feature of these scales is that they were developed to address programmatic needs of the institutionalized retarded in the areas of self-help, communication, motor development, and socialization. The idea is to assess the client's level of functioning in each of these domains and then develop a program that will facilitate the individual in progressing through each of these domains. Improvement in each of these areas will help the retarded individual toward maximum independent functioning.

It appears that adaptive behavior scales have emerged through the needs of two separate camps. The public school camp has been involved in designing instruments that can help in identifying the levels in which one might be deficient in

adaptive functioning. Consequently, if one is below a minimum criteria level, then special education placement may be recommended. Since initial placement in special education is the main concern of the public school camp, instrumentation development has centered on elementary age pupils. On the other hand, the mental retardation camp has concentrated on developing scales that will help in programming for the deinstitutionalization of handicapped individuals. Although these scales have norms which address adolescents, their usefulness with milder handicapped pupils in the public schools appears limited. Recently, a few scales have been developed for secondary age public school students. These instruments which include the Social and Prevocational Information Battery (SPIB) (Halpern, Raffeld, Irvin, and Link, 1975), Vocational Adaptation Rating Scale (VARS) (Malgady, Barcher, Davis, and Towner, 1980), and the AAMD Adaptive Behavior Scale-School Edition (ABS-SE) (Lambert, Windmiller, Tharinger, and Cole, 1981) have been totally ignored in the school psychology literature. The reason for this lack of attention is unclear. It can only be speculated that school psychologists have limited understanding of the potential use of adaptive behavior information beyond the nondiscriminatory assessment issue (Coulter, 1980).

Adaptive Behavior Measurement in Secondary Schools

Coulter and Morrow (1978c) have expressed concern about the limited amount of information concerning adolescent adaptive behavior. This issue needs to be addressed so public schools can better prepare handicapped secondary school students for their post school environments. The difficulty handicapped individuals experience adapting to post school environments is well documented (Brolin and Gysbers, 1979; Livingston, Korn, and McAlees, 1982). Much of this problem involves poor vocational and social development (Karayanni, 1981; Lombana, 1980; Sabatino, Goh, and Jenson, 1982; Sinick, 1979). Consequently, many of these individuals have difficulty achieving levels of personal independence and social responsibility required when they leave school.

Career and vocational education are logical approaches to helping handicapped secondary students develop skills that will facilitate their adaptation to post school environments (Brolin and Gysbers, 1979; Epstein, 1982; Hohenshil, 1974; Hohenshil, Ryan, and Warden, 1978). Until recently, these students had little, if any, opportunity to participate in such programs. The passage of Public Law 94-142, along with Public Law 94-482 (Vocational Education Act of 1976) and Section 504 of Public Law 93-112 (The rehabilitation Act of 1973) have mandated public schools to provide career/

vocational services for the handicapped. This legislation has begun to have an impact on our public schools. Increased numbers of handicapped individuals have been identified and educated in the public school setting since the passage of Public Law 94-142 (Hohenshil, 1982). Many of these individuals are now in or preparing to leave public secondary schools (Hohenshil, Shepard, and Capps, 1982). To better serve these students it is vital that the vocational and social development issues stated earlier are addressed. That is, to facilitate handicapped students in reaching the standards of personal independence and social responsibility expected for post school adjustment, school psychologists need to stress the measurement of adaptive behavior skills beyond the nondiscriminatory assessment issue.

Rationale for the Study

Effective use of the techniques developed from the two camps mentioned earlier could have a tremendous impact on how well our public schools prepare the handicapped for their post school environments. Techniques that address placement issues may be helpful with decisions regarding appropriate vocational placement (Malgady, Barcher, Davis, and Towner, 1980). That is, this approach could help determine appropriate placement in settings such as sheltered workshops, prevocational training programs, regular

vocational training centers, on-the-job-training, and so on. Once a student is placed in a program, the development of individual objectives could be facilitated through the use of intervention/programmatic techniques. Standardized as well as sociometric and qualitative approaches have been and are still being developed to gather both types of information with school age populations (Guidubaldi, Kehle, and Murray, 1979; Irvin, Halpern, and Reynolds, 1977; Malgady, Barcher, Davis, and Towner, 1980). It seems reasonable to assume that school psychologists could play on important role in maximizing the effective use of these techniques.

School psychologists are often considered to be important sources of information regarding the initial identification and programming of students placed in special education classes (Fagan, 1981; Senft and Snider, 1980). Because the adaptive behavior instruments currently used in public schools emphasize the initial placement/identification of students, it is unknown how school psychologists approach the adaptive behavior issue with secondary school students. The question is critical in light of recent surveys which suggest that school psychologists receive limited training for providing services to secondary school populations (Carroll, Bretzing, and Harris, 1981; Pfeiffer and Mormo, 1981; Shepard, 1982).

Purpose of the Study

The major purpose of this study is to examine how adaptive behavior information is obtained and used by school pscyhologists with secondary age students. This data will be based on a sample of the membership of the National Association of School Psychologists. The following research questions will be directly addressed:

1. To what extent do school psychologists' age, sex, training, experience, and worksetting relate to the type of adaptive behavior information gathered in the psychological assessment of secondary age students? That is, do certain characteristics of school psychologists relate to whether they use adaptive behavior measurement techniques designed to address the instructional needs, placement needs, both, or neither with secondary age students?

2. To what extent do school psychologists utilize adaptive behavior measurement techniques differently for different types of handicapped secondary age students on initial evaluations and re-evaluations?

3. To what extent do school psychologists who differ in training and other demographic characteristics also differ in the way they assess adaptive behavior with various types of secondary age handicapped students referred for initial evaluations and re-evaluations?

4. To what extent do the training and experience of school psychologists contribute to the differences between the reasons and procedures they utilize in initial evaluations versus re-evaluations of mild mentally retarded secondary age students?

The two surveys reported by Coulter (1980) addressed policies and practice regarding the use of adaptive behavior information in public schools. The results of these surveys indicated a need to refine existing approaches to the

measurement of adaptive behavior. Particular problems were identified regarding the lack of consistent approaches used to measure the adaptive behavior of secondary age populations. Many of the problems indicated in the surveys were explained by Coulter as resulting from limited instrumentation development and training for adequate use of these techniques in the public schools. Since the results of the surveys were first reported, several adaptive behavior instruments have been developed for use at both the elementary and secondary levels. Also, practitioners have had time to gain training and experience in adaptive behavior measurement. Therefore, it seems appropriate at this time to gain further insight on the "state of the art" in the measurement of adaptive behavior by school psychologists.

The relevance of this study is indicated through three major points. First, the way in which adaptive behavior information is used (or not used) with secondary age students by school psychologists may impact the need for pre- and inservice training. That is, if school psychologists are not using adaptive behavior information to optimally facilitate the post school adjustment of handicapped secondary students, then current pre- and inservice practices may need revision. Graduate training programs in school psychology may need to add courses and training relating to the career

and rehabilitation needs of the handicapped. State departments of education and licensure boards may decide to require such training in order for a school psychologist to be credentialed to provide services through the secondary level. Secondly, the results of this study could impact the future development of adaptive behavior instrumentation for secondary age populations. If adequate assessment services are not being provided by school psychologists, then test publishers may become motivated to support the development of better adaptive behavior instruments. Finally, it seems logical to assume that improved training and instrumentation would ultimately impact the ability of secondary school personnel to prepare handicapped students for their post secondary environments.

Limitations of the Study

Because the study focuses exclusively on practitioners who are members of the National Association of School Psychologists, findings may not be generalized to psychologists who are not associated with this organization.

Definition of Terms

Key terms used in this study are defined as follows:

1. Adaptive behavior. Involves the effectiveness or the degree in which an individual meets the standards of

personal independence and social responsibility expected for his/her age and relevant culture (Grossman, 1973; Morrow and Coulter, 1978; and Oakland, 1976).

2. Psychological assessment. The employment of any relevant data regarding the attributes of an individual, along with environmental or situational determinants of his/her behavior. Data collection is not restricted by a narrow focus on psychometric validity (Mahoney and Ward, 1976). In terms of this study, psychological assessment involves the systematic collection and integration of data by psychologists regarding identification/placement or intervention/programming of students suspected of having difficulty adjusting to societal and/or personal expectations (Coulter and Morrow, 1978a).

3. Nondiscriminatory assessment. A modification of traditional psychological assessment procedures which ensures that professional decisions are based on data that do not discriminate against ethnic minorities. In terms of this study, such techniques assure that minority students are not disproportionately placed in special education classroom settings (Coulter and Morrow, 1978; Mercer, 1973).

4. Special education. Involves services provided over and above the regular school program for handicapped students in facilitating the development of their potentialities and/or the correction of disabilities (Kirk, 1972).

5. Vocational assessment. A comprehensive process conducted over a period of time, involving a multidisciplinary team which helps students increase their career awareness and understand how their personal attributes relate to the world of work. This process is useful to educators in planning a student's individual program to facilitate the attainment of his or her vocational potential (Texas Education Agency, 1982).

6. Vocational education. That part of the career education process that emphasizes the exploration and attainment of specific work-related skills with secondary and post secondary students (Shepard, 1982).

Summary and Organization of the Study

The development and use of adaptive behavior instruments have evolved through two separate sources. One source involves individuals concerned with the nondiscriminatory assessment needs of public schools in identifying students for special education placement. The other source is composed of individuals interested in programming for the deinstitutionalization of mentally retarded individuals. Both sources have devoted marginal attention to the adaptive behavior of secondary age students. The purpose of this study is to examine how school psychologists address the problem

of collecting adaptive behavior information with this population. This will be accomplished through data obtained in a survey of the membership of the National Association of School Psychologists.

In Chapter 1, the problem was introduced and elaborated. The rationale and purpose of the study were presented along with its limitations. Also, key terms were defined. Chapter 2 contains a review of the literature concerning the measurement of adaptive behavior. Details concerning the methodology are discussed in Chapter 3 regarding subjects, instrumentation, data collection, and analysis. The results are presented in Chapter 4, while conclusions and recommendations are provided in Chapter 5.

CHAPTER II

Review of the Literature

A review of the relevant literature is presented in this chapter. Included are five major sections which address adaptive behavior. The first section focuses on the development of adaptive behavior as a construct. The measurement of this construct in the nondiscriminatory assessment process is discussed in the second section. The third section includes a discussion of how adaptive behavior information is used in developing intervention strategies. The next section involves the measurement of adaptive behavior with secondary age populations. The school psychologist's role in measuring the adaptive behavior of secondary age students is addressed in the fifth section. An additional section involves the use of mailed questionnaires in social science research. A final section is included to summarize the contents of the chapter.

The Construct of Adaptive Behavior: History and Development

Early Use of the Construct

Historical records indicate that the degree of normality in an individuals behavior was addressed as far back as early Grecian and Roman Civilizations (Oakland and Goldwater, 1979). Normal mental ability was judged by the

ability of an individual to integrate into the productive functions of the community. These early concepts of adaptive behavior viewed deficits in productive functioning as mental illness (Coleman, 1972; Oakland and Goldwater, 1979). Such historical figures as Hippocrates, Euripides and Plato viewed maladaptive functioning as an organically based illness in the brain (Coleman, 1972; Oakland and Goldwater, 1979).

Distinctions between the adaptive functioning of the mentally ill and the mentally defective were not made until the late seventeenth century (Doll, 1962). At that time, Locke stated that "herein seems to lie the differences between idiots and madmen, that madmen put wrong ideas together and reason from them, but idiots make very few or no propositions and reason scarce at all" (Oakland and Goldwater, 1979, p. 125). As the humanitarian reform movement gained momentum in Europe during the eighteenth century, increased effort was made to differentiate the educational, medical, and social welfare needs of these groups of handicapped individuals. The emphasis of intervention was to help individuals develop the social competencies necessary to function in society (Colemen, 1972; Coulter and Morrow, 1978). Most notable among Europeans addressing these social competencies were Itard, Sequin, Haslan, Guggenbahl, and Voisin (Coulter and Morrow, 1978a).

These reformers established educational institutions for the mentally defective that addressed both the sensory-motor and vocational competencies needed to function successfully in society (Doll, 1967; Oakland and Goldwater, 1979). The work of these humanitarians influenced the development of programs in the United States which addressed the differential treatment of the handicapped (Oakland and Goldwater, 1979).

During the nineteenth and early twentieth centuries, adaptive behavior became closely associated with the concepts of intelligence and mental retardation (Oakland and Goldwater, 1979). Many psychologists and educational reformers such as Itard, Sequin, and Binet viewed intelligence as a multilevel and multidimensional construct. This approach recognized intelligence as being manifested through many different behaviors in a variety of settings.

The popularity of this multilevel-multidimensional approach to intelligence influenced the American Association on Mental Deficiency to develop a classification system for mental retardation. This system recognized mental retardation as a continuum of maladaptive skills that inhibits community functioning. The categories included idiots, imbeciles, and morons. In essence, it was implied that the more severe the individual's inability to develop adaptive skills, the greater the degree of mental retardation.

This increased sensitivity to the differential needs of the mentally ill and mentally retarded stimulated the concern to accurately and parsimoniously diagnose each category. Alfred Binet, a French psychologist, was the first to receive recognition regarding the objective measurement of intellectual differences (Anastasi, 1976). His work was put to practical use in 1904 when he was appointed by the French Minister of Public Instruction to study methods of educating mentally retarded children (Wolf, 1972). In 1905 Binet, along with his associate Simon, developed a 30 item scale to test students who failed to respond to normal schooling. This testing was conducted to determine the appropriateness of special classes for these failing students. This test and its revisions (i.e. 1908, 1911) covered a variety of functions including practical judgment, comprehension, and reasoning skills Binet felt were essential for intelligent behavior (Anastasi, 1976; Sattler, 1974). It did not take long for objective psychometric testing to spread to the United States. This method quickly became the dominant system for classifying individuals (Anastasi, 1976; Oakland and Goldwater, 1976). Emphasis was soon placed on the development of psychometric instruments which could differentiate intellectual performance rather than techniques consistent with existing theories of intelligence (Mahoney and Ward, 1976). Consequently, it appears that Binet's psychometric

contributions had a greater impact in the identification of mental retardation than his multilevel-multidimensional theory of intelligence (Coulter and Morrow, 1978b; Kamin, 1974; Oakland and Goldwater, 1979).

Contemporary Influences

The use of standardized psychometric instruments has remained a popular approach to identifying the mentally retarded throughout the twentieth century. Development of these instruments has typically focused on skills related to academic performance (Kamin, 1974; Mercer, 1978). This trend was logical because the early school years are typically the first time close comparisons are made in childrens' performance and abilities (Heber, 1962; Reschly, 1982). As states began to mandate educational programs for the mentally retarded, placement procedures were initiated which used performance on psychometric tests as the basis for identification. Mercer (1973) found, during a study in the mid-sixties, that the Riverside California Public Schools relied almost exclusively on intelligence test data when identifying mentally retarded children. This psychometric approach to identifying the mentally retarded was not limited to public schools. Mercer also found that many community agencies relied on intelligence test data in labeling the mentally retarded. It was concluded by Mercer (1973)

that psychologists, physicians, and educators believed, to a large extent, that intelligence tests tapped some general ability that reflected performance in a variety of roles and circumstances.

One of the first attempts to study the community aspects of mental retardation was started in 1954 at Pacific State Hospital in California (Coulter and Morrow, 1978b). This study focused on the identification of all mentally retarded individuals in Riverside, California. Techniques were used to insure that mentally retarded individuals never before labeled were identified. The definition of mental retardation used in the study addressed impairment of both intellectual and social role functioning (Mercer, 1973). This latter function was called "adaptive behavior." It was found that many individuals, labeled mentally retarded on the basis of an intelligence test, functioned quite well in their community. Mercer (1975) argued that the results of the Pacific State Hospital study suported a multidimensional approach to assessing individuals' intellectual functioning as it relates to relevant sociocultural settings. The impact of Mercer's conclusions was most apparent in the fields of special education and school psychology (Reschly, 1982). Sensitivity to children who appeared retarded only while in school (i.e., The Six-Hour Retarded) and concern for the questionable quality of public school classes for

the mentally retarded gained a great deal of momentum from these findings. According to Mercer, these results indicated that large numbers of minority and disadvantaged students were over represented in these classes. Furthermore, it was suggested that these students were receiving an inferior education because they were being segregated due to unfair comparisons with the majority culture through the sole use of intelligence test data.

In 1959, while the Pacific Hospital study was in full swing, the American Association on Mental Deficiency presented the concept of adaptive behavior as a dimension in the classification of mental retardation (Heber, 1959). In 1961, the AAMD Manual on Terminology and Classification in Mental Retardation defined this handicapping condition as "subaverage general intellectual functioning which originates during the developmental period and is associated with impairment in adaptive behavior" (Heber, 1961a, p. 499). Subaverage general intellectual functioning involved scores below one standard deviation of the mean on standardized intelligence tests. In this definition, adaptive behavior was referred to as "the effectiveness of the individual in adapting to the natural and social demands of the environment. Impaired adaptive behavior may be reflected in (1) maturation, (2) learning, and/or (3) social adjustment. These three aspects of adaptive behavior are of different

importance as qualifying conditions of mental retardation for different age groups" (Heber, 1961b, p. 3-4). In this approach, diagnosis focused on current levels of functioning. Consequently, academic performance in the active learning environment of the school would be the major criteria in the identification of school age mentally retarded children (Reschly, 1982).

Reschly (1982) suggested that publicity gained from the results of the Pacific State Hospital Project influenced further modifications of the above definitions of mental retardation and adpative behavior. These revisions to the definition of mental retardation were published in the 1973 and 1977 AAMD Manuals on Terminology and Classification (Grossman, 1973, 1977). In these revisions, mental retardation was addressed in the following manner: "Mental retardation refers to significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior . . . ." (Grossman, 1977, p. 11). Reschly (1982) argues that the term 'significant' means that the I.Q. cut off no longer includes individuals functioning on the borderline level (i.e., I.Q. cutoff--2 standard deviations) and the term concurrently places additional emphasis on adaptive behavior. The revamped definition of adaptive behavior stated that "adaptive behavior is defined as the effectiveness or degree with which an individual meets the

standards of personal independence and social responsibility expected for his/her age and cultural groups" (Grossman, 1973, 1977, p. 11). This definition puts more emphasis on an individual's ability to function outside of the academic environment of the school. Consequently, the quality of one's adaptive behavior is now determined in regard to social role performance in relation to his or her age and relevant culture. It has been argued that this definition is essentially the same as Binet's original definition of intelligence (Kamin, 1974; Oakland, 1976).

Adaptive Behavior in the Nondiscriminatory Assessment Process

A major function of psychological assessments is the identification and/or placement of individuals in appropriate treatments or categories (Coulter and Morrow, 1978a). For example, this could involve diagnosis to determine the psychological state of a psychiatric patient or eligibility for placement in a special education program. The ability to make such fine distinctions using psychological test data without discriminating unfairly against a particular group or groups has been seriously questioned (Weintraub, Abeson, Ballard, and LaVor, 1976). Kamin (1974) argued that psychological tests were used unfairly to discriminate against southern and eastern Europeans entering the United States

during the early part of the twentieth century. These immigrants were apparently administered intelligence tests in English as they entered the United States. Few of the immigrants were fluent in this language which caused them to earn low scores. According to Kamin, the results of this biased testing procedure were presented to prove the hereditary inferiority of these immigrants.

Until the mid 1950's, the psychological testing movement received wide public acceptance (Laosa, 1977). At that time, criticism of these instruments centered on their bias against minorities, promotion of homogeneous educational placements, and the advancement of low expectations manifested in a self-fulfilling prophecy (Laosa, 1977; Oakland, 1976; Throndike, 1971).

Jane Mercer, a sociologist and field director with the Pacific State Hospital Project, used the results of the study to publicly support criticism that intelligence test data unfairly discriminated against minority populations (Mercer, 1970, 1973, 1975, 1978). She based her argument on the findings that disproportionate numbers of minority students were placed in public school classes for the mild mentally retarded. Also, it was found that determination of these placements was made almost exclusively through intelligence test data. The increased concern stimulated by Mercer about bias in testing led to litigation and legislation

relating to the nondiscriminatory assessment of minority children.

Litigation and Legislation

Several judicial decisions have had direct impact on the nondiscriminatory assessment issue. The first case to reach the courts involving bias in testing was Hobson v. Hansen (1967). This suit involved the screening procedures used in the "tracking system" in the Washington, D.C., public schools. It was ruled that the standardized tests used to place students in educational tracks appropriate to their needs and abilities were disciminatory. The basis for this decision involved evidence that poor black children were over represented in the lower tracks. Although this case was not related to special education placements, it was used as a precedent in such cases (Reschly, 1979).

The first class action suit involving overrepresentation of minorities in special education classes for the mentally retarded involved Diana v. State of California (1970). This suit was filed in behalf of bilingual children placed in Monterey County California Public School classes for the mild mentally retarded. It was argued that the intelligence tests used to identify these students were inappropriate because they were administered in English with middle class, white-oriented content. The evidence presented by the

plaintiffs demonstrated that 33.3% of the children placed in classes for the mild mentally handicapped were Spanish surnamed, while only 18.5% of the entire school population were of Spanish ancestry. A settlement was made out of court which resulted in these students being retested in their native language. Upon completion of the testing, 4,000 Spanish speaking students were placed out of classes for the mild mentally retarded and into the mainstreamed environment. Despite the haste in which these children re-entered the regular education environment, many made the transition with little or no difficulty (Hewett and Forness, 1974; Yoshida, MacMillan, and Meyers, 1976). Because few adjustment problems were identified in this process, the belief that bilingual children were being mislabeled due to biased test results was reinforced (Reschly, 1979).

The assessment of adpative behavior first became a judicial issue in Guadalupe v. Tempe Elementary District (1972). This case was similar to the Diana suit in that it concerned the overrepresentation of minority students, but it went one step further in specifying appropriate diagnostic procedures. Among the procedures required as an outcome of this case was the assessment of adaptive behavior which must include information pertaining to a child's out of school functioning.

The above cases had a major impact on public policy regarding the education of handicapped children (Reschly, 1979; Weintraub, Abeson, Ballard, and LaVor, 1976). Legislation soon followed which mandated nonbiased services for the handicapped. Section 504 of the Rehabilitation Act of 1973 and Public Law 94-142, the Education for All Handicapped Children Act of 1975, are federal laws which provide guidelines for the assessment and placement of handicapped students. Among the procedures required is a multifactual assessment which includes the measurement of adaptive behavior (Tucker, 1977). Both laws have been important determinants of state policies regarding the assessment of students for placement in special education classes.

Instrumentation in Nondiscriminatory Assessment

Several adaptive behavior measurement scales have been developed in response to the nondiscriminatory assessment issue. During the late 1960's and early 1970's, Lambert lead a team from the University of California, Berkeley, in an attempt to find an appropriate adaptive behavior instrument to identify mild mentally retarded children in the public schools (Lambert, 1978). This group concluded that the AAMD Adaptive Behavior Scale was the best constructed and theoretically sound instrument available at the time.

Because the scale was developed for the programmatic needs of institutionalized populations, its appropriateness for public school utilization had not been examined. The team renormed the original scale with 2,800 California children ages 7-3 years to 13-2 years. Item feasibility was examined through the data obtained from this sample. Inappropriate items for school settings were identified and omitted in the new scale. This adaptation was named the AAMD Adaptive Behavior Scale-Public School Version (ABS-PS) (Lambert, Windmiller, Cole, and Figuerna, 1975). This instrument quickly became a popular tool in assessing adaptive behavior for the identification of mild mentally retarded students (Coulter and Morrow, 1978c). Studies examining the psychometric credibility and practical utility of this instrument led to major revisions of this scale (Lambert, Windmiller, Tharinger, and Cole, 1981). These revisions have been incorporated in the AAMD Adaptive Behavior Scale-School Edition (ABS-SE).

Several changes and additions were made to maximize the utility of the ABS-SE in the public schools. First, the standardization sample was increased to include a Florida fieldtest sample, a California preschool sample, a California reevaluation sample, and a California secondary school sample. The new samples were added to the original sample for a total of 6,500 subjects. Secondly, these norms were

expanded to include preschool children three years of age to secondary school students up to sixteen years of age. Norms were also developed separately with discriminant coefficients for regular, mild mentally retarded and moderately mentally retarded students. A third feature of the ABS-SE is a result of factor analytic studies indicating that the twenty behavioral domains in the scale could be grouped into five factors for parsimonious interpretation (Guarnaccia, 1976; Lambert, 1981; Lambert and Nicoll, 1976; Nihira, 1969a, 1969b). These factors include personal self-sufficiency, community self-sufficiency, person-social responsibility, social adjustment and personal adjustment. The authors reported that these factor scores make it possible to obtain a total comparison score for determining appropriate placements. This ability to make comparisons is a significant feature since much of the criticism surrounding the ABS-PS involved the inability to compare the overall adaptive behavior of regular and retarded students (Bailey and Richmond, 1979; Coulter, 1980). Additional improvements include step-by-step directions for scoring and instructional planning, along with updated technical data (Lambert, Windmiller, Tharinger, and Cole, 1981). Reliability of the ABS-SE appears satisfactory (Sattler, 1982). Lambert (1978) reported internal consistency reliabilities ranging from $r = .70$ to $.92$. Givens and Ward (1982) reported satisfactory

test-retest reliabilities on all but one domain on Part I of the Scale. However, their results suggest that test-retest reliability of maladaptive behavior domains (Part II) is questionable.

The Adaptive Behavior Inventory for Children (ABIC) (Mercer and Lewis, 1978) has received much attention in the field of school psychology (Oakland, 1979a, 1979b). It is a component of the System of Multicultural Pluralistic Assessment (SOMPA), which was designed to address mandates requiring multifactual assessment of school age children (Reschly, 1979). The ABIC measures six areas of adaptive behavior: family, peers, community, school, earner/consumer, and self-maintenance; thus, addressing the child's ability to function in a variety of roles and situations. Studies indicate that it appears to measure performance in these areas fairly accurately (Oakland, 1979a). Sattler (1982) suggests that pattern analysis may be done between these areas. Weaknesses of the instrument appear to involve its exclusive reliance on information provided by a guardian, its inability to differentiate between expectations of various social systems, and the lack of national norms (Oakland, 1979; Sattler, 1982).

A relatively new instrument designed to measure adaptive behavior of public school children is the Children's Adaptive Behavior Scale (CABS) (Richmond and Kicklighter,

1979). This instrument was designed as a brief self report technique to determine a child's functioning in the areas of language development, independent functioning, family role performance, economic-vocational activities, and socialization. The self report format was used because of inconsistent data obtained on other adaptive behavior instruments from third party informants. Also, its brevity is in response to criticism of other instruments which take considerable time to administer. Research on the CABS has been limited but encouraging (Richmond and Horn, 1980). A major weakness of the CABS, besides limited reliability and validity studies, involves the representativeness of its normative sample. Although a national standardization study is in progress (Estabrook and Cummings, 1983), the instrument was developed and marketed with a limited normative group of 250 educable mentally retarded children between 5 and 10 years of age in South Carolina and Georgia. Richmond and Horn (1980) have suggested that information obtained from the student may be useful along with data gathered from guardians and teachers in making educational decisions.

The Vineland Social Maturity Scale (VSMS) (Doll, 1965) has been frequently used to measure adaptive behavior in the nonbiased assessment process (Coulter, 1980). It covers an age range between birth and adulthood in seven categories:

self-help dressing, self-direction, occupation, communication, locomotion, and socialization. Sattler (1982) suggests that information obtained from the VSMS may add to clinical insight during counseling and interviewing. However, the VSMS was not developed to address nonbiased assessment issues and its norms and other psychometric properties are not adequate for such functions (Reschly, 1982).

Few studies have been conducted regarding the psychometric quality of these recently developed instruments. Reschly (1982) suggests that these scales need to be examined in respect to their relationship to measured intelligence, effect on special education placements, and the ability to generalize from their norms. Among these recently developed scales, the ABIC appears to have the lowest correlations with measured intelligence. Mercer (1978) reported correlations of near zero to .3 with a median of .15. Correlational studies with the CABS and measured intelligence appear moderate (Reschly, 1982). Lambert (1981) indicates that the ABS-SE also moderately correlates with intelligence. It appears that the CABS and the ABS-SE have a stronger relationship to academically related expectations than the ABIC (Reschly, 1982).

Research regarding the effect of adaptive behavior measures in reducing disproportionate numbers of minority

children in classes for the mild mentally retarded are scarce. Fisher (1978) reported that the ABIC has been successful in reducing overrepresentation of minority children. In fact, reduced placements for all groups were indicated in this study. No studies have been reported to date concerning overrepresentation with other adaptive behavior instruments (Reschly, 1982).

None of the instruments have been standardized on a representative national sample. Instead, each was normed on relatively small samples in specific regions of the country (Reschly, 1982). Studies investigating how the ABIC generalizes to populations outside of its standardization group indicates that such attempts are questionable (Oakland, 1979; Scott, Mastenbrook, Fisher, and Gridley, 1982). Local norming of such instruments has been suggested as a preferred technique to national sampling (Estabrook and Cummings, 1983; Richmond and Kicklighter, 1979). At present, this would appear to be an overly time consuming task for most practitioners.

In sum, it appears that little research has been done regarding the development and use of adaptive behavior instruments in the nonbiased assessment process. The ABIC was developed to address adaptive behaviors outside of the academic environments; whereas, the CABS and ABS-SE attend

to adaptive functioning important to academic success. Of these instruments, only the ABS-SE addresses pre-school and secondary age students' instructional needs. Each has unique characteristics that may contribute to special education decision making. It seems logical to assume that none of these instruments have obtained "state of the art" credibility. Much of the problem appears to center on the lack of consensus regarding the most appropriate information to be gathered. Reschly (1982) suggests that it is important to gather data on in-school and out of school adaptive behavior from as many sources as possible (i.e., guardians, teachers, students, etc.) in making appropriate placement decisions.

Adaptive Behavior Measurement for Programming and Intervention

The Vineland Social Maturity Scale (VSMS) was the only instrument available to address social competencies when the American Association on Mental Deficiency first addressed adaptive behavior in its definition of mental retardation (Coulter & Morrow, 1978c). Because of the limited instrumentation developed to address adaptive behavior, the American Assoication on Mental Deficiency initiated a project in 1965 with Parsons State Hospital (Kansas) to address the adaptive behavior of institutionalized mentally retarded individuals.

The specific purpose of this study was to (1) review the literature on social competence, (2) develop approaches to validate the independent dimensions of adaptive behavior, (3) formulate a workable definition, (4) develop a reference library, and (5) establish a manual to guide in the measurement of adaptive behavior that would facilitate planning for the remediation of deficit behaviors among institutionalized mentally retarded individuals. In other words, the assessment of deficits in essential behavioral domains could help institutional staff develop individual programs that would help the client progress through each domain toward maximum independent functioning. The project developed two adaptive behavior scales that were revised and consolidated into one instrument which became known as the AAMD Adaptive Behavior Scale-Clinical Version (ABS-CV) (Nihira, Foster, Shellhaas, and Leland, 1974). Since the project's initiation, a number of adaptive behavior scales have been developed for the programmatic/intervention needs of the handicapped (Coulter and Morrow, 1978c; Walls and Werner, 1977).

Instrumentation for Programming/Intervention

Adaptive behavior instruments designed to address institutional needs have often placed little emphasis on the need for representative norms. Instead, these instruments have

focused on criterion behaviors deemed important in developing optimal levels of personal independence and social responsibility. Thus, baseline behavior would be established with the instrument and remedial programming would address the specific areas, sequence, and content of instruction in appropriate behavioral domains (Carver, 1974; Coulter and Morrow, 1978c). Several of these instruments were included in the surveys reported by Coulter and Morrow (1978c). These scales include:

Balthazar Scales of Adaptive Behavior

Behavior Characteristics Progression Chart

Cambridge Assessment, Developmental Rating and Evaluation

Developmental Evaluation Scale

Fairview Behavior Evaluation Battery

Oakwood Resident Movement Scale and Curriculum

T.M.R. Performance Profile for the Severely and Moderately Retarded

Y.E.M.R. Performance Profile for the Young Moderately and Mildly Retarded

A common feature of the above scales is that they were developed for use in specific institutional settings. Consequently, these instruments are used to measure an individual's progress through specific behavioral domains within a particular institutional setting. Thus, normative information is ignored.

It has been argued that norms may be useful in the measurement of adaptive behavior for instructional programming. Here, information could be obtained to group individuals with similar instructional needs, compare individuals with larger groups, plan and implement programs, monitor program progress, and evaluate instructional outcomes (Halpen, Raffeld, Irvin and Link, 1975). Some of the better known adaptive behavior instruments with norms that address programming/intervention needs include:

Adaptive Behavior Scale-Clinical Version

Adaptive Behavior Scale-Public School Version

Adaptive Behavior Scale-School Edition

Cain-Levine Social Competency Scale

Collier-Azusa Scale

Camelot Behavioral Checklist

Preschool Attainment Record

Social Prevocational Information Battery

The TARC Assessment System

Many of the instruments designed for programming/intervention address the needs of adolescent populations. These scales tend to focus on severely handicapped individuals in institutional settings. The Adaptive Behavior Scale-School Edition and the Social Prevocational Information Battery are the only programming/intervention instruments that have

public school norms. It appears that little has been done to develop appropriate instrumentation for milder handicapped public secondary school students.

Adaptive Behavior of Secondary Age Students

Public schools have focused on the nonbiased assessment dimension of adaptive behavior. Because of this orientation, instrumentation has been developed to insure that the social role performance of elementary school students is addressed when placement in special education is considered. This process is logical since most students are intitially identified for special education during the early school years (Hohenshil, Shepard, and Capps, 1982; Reschley, 1982).

Empirical support has been reported for the developmental process implied in common definitions of adaptive behavior (Lambert and Nicoll, 1976; Mercer, 1973; Nihira, 1969a, 1969b, 1979). These studies indicate that vocational role expectations and functions are major issues in adolescent adaptive behavior. These findings are consistent with major social/career development theories which state that the formation of a vocational role identity is an on-going process facilitated by achievement of various milestones throughout an individual's development (Crites and Semler, 1967; Erickson, 1968; Krumboltz and Rude, 1981; Super, 1953, 1957, 1980; Tiedeman and O'Hara, 1963). A longitudinal

study conducted by Gribbons and Lohnes (1968) found that differential career patterns emerge during early adolescence. That is, the type of career process a young adolescent is engaging can have a major impact on his or her future vocational pursuits. For example, an adolescent who fixates on fantastic, unrealistic goals would have more difficulty developing realistic career pursuits than an adolescent realistically and actively testing his or her fantasies, interests, and abilities (Ginzberg, Ginzberg, Axelrad, and Herma, 1951; Tiedeman and Miller-Tiedeman, 1979). Thus, the quality of an adolescent's vocational role identity may vary greatly.

The difficulty handicapped individuals experience in developing a vocational role identity is well documented (Karayanni, 1981; Lombana, 1980; Sabatino, Goh, and Jenson, 1982; Sinick, 1979). Problems related to reduced mobility, sensory and mental impairment, prolonged medical treatment, and societal sterotyping are major factors involved in this "delayed" or "disjointed" development (Sinick, 1979). Consequently, many handicapped individuals experience major problems in their post secondary adjustment (Brolin and Gysbers, 1979; Livingston, Korn, and McAlees, 1982). Vocational education has been suggested and used as a means of facilitating the vocational identity of the handicapped

(Brolin, Duran, Kramer, and Muller, 1975; Chaffin, Davison, Regen, and Spellman, 1971; Kendall, 1981).

Vocational Education for the Handicapped

Since the passage of Public Law 94-142, Public Law 94-482 (Vocational Education Act of 1976) and Section 504 of Public Law 93-112 (The Rehabilitation Act of 1973) public schools have assumed an expanding role in the provision of vocational education for the handicapped (Batsche, 1981; Hohenshil, Shepard, and Capps, 1982; Poplin 1981). A major goal of vocational education is to prepare students with necessary skills for success in the world of work (Shepard, 1982). It seems logical that such training could help handicapped secondary students develop some of the skills necessary for adaptation to their post-secondary environments (Brolin and Gysbers, 1979; Epstein, 1982; Hohenshil, 1974; Hohenshil, Ryan, and Warden 1978).

Essential vocational skills involve social as well as technical competencies. Rodhouse (1977) conducted a survey to see what work behaviors are improtant to vocational success and job retainment. The main objective of this study was to examine the extent in which rehabilitation personnel and local employers agreed or disagreed on the major elements of job related behaviors. Both the employers and rehabilitation personnel agreed on approximately fifty different

behaviors important to job success. A significant finding to this study was that each behavior listed related to social competencies rather than to specific technical skills. These results suggest that social competencies are major factors in job success and should be addressed in vocational training programs.

Handicapped adolescents often display many deficits in their adaptive behavior (Irvin, Halpern, and Reynolds, 1977; Kendall, 1981; Kronick, 1978). For example, mild mentally handicapped adolescents often have a limited behavioral repertoire, low motivation, a limited range of reinforcing events, and an external locus of control (Schloss and Sedlak, 1982). These features would intuitively suggest a poor prognosis for successful employment. Consequently, secondary age students must learn appropriate adaptive behaviors, along with technical vocational skills so they can achieve the standards of personal independence and social responsibility expected for post-school adjustment. To facilitate vocational and other educators in addressing deficits in adaptive behavior, appropriate assessment techniques must be utilized.

Assessment with Secondary Age Students

There has been little research concering the measurement of adolescent adaptive behavior. Most of the available studies center on predictors of training and employment

success with mentally retarded individuals. These studies suggest that the inclusion of adaptive behavior measures during the vocational assessment process (i.e. vocational aptitudes and interests), adds significantly to the prediction of successful vocational placements (Stodden, Casale, and Schwartz, 1977). Such behavioral domains as adaptive-maladaptive language functioning (Malgady, Barcher, Towner, and Davis, 1979), personality characteristics (Kolstoe, 1961) and attitudinal variables (Mullins and Hays, 1980; Sali and Amir, 1971) can be major influences in an individual's success at a work or training site. Thus, a variety of dimensions must be addressed when considering vocational placements (i.e. sheltered workshops, prevocational training programs, regular vocational training centers, on-the-job training, etc.)

The Vocational Adaptation Rating Scale (VARS) (Malgady, Barcher, Davis, and Towner, 1980) is a recently developed adaptive behavior scale which addresses the predictability of an individual's success in a vocational setting. It was developed to measure the frequency and severity of maladaptive behavior likely to occur in a vocational setting that might jeopardize the employment status of severely, moderately, and mildly retarded workers. Individuals are rated on their level of maladaptive functioning in the following

domains: verbal manners, communications skills, attendance and punctuality, interpersonal behavior, respect for property, rules and regulations, grooming and personal communication. The results of this test may be used to predict success in a vocational program or to indicate domains which need remediation before placing an individual in a training or employment site. Studies reported in the VARS manual indicate moderate to high interrater reliability and uniformly high internal consistency reliability. Construct validity was established with the AAMD ABS and the San Francisco Vocational Competency Scale. Concurrent and predictive validity was found with mentally retarded workers in sheltered workshops.

Adolescent adaptive behavior involves more than vocational social competencies. Adaptive functioning in the community and society is also an important aspect of adolescent adaptive behavior. An instrument which addresses this broader range of adaptive domains is the Social and Prevocational Information Battery (Halpern, Raffeld, Irvin and Link, 1975). This instrument was developed in response to the need for community adaptation of public school educable mentally retarded students (Halpern, Irvin, and Landman, 1979; Irvin, Halpern, and Reynolds, 1977). The battery has a true/false format that includes nine tests

which cover the areas of employability, economic self-sufficiency, family living, personal habits, and communication skills. The instrument is designed to address remediation/programming needs in each domain. Technical data on this instrument indicates predictive validity coefficients of r = .75 to .81 (Browning and Irvin, 1981). A modified version of this battery is currently available for use with moderately retarded adolescents.

In summary, adaptive behavior instrumentation has centered on the needs of the institutionalized mentally retarded and the issue of nonbiased assessment in the public schools. Little attention has been directed to the adaptive behavior of secondary age handicapped students. Instrumentation has been developed recently to facilitate public educators in addressing the adaptive behavior deficits of handicapped adolescents. Research suggests that these instruments are psychometrically sound and can be pragmatically used in numerous public educational settings (Halpern, Irvin, and Landman, 1979; Malgady, Marcher, Towner, and Davis, 1980).

The School Psychologist in the Assessment Process

Through the years, many roles and types of training have been proposed for school psychologists. These roles include diagnostic testing (Bardon and Bennett, 1974;

Valett, 1963; White and Harris, 1961), consultation (Fine and Tyler, 1971; Gallessich, 1974; Lambert, 1974; Meyers, 1973), educational policy making (Lambert, 1973; Meacham and Peckam, 1978), program evaluation and research (Kratochwill, 1977; Trachtman, 1979), psychotherapy (Herron, 1966), and adolescent and adult services (Hohenshil, 1974; 1982; Sheldon and Prout, 1982) to name a few. Most of these functions are represented to some degree in school psychology training programs and school based practices (Lacayo, Sherwood, and Morris, 1981; Pfeiffer and Mormo, 1981). Surveys of current roles of school psychologists indicate that psycho-educational assessment functions occupy major portions of practitioner time (Laycayo, Sherwood, and Morris, 1981; Ramage, 1980).

The emphasis on the assessment role by school psychologists appears to be in response to the need for objective data in making appropriate decisions regarding the placement of students in special education classes (Hohenshil, Ryan and Warden, 1978; Reschly, 1979; 1982). Most students are initially referred for formal evaluations to school psychologists early in their school careers (Reschly, 1982). This early referral procedure is logical since many special educators and psychologists believe that early remediation of school related problems can offset later educational

difficulties (Boehm and Sandberg, 1982; Reschly, 1982). Thus, data obtained by school psychologists on students demonstrating initial school related problems may be used to facilitate decisions regarding students' special and regular education needs.

In recent years, there has been increased concern regarding the quantity and quality of school psychological services in secondary schools (Carroll, Bretzing, and Harris, 1981; Fagan, 1981; Hohenshil, 1974). Since the passage of Public Law 94-142 (Education for All Handicapped Children Act of 1975) increased numbers of handicapped students have been identified and educated in public school settings (Hohenshil, 1982). Many of these students are now in or preparing to enter public secondary schools. A recent national survey concerning school psychological services in secondary education found that traditional assessment functions occupy most of the practitioner's time in these settings (Carroll, Bretzing, and Harris, 1981). Also, it was reported in this study that a large number of school psychologists sampled did not feel adequately prepared to serve secondary age populations. The majority of school psychologists are trained at the nondoctoral level in Colleges of Education (Fagan, 1985). No studies have been reported in the professional literature to indicate if level of education

(e.g., Master, Sixth Year, Doctorate, etc.) or location of graduate program (College of Education, College of Arts and Science, etc.) have a differential impact on school psychologists preparation for serving school age populations (Fagan, 1985).

It has been suggested that many school psychologists lack the necessary skills to provide diagnostic services for secondary age students (Anderson, Hohenshil, & Brown, 1984; Brown and Cobb, 1982; Hohenshil, 1982). That is, traditional psychoeducational assessment procedures appear to be of limited value in meeting the needs of secondary age students. Typically, these evaluations are conducted to determine students' eligibility for special education and programmatic needs for academic remediation. At the secondary level, this process usually involves the triannual re-evaluation of handicapped students already placed in special education programs (Anderson, Hohenshil, & Brown, 1984; Hohenshil, 1982).

The information needed in evaluations of secondary age students involves more than identification and remedial academic issues for special education programs (Anderson, Hohenshil, & Brown, 1984; Hohenshil, 1982a). Cegelka and Phillips (1978) suggest that educational programs for handicapped adolescents should focus on vocational competencies that will provide skills for their post-secondary employment.

This emphasis on vocational training has been reinforced by federal mandates (Anderson, Hohenshil, & Brown, 1984; Batsche, 1981; Hohenshil, 1982). In order to address the vocational needs of secondary age students, school psychologists need to broaden the focus of their assessment procedures. It has been suggested that school psychologists include a vocational component in their evaluations which may involve career interests, aptitudes, and maturity (Anderson, Hohenshil, & Brown, 1984; Hohenshil, 1982).

Adaptive behavior is another dimension of vocational behavior in the evaluation of secondary age students (Halpern, Raffeld, Irvin and Link, 1975; Malgady, Barcher, Davis and Towner, 1980). To facilitate secondary age handicapped students in reaching the standards of personal independence and social responsibility expected for post school adjustment, school psychologists need to stress the measurement of adaptive behavior skills beyond the non-discriminatory assessment issue. Such factors as adaptive-maladaptive language functioning (Malgady, Barcher, Towner, and Davis, 1979), personality, and attitudinal variables (Mullins and Hays, 1980) are major predictors in the work success of the handicapped. Consequently, adaptive behavior information can enhance objective decisions regarding job readiness and remediation of specific behavioral domains important to vocational success (Malgady, Barcher, Davis, Towner, 1980).

Mail Questionnaire Surveys

The use of surveys has been reported throughout history. Most surveys conducted prior to the twentieth century involved census and social welfare studies (Erdos, 1979; Kerlinger, 1973). Since the turn of this century, survey instruments have been used in all aspects of social science research. This methodology is most commonly used by psychologists, sociologists, educational researchers, anthropologists, economists, political scientists, and statisticians (Dillman, 1978; Kerlinger, 1973).

There are several methods in which survey data may be gathered. Techniques frequently utilized include personal interviews, panels, telephone questionnaires, and controlled observations (Dillman, 1978; Kerlinger 1973). Although each of these methods has certain strengths, mail questionnaire techniques offer some additional advantages (Shepard, 1982). For example, mail questionnaires are usually less expensive, reach a broader sample, involve less interviewer bias, allow for more truthful and reflective expression, and facilitate more centralized control of data collection than other survey methods (Duckworth, 1973; Erdos, 1970; Sax, 1979).

As in all techniques used in social science research, mail questionnaires have several weaknesses. Most common weaknesses cited include ambiguous and leading item content,

irrelevant questions, length, difficulty, and non-response rate (Dillman, 1978; Kerlinger, 1973). Careful planning and design of mail questionnaire surveys can help overcome these problems (Dillman, 1978; Duckworth, 1973; Kerlinger, 1973). For example, use of the Total Design Method (Dillman, 1978) of mail questionnaire research has demonstrated that it is not unusual to obtain response rates of 90% or better for some specialized groups. This rate of response exceeds the 80% criteria suggested by Kerlinger (1973) and the Advertising Research Foundation (Erdos, 1970). In essence, the systematic development of questionnaires, along with the use of cover letters and follow-up, can facilitate accurate and representative responses to mail questionnaires from specialized samples such as school psychologists (Shepard, 1982).

Summary

The development of adaptive behavior as a construct was reviewed in this chapter. The evaluation of the construct was traced from early Grecian and Roman Civilizations to its present definition and use by educators and psychologists. The influence of the nondiscriminatory assessment movement on the measurement of adaptive behavior in the special education process was discussed. Also, intervention procedures were presented regarding the development of adaptive behavior

skills for handicapped individuals. The school psychologist's role in the process of measuring adaptive behavior, especially with secondary age populations, was highlighted. Finally, the advantages and disadvantages of mail survey questionnaires were discussed.

CHAPTER III

Methodology

This chapter includes a detailed description of the research methods that will be utilized in this study. The chapter is divided into four sections describing the participants, instrumentation, data collection procedures, and methods used in analyzing the data. A fifth section will include a summary of the study's methodology.

Subjects

To gain information regarding the "state of the art" in measuring the adaptive behavior of secondary age students, a sample of 367 school psychologists were randomly selected from the membership of the National Association of School Psychologists (NASP). The sample was drawn from this population because NASP represents the largest organization that addresses the sole concerns of school psychologists. Also, NASP's membership directory can assure the availability of information that can facilitate contact with a large number of school psychologists across North America (Shepard, 1982). The size of the sample was based on the current membership of NASP (i.e., 8,000) and determined through the use of a formula developed by the research division of the National Education Association (Krejcie and Morgan, 1970). This sampling procedure has been used in several recent

national surveys of school psychologists (Lacayo, Sherwood, and Morris, 1981; Shepard, 1982; Stevenson-Hicks, 1981).

Prior to the initial mailing of the survey questionnaire, a letter was sent to all selected subjects to encourage maximum participation. In this letter, subjects were informed of the potential benefits that the field of school psychology could gain from the study and the assurance of the confidentiality of their responses. A follow-up postcard was sent to all participants one week after the initial mailing. A second follow-up and duplicate questionnaire was sent exactly three weeks after the original mailing to all non-respondents.

Instrumentation

Numerous studies have addressed the role and function of school psychologists through the use of mailed questionnaires. These studies have varied in target populations and topics. Some of the most recent studies have addressed such areas as characteristics of subdoctoral school psychologists (Barclay, 1971; Berman, Gottlieb, and Hornick, 1979); characteristics of trainers and training programs (Brown and Lindstrom, 1978; French and McCloskey, 1979; Prout, Toler, and Eklund, 1976); trends in the characteristics of school psychologists and their roles (Ramage, 1979); congruence between training, preferred role, and competence (Carroll,

Harris, and Bretzing, 1978; Meacham and Peckham, 1978); and job satisfaction (Anderson, Hohenshil & Brown, 1984; Miller, Witt, and Finley, 1981) to name a few. The questionnaire utilized in this study was the first to specifically address the use of adaptive behavior measures with secondary age populations.

The Questionnaire

The questionnaire (Appendix A) was developed by the researcher. Examination of the school psychology, special education, mental retardation, career development, and rehabilitation literature finds no other study of this kind. Articles relating to the role and function of school psychologists, psychological assessment, adaptive behavior, and the career development of the handicapped were essential resources in the construction of this instrument. Feedback from members of the Virginia Tech/James Madison University faculties and pilot testing of the instrument with twenty practicing school psychologists who attended a professional workshop at James Madison University helped to assure adequate construction of the questionnaire.

Support for participation in the pilot testing was elicited by members of the James Madison University faculty and the researcher. The twenty participants in the pilot study were practicing school psychologists representing four states. Fifteen of the respondents represented various sections of

Virginia, three were from West Virginia, and one each worked in Iowa and Michigan. All participants were requested to write comments on their questionnaire regarding the clarity of questions and any other concerns they may have about the instrument. They were also asked to report the time required to complete the questionnnaire. A median time of twenty-three minutes was required for completion with times ranging from eighteen to thirty-five minutes.

Five participants were asked to complete their questionnaire with the researcher present. This allowed the researcher to ask participants questions concerning their perception of what was being asked on each question. The use of this format helped the researcher identify several questions that needed to be revised for clarity.

Frequency distributions and bivariate correlations were used in the analysis of the pilot study's results. The bivariate correlations ranged from near .0 to .99. This range in correlations appears to indicate both consistency and uniqueness between the questions.

The forty-five questions that comprise this questionnaire are divided into sections involving characteristics of school psychologists, characteristics of their worksites, assessment procedures used with referred secondary age students, beliefs about the purpose and necessary components in

psychological evaluations of secondary age students, and the orientation of school psychologists regarding the measurement of adaptive behavior. One or more of four formats were used in developing each question (Dillman, 1978). These questions are structured according to the following procedures:

1. Open-ended. These questions do not provide answer choices for the respondents.

2. Close-ended with ordered choices. These questions provide a gradation of choices for respondents to select concerning a single variable.

3. Close-ended with unordered response choices. These questions require respondents to choose from a number of independent choices. Several of these questions involved rank order preferred choices.

4. Partially close-ended. Respondents may select from a number of choices or include their own response. (Refer to Appendix A for a copy of the instrument.)

The last section of the questionnaire was designed to account for biased responses due to social desirability effects. That is, questions forty through forty-five, which involve the opinions of school psychologists, were developed to avoid eliciting responses which put oneself in a good light which may or may not accurately reflect the person's

behavior or attitudes. Here, participants were requested to respond to questions forty through forty-four the way they think other school psychologists would who are employed in their worksetting. On the final question, participants were asked to state the degree in which they agree or disagree with other school psychologists.

Data Collection

Preliminary Letter

Three days prior to the initial mailing (March 7, 1984) of the instrument, a letter was sent to all selected participants. This letter was prepared by the researcher and signed by the Chairman of the National Committee on Vocational/Secondary School Psychology who was also the researcher's major advisor. In this letter, subjects were encouraged to participate in the study.

Survey Packet

Each participant selected for the study received a packet which included a questionnaire, a cover letter, and a stamped, self-addressed envelope. The following techniques were utilized in conjunction with these materials:

1. A small, one-serving package of instant coffee was attached at the bottom of each cover letter. It was suggested that the participants use this package to take a coffee break while filling out the questionnaire.

2. Each of the selected participants was offered a copy of the study's findings.

3. Participants were assured that their responses are held in strictest confidence.

4. The American Association on Mental Deficiency's definiton for adaptive behavior was provided to all potential participants.

These materials were sent to selected participants three days after the mailing of the preliminary letter (March 10, 1984). A copy of the cover letter can be found in Appendix B.

Postcard Follow-up Contact

Exactly one week after the initial mailing (March 16, 1984), a postcard follow-up was sent to all selected participants. Each pre-printed postcard had an individually typed name and address on one side and an individually applied signature on the other. On the card, participants who had already returned their questionnaire were thanked, while those who had not were reminded to do so. A copy of this card can be found in Appendix B.

Second Follow-up Contact

Three weeks after the initial mailing (March 31, 1984), a second follow-up contact was made. A letter and duplicate

questionnaire was sent to all non-respondents. The letter was signed by the researcher's advisor and included information about the percentage of questionnaires received and a plea to return their copy of the survey.

Data Analysis

Data from all returned questionnaires were collated and analyzed with the assistance of the computer facilities at Virginia Tech. Analyses of the data were performed through use of the Statistical Package for the Social Sciences X (SPSSX) (1983).

Analysis will address the following:

1. Determine if school psychologists' age, sex, training, experience, and worksetting relate to the type of adaptive behavior information gathered in the psychological assessment of secondary age students.

2. Determine if school psychologists utilize adaptive behavior measurement techniques differently for different types of handicapped secondary age students on initial evaluations and re-evaluations.

3. Determine if school psychologists who differ in training and other demographic characteristics also differ in the way they assess adaptive behavior with various types of secondary age handicapped students referred for initial evaluations and re-evaluations.

4. Determine the extent to which the training and experience of school psychologists contributes to the differences between the reasons and procedures they utilize in initial evaluations versus re-evaluations of mild mentally retarded secondary age students.

The specific computational techniques employed in data analysis were:

1. Condescriptives, frequency distributions, Pearson Product-Moment Coefficients, Partial Correlations, Factor Analysis, and Chi Square procedures were used in preliminary analysis of data obtained from respondents. These procedures were used to examine bias in sample selections, quality of distributions, item response rate, multicolinearity, interaction effects, and unique features of variables.

2. Chi Square procedures were used to examine selectivity in employment of particular types of school psychologists in different kinds of worksettings.

3. Frequency distributions were used in examining dependent variables in research questions which lack sufficient variance for further analysis.

4. Multiple Regression Analysis, Chi Square Analysis, Oneway Analysis of Variance, and Pearson Product-Moment Coefficients were used to examine the relationship of independent variables with dependent variables in the analysis of research questions.

Summary

The research methods selected for use in this study were described in Chapter Three. The first section of the chapter descibed the participants involved in the study. The second section provided information on the instrumentation that was utilized. The last two sections described the data collection and analysis procedures.

CHAPTER IV

Results of the Study

The results of the study are presented in this chapter. The first section involves the response rate of participants. Descriptive data is included in the second section. The orientation of school psychologists in the measurement of adaptive behavior is included in the third section. The fourth section presents the results and supplementary analysis of how school psychologists' characteristics, training, and work setting relate to the use of adaptive behavior information in the psychological assessment of secondary age students. The last section includes a summary of the chapter.

Response Rate

An essential factor in a successful mail questionnaire study involves a high response rate by individuals selected for participation in the study. Therefore, a combination of prompts were used to encourage maximum participation by selected subjects.

Four separate mail contacts were included in the data gathering process: (1) preliminary letter, (2) survey packet, (3) postcard follow-up, and (4) second survey packet. Each questionnaire returned was identified with the

appropriate mail contact follow-up by a return date placed on the front of the instrument and on a data records booklet. A response rate of 42.5% was received as a result of the preliminary letter and the first mailing of the survey packet. The third mailing (postcard follow-up) was followed by an additional 20.3% return. The final mailing (second survey packet) resulted in an additional 18.6% return.

A total of 81.4% of the questionnaires were returned. Four different sets of survey packets were returned labeled "Return to sender" or "Unable to forward." Three other packets were returned incorrectly filled out. Therefore, the above percentages are based on a sample of 360 rather than 367 potential participants. Of the 293 total responses, 187 were useable responses by school psychologists practicing primarily in the schools.

Contingency tables (crosstabulations) involving the sex and region of the country of respondents, non-respondents and the NASP membership (NASP Membership Directory, 1983) were used to determine biases in sample selection and responses to mailed follow-up. Statistical procedures involving Chi square analysis found no statistically significant differences in school psychologists regarding selection, participation, or response to prompts (Appendix C).

Description of Sample Characteristics

As mentioned earlier, 295 subjects returned survey questionnaires. The majority of returned questionnaires were completed by school psychologists practicing primarily in the schools (64.2%). Responses by other subjects included school psychologist trainers (5.1%), students (7.5%), school psychologists in private practice (3.1%), and those not employed or are employed in other capacities (20.1%). Descriptive data obtained through the questionnaire and included in this study involved school psychologists who practice primarily in the schools. Specific information involved subjects' age, gender, education, graduate training in adaptive behavior assessment/secondary school psychological services, post graduate training in adaptive behavior assessment/secondary school psychological services and work settings. Data involving age, gender, educational level, and graduate training in assessment are presented in Table 1.

Age Distribution

A mean age of 39.3 years was indicated from the responses of subjects on the questionnaire. The youngest practitioner was 25 years of age and the oldest was 68 years of age. The distribution of responses was as follows: 12.8% between 25 and 30 years of age; 35.8% between 31 and 36 years of age; 20.9% between 37 and 42 years of age; 12.3%

Table 1

Description of Sample and NASP Characteristics

Variable	Value	Sample Percent	NASP Percent
Role	Practitioners	64.2	76
	Trainers	5.1	6
	Students	7.5	*
	Private Practice	3.1	*
	Others	20.1	*
Age	25 - 30 years	12.8	*
	31 - 36 years	35.8	*
	37 - 42 years	20.9	*
	43 - 48 years	12.3	*
	49+ years	18.2	*
Sex	Male	41.7	42
	Female	58.3	58
Years in Profession	1 - 3 years	17.7	*
	4 - 6 years	26.3	*
	7 - 9 years	21.0	*
	10 - 12 years	12.9	*
	13+ years	22.0	*
Highest Degree Earned	Bachelors	.5	.3
	Masters	28.3	17
	Sixth Year/Specialists	48.7	57
	Doctorate	21.9	22
Graduate Program	Psychology Department in school of education	12.8	*
	School Psychology Program in school of education	24.1	*

Table 1 (continued)

Variable	Value	Sample Percent	NASP Percent
	School/Counseling Psychology Program in school of education	10.2	*
	Psychology Foundations Program in school of education	2.1	*
	Counselor Education	10.7	*
	Special Education	4.3	*
	Elementary/Secondary Education	5.3	*
	Clinical/Counseling Psychology in Arts and Science	4.8	*
	Psychology Department in Arts and Science	23.5	*
	Other	1.6	*
Graduate Courses in Assessment	Intellectual	99.5	*
	Personality	95.7	*
	Behavioral Observations	86.1	*
	Educational	84.0	*
	Multicultural	39.6	*
	Vocational	36.9	*

* Not comparable with Sample

between 43 and 48 years of age; 18.2% of the practitioners were 49 years of age or older. Comparable data was not available in the NASP Membership Directory (1983).

Sex Distribution

Males comprised 41.7% and females 58.3% of subjects. This compared with 42% and 58% reported in the NASP Membership Directory (1983).

Years of Experience as a School Psychologist

The distribution of responses for years of experience as a school psychologist was as follows: 17.7% had 1 to 3 years experience; 26.3% had 4 to 6 years experience; 21.0% had 7 to 9 years experience; 12.9% had 10 to 12 years experience; 22.0% had 13 or more years experience as a school psychologist. The subjects had a mean of 8.7 years experience. The least experience reported was one year and the most experience was thirty years. Comparable data was not available in the NASP Membership Directory (1983).

Highest Degree Earned

The distribution of responses for the highest degree earned was as follows: .5% bachelors; 28.3% masters; 48.7% sixth year/specialists; 21.9% doctorates. This distribution compared with 3%, 17%, 57%, and 22% reported in the NASP

Membership Directory (1983). It is possible that the phrasing of survey questions may have had an impact on the discrepancy in the responses involving masters and sixth year/specialist education. It may be difficult to make accurate distinctions between these levels of education without specific guidelines.

Graduate Program

The majority of subjects in this study received their masters degrees in schools of education (75.5%). The distribution according to departments is as follows: 12.8% in psychology programs in schools of education; 24.1% in school psychology programs in schools of education; 10.2% in school/counseling psychology programs in schools of education; 2.1% in psychology foundations programs in schools of education; 10.7% in counselor education programs in schools of education; 4.3% in special education programs in schools of education; 5.3% in elementary/secondary education programs in schools of education; 4.8% in clinical/counseling psychology departments in arts and science schools; 23.5% in psychology departments in arts and science schools; 1.6% in none of the above categories. Comparable data was not available in the NASP Membership Directory (1983).

Graduate Courses in Assessment

Subjects took graduate course work related to assessment techniques in the following areas: 99.5% in intelligence testing; 95.7% in personality assessment; 86.1% in behavioral observations; 84.0% in educational testing; 39.6% in multicultural assessment; 36.9% in vocational testing. No other types of assessment technique training were examined in this study. Comparable data was not available.

Other Pertinent Demographic Information

Additional demographic information regarding assessment training is presented in Tables 2 and 3. The amount of experience subjects gained with secondary age students during their graduate training is presented in Table 4. Postgraduate educational experiences of subjects in adaptive behavior measurement and secondary school psychological services between 1979 and 1984 are presented in Tables 5 and 6. Finally, the characteristics of subjects' worksetting are presented in Table 7. The most salient findings from this data involves the limited postgraduate training school psychologists receive in secondary school psychological services and adaptive behavior measurement.

Table 2

Formal Assessment Training That Included the Measurement of Adaptive Behavior

Assessment Techniques in Training	Subjects Trained in Technique	% of Training Related to Adaptive Behavior	Absolute Frequencies	Relative Frequencies (percent)
Individual intelligence assessment	185	0%	31	16.6
		1% - 15%	93	49.7
		16% - 30%	37	19.8
		31% - 45%	19	10.2
		46% - 60%	5	2.7
		No Training	0	0.0
		No Response	2	1.1
Personality assessment	179	0%	50	26.7
		1% - 15%	73	39.0
		16% - 30%	29	15.5
		31% - 45%	20	10.7
		46% - 60%	7	3.7
		No Training	7	3.7
		No Response	1	.5
Educational assessment	158	0%	53	28.3
		1% - 15%	67	35.8
		16% - 30%	28	15.0
		31% - 45%	9	4.8
		46% - 60%	1	.5
		No Training	25	13.4
		No Response	4	2.1

Table 2 (continued)

Assessment Techniques in Training	Subjects Trained in Technique	% of Training Related to Adaptive Behavior	Absolute Frequencies	Relative Frequencies (percent)
Vocational assessment	119	0%	26	13.9
		1% - 15%	28	15.0
		16% - 30%	11	5.9
		31% - 45%	3	1.6
		46% - 60%	0	0.0
		No Training	116	62.0
		No Response	3	1.6
Behavioral/ observational assessment	159	0%	29	15.5
		1% - 15%	58	31.0
		16% - 30%	35	18.7
		31% - 45%	16	8.6
		46% - 60%	21	11.2
		No Training	26	13.9
		No Response	2	1.1
Multicultural assessment	75	0%	8	4.3
		1% - 15%	30	16.0
		16% - 30%	12	6.4
		31% - 45%	14	7.5
		46% - 60%	11	5.9
		No Training	106	56.7
		No Response	6	3.2

Table 3

Formal Assessment Training That Addressed Services to Secondary Age Students

Assessment Techniques in Training	Subjects Trained in Technique	% of Training Related to Secondary Students	Absolute Frequencies	Relative Frequencies (percent)
Individual intelligence assessment	184	0%	16	8.6
		1% - 15%	55	29.4
		16% - 30%	66	35.3
		31% - 45%	37	19.8
		46% - 60%	10	5.3
		No Training	0	0.0
		No Response	3	1.6
Personality assessment	178	0%	20	10.7
		1% - 15%	56	29.9
		16% - 30%	50	26.7
		31% - 45%	38	20.3
		46% - 60%	14	7.5
		No Training	7	3.7
		No Response	2	1.1
Educational assessment	157	0%	17	9.1
		1% - 15%	56	30.0
		16% - 30%	53	28.3
		31% - 45%	22	11.8
		46% - 60%	9	4.8
		No Training	25	13.4
		No Response	5	2.6

Table 3 (continued)

Assessment Techniques in Training	Subjects Trained in Technique	% of Training Related to Secondary Students	Absolute Frequencies	Relative Frequencies (percent)
Vocational assessment	67	0%	4	2.1
		1% - 15%	23	12.3
		16% - 30%	9	4.8
		31% - 45%	9	4.8
		46% - 60%	22	11.9
		No Training	116	62.0
		No Response	4	2.1
Behavioral/ observational assessment	158	0%	24	12.8
		1% - 15%	67	35.8
		16% - 30%	35	18.7
		31% - 45%	25	13.5
		46% - 60%	7	3.7
		No Training	26	13.9
		No Response	3	1.6
Multicultural assessment	74	0%	11	5.9
		1% - 15%	33	17.6
		16% - 30%	13	7.0
		31% - 45%	14	7.5
		46% - 60%	3	1.6
		No Training	106	56.7
		No Response	7	3.7

Table 4

Experience During Training with Secondary Age Populations

Type of Experience	Subjects	% of Training with Secondary Students	Absolute Frequencies	Relative Frequencies (percent)
Practica	186	No Practicum	7	3.7
		No Experience	28	15.0
		1% - 20%	90	48.1
		21% - 40%	43	23.0
		41% - 60%	9	4.8
		61% - 80%	5	2.7
		81% - 100%	4	2.1
		No Response	1	.5
Internship	185	No Internship	23	12.3
		No Experience	15	8.0
		1% - 20%	71	38.0
		21% - 40%	45	24.1
		41% - 60%	23	12.3
		61% - 80%	5	2.7
		81% - 100%	3	1.6
		No Response	2	1.1

Table 5

Continuing Education in Adaptive Behavior Measurement between 1979 and 1984

Source of Education	Subjects	Categories	Absolute Frequencies	Relative Frequencies (percent)
Conferences/ workshops attended on adaptive behavior	187	None	50	26.7
		One	46	24.6
		Two	48	25.7
		Three	15	8.0
		More	28	15.0
Readings on adaptive behavior	187	None	4	2.1
		1 - 3	71	38.0
		4 - 6	51	27.3
		7 - 9	18	9.6
		9 +	43	23.0
Authored on adaptive behavior measurement	187	None	165	88.2
		1 - 3	12	6.4
		4 - 6	6	3.2
		7 - 9	0	0.0
		9 +	4	2.1
Post-graduate courses in adaptive behavior	187	None	109	58.3
		One	39	20.9
		Two	17	9.1
		Three	8	4.3
		More	14	7.5
Courses taught related to adaptive behavior measurement	187	None	153	81.8
		One	19	10.2
		Two	8	4.3
		Three	2	1.1
		More	5	2.7

Table 6

Continuing Education in Secondary School Psychological Services between 1979 and 1984

Source of Education	Subjects	Categories	Absolute Frequencies	Relative Frequencies (percent)
Conferences/ workshops attended on secondary school psychological services	187	None	70	37.4
		One	41	21.9
		Two	33	17.6
		Three	14	7.5
		More	29	15.5
Readings on secondary school psychological services	187	None	13	7.0
		1 - 3	65	34.8
		4 - 6	39	20.9
		7 - 9	19	10.2
		9 +	51	27.3
Authored on secondary school psychological services	187	None	175	93.6
		One	5	2.7
		Two	1	.5
		Three	2	1.1
		More	3	1.6
		No response	1	.5
Post-graduate courses related to secondary school psychological services	186	None	115	61.5
		One	35	18.7
		Two	17	9.1
		Three	5	2.7
		More	14	7.5
		No response	1	.5
Post-graduate courses in secondary school psychological services	186	None	140	74.9
		One	18	9.6
		Two	7	3.7
		Three	2	1.1
		More	19	10.2
		No response	1	.5

Table 6 (continued)

Source of Education	Subjects	Categories	Absolute Frequencies	Relative Frequencies (percent)
Courses taught in secondary school psychological services	187	None	167	89.3
		One	13	7.0
		Two	1	.5
		Three	3	1.6
		More	3	1.6
Courses taught related to secondary school psychological services	186	None	162	86.6
		One	14	7.5
		Two	4	2.1
		Three	1	.5
		More	5	2.7
		No response	1	.5

Table 7

Characteristics of Work Settings

Characteristic	Subjects	Categories	Absolute Frequencies	Relative Frequencies (percent)
Population density	186	Rural	12	6.4
		Semi-Rural	38	20.3
		Semi-Urban	40	21.4
		Small Metro.	27	14.4
		Medium Metro.	26	13.9
		Large Metro.	43	23.0
		No Response	1	.5
Percent of time serving secondary vocational schools	187	0 - 9%	49	26.2
		10 - 19%	29	15.5
		20 - 29%	48	25.7
		30 - 39%	21	11.2
		40 - 49%	7	3.7
		More	33	17.6
Number of students in district	181	Less than 1,000	10	5.3
		1,000 - 1,999	12	9.1
		2,000 - 2,999	20	10.7
		3,000 - 4,999	29	15.5
		5,000 - 7,999	24	12.8
		8,000 - 11,999	14	7.5
		12,000 - 19,999	21	11.2
		20,000 - 29,999	14	7.5
		30,000 - 39,999	2	1.1
		40,000 - 49,999	4	2.1
		More	26	13.9
		No Response	6	3.2

Table 7 (continued)

Characteristic	Subjects	Categories	Absolute Frequencies	Relative Frequencies (percent)
Percent of students enrolled in secondary programs	187	0 - 10%	8	4.3
		11 - 20%	22	11.8
		21 - 30%	57	30.5
		31 - 40%	52	27.8
		41 - 50%	16	8.6
		More	32	17.1
Full-time school psychologists	121	0 - .9	9	4.8
		1 - 1.9	50	26.7
		2 - 2.9	19	10.2
		3 - 3.9	20	10.7
		4 - 4.9	12	6.4
		More	11	5.9
		No Response	66	35.3
Adaptive behavior measures required for MMR	184	Not Required	26	13.9
		Required	158	84.5
		No Response	3	1.6
Adaptive behavior measures required for moderate MR	184	Not Required	23	12.3
		Required	161	86.1
		No Response	3	1.6

Table 7 (continued)

Characteristic	Subjects	Categories	Absolute Frequencies	Relative Frequencies (percent)
Adaptive behavior measures required for severe/ profound retardation	184	Not Required	29	15.5
		Required	155	82.9
		No Response	3	1.6
Adaptive behavior measures required for learning disabilities	183	Not Required	135	72.2
		Required	48	25.7
		No Response	4	2.1
Adaptive behavior measures required for emotional disabilities	184	Not Required	97	51.9
		Required	87	46.5
		No Response	3	1.6
Adaptive behavior measures required for hearing impaired	184	Not Required	154	82.4
		Required	30	16.0
		No Response	3	1.6
Adaptive behavior measures required for speech impaired	184	Not Required	166	88.8
		Required	18	9.6
		No Response	3	1.6
Adaptive behavior measures required for visually impaired	184	Not Required	152	81.3
		Required	32	17.1
		No Response	3	1.6

Table 7 (continued)

Characteristic	Subjects	Categories	Absolute Frequencies	Relative Frequencies (percent)
Adaptive behavior measures required for multi-handicapped	184	Not Required	100	53.5
		Required	84	44.9
		No Response	3	1.6
Adaptive behavior measures required for other handicaps		Not Required	168	90.4
		Required	15	8.0
		No Response	3	1.6
Collection of adaptive behavior not specified	185	Specified	161	86.1
		Not Specified	24	12.8
		No Response	2	1.1
Classroom teacher collects adaptive behavior	185	Not Responsible	131	70.1
		Responsible	54	28.9
		No Response	2	1.1
Educational diagnostician collects adaptive behavior	185	Not Responsible	156	83.4
		Responsible	29	15.5
		No Response		1.1
Guidance counselor collects adaptive behavior	185	Not Responsible	136	72.7
		Responsible	49	26.2
		No Response	2	1.1

Table 7 (continued)

Characteristic	Subjects	Categories	Absolute Frequencies	Relative Frequencies (percent)
School psychologist collects adaptive behavior	184	Not Responsible	41	21.9
		Responsible	143	76.5
		No Response	3	1.6
School social worker collects adaptive behavior	185	Not Responsible	122	65.2
		Responsible	63	33.7
		No Response	2	1.1
Special education teacher collects adaptive behavior	185	Not Responsible	121	64.7
		Responsible	64	34.2
		No Response	2	1.1
Vocational evaluator collects adaptive behavior	185	Not Responsible	174	93.0
		Responsible	11	5.9
		No Response	2	1.1
Vocational teacher collects adaptive behavior	185	Not Responsible	178	95.2
		Responsible	7	3.7
		No Response	2	1.1
Others collect adaptive behavior	185	Not Responsible	174	93.0
		Responsible	11	5.9
		No Response	2	1.1

Characteristics of school psychologists were analyzed through chi-square procedures to determine if specific types of school psychologists are employed in particular regions and/or work settings. Cells had to be collapsed to account for low cell frequencies on several of the analyses. The transformations involved the following:

1. Age by region. Younger (25 to 36 years of age) and older (37 years of age and older).

2. Age by size of district. Small (to 2,999 students, middle (3,000 to 19,999 students) and large (20,000 or more students).

3. Years in the profession by region. East (Northeast and Southeast), Central (North Central), and West (West Central and West).

The results of this analysis are presented in Table 8. The only significant relationship found involved the age of school psychologists in particular regions of the country. Examination of the crosstabulation presented in Table 9 illustrates how school psychologists in the North Central region have a higher proportion of older school psychologists than the other regions. Thus, there appears to be some selectivity according to age in the North Central region. Table 10 included the frequency distribution of

subject's educational level and graduate program according to region. Selectivity in the North Central region will be addressed in the final section of this study.

Table 8

Selectivity of School Psychologists According to Region of the Country and the Size of Worksetting

Analysis	Chi Square	DF	Significance
Age			
Region of country	10.264	4	.05
Size of district	4.701	8	N.S.
Years in profession			
Region of country	5.816	4	N.S.
Size of district	9.827	8	N.S.
Graduate program			
Region of country	5.362	8	N.S.
Size of district	2.551	4	N.S.

N.S. = not significant

Table 9

Distribution of School Psychologists According to Age and Region of the Country

Age	Region				
	North East	South East	North Central	West Central	West
Younger (25-36 years)	25	23	13	14	16 (91)
Older (36 years and up)	27	18	31	8	12 (90)
	(52)	(41)	(44)	(22)	(28)

Table 10

Frequency Distribution by Region

Variable	North East		South East		North Central		West Central		West	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Education Level										
Bachelor	0	0.00	0	0.00	0	0.00	0	0.00	1	3.6
Master	7	13.7	10	24.4	15	34.1	8	36.4	13	46.4
Sixth Year	32	62.7	19	46.3	23	52.3	8	36.4	9	32.1
Doctorate	12	23.6	12	29.3	6	13.6	6	27.2	5	17.9
Graduate Program										
Education--Psychology	29	61.7	19	52.8	20	46.5	9	40.9	15	57.7
Education--Foundations	8	17.0	7	19.4	13	30.2	6	27.3	4	15.3
Arts/Science--Psychology	10	21.3	10	27.8	10	23.3	7	31.8	7	27.0

Adaptive Behavior Orientation

Several questions were included in this study which addressed school psychologists' orientation to the measurement of adaptive behavior. The first question that addressed this issue involved the frequency in which various adaptive behavior assessment techniques are used by school psychologists with secondary age students. The second set of questions addressed specific approaches to collecting adaptive behavior information with secondary age students according to type of referral. The approaches to initial evaluations and reevaluations with mild mentally retarded secondary age students were addressed third. The fourth area involved perceived competence in providing assessment services to secondary age students. The next area explored involved assessment skills in which entry level school psychologists need greater training. Finally, the beliefs of school psychologists regarding the assessment of adaptive behavior were addressed.

Techniques Used With Secondary Age Students

A review of the school psychology, mental retardation, special education, and rehabilitation literature facilitated the development of a set of questions regarding the types of adaptive behavior measurement techniques that might be

used by school psychologists. Techniques were included which address instructional/programmatic needs, non-biased assessment issues, and both standardized instruments and non-standardized approaches to assessment. Numerical values of one to five were assigned to response categories regarding the frequency in which each technique was used by school psychologists during the 1982-83 school year. The response values were listed as:

1. Never
2. Seldom
3. Sometimes
4. Frequently
5. Always

The ranked frequency in which these techniques were used is reported in Table 11. Total responses to this set of questions indicated that non-standardized techniques were used more frequently than standardized instrumentation in the collection of information regarding secondary age students' adaptive behavior. The Vineland Social Maturity Scale was the only standardized technique that appeared to be used by the overall sample with any regularity. Techniques developed specifically for secondary and post secondary populations (e.g., Social and Prevocational Information Battery, Vocational Adaptation Rating Scale, and the San

Table 11

Rank Order in Frequency of Techniques Used for Collecting Adaptive Behavior Information with Secondary Age Students

Technique	Mean	Standard deviation
Information from classroom teacher	4.104	1.199
Clinical impressions	3.778	1.426
Vineland Social Maturity Scale	2.862	1.337
Structured observations	2.690	1.341
Information from school social worker	2.688	1.602
Naturalistic observation	2.669	1.467
Information from vocational evaluator	1.951	1.292
Adaptive Behavior Scale-- Public School Version	1.614	.959
Local or state developed scales	1.552	1.166
Sociometric Techniques	1.521	.900
Adaptive Behavior Scale-- School Edition	1.479	1.058
Adaptive Behavior Inventory for Children	1.370	.831
Social and Prevocational Information Battery	1.248	.712
Children's Adaptive Behavior Scale	1.179	.536
Cain Levine Social Competency Scale	1.166	.565

Table 11 (continued)

Technique	Mean	Standard deviation
Vocational Adaptation Rating Scale	1.124	.525
Adaptive Behavior Scale-- Clinical Version	1.097	.478
San Francisco Vocational Competency Scale	1.076	.426
Camelot Behavior Checklist	1.062	.242

Francisco Vocational Competency Scale) were rarely used. Ranked frequencies in which different types of standardized instruments were used are presented in Table 12. Additional techniques reported to be used by school psychologists are listed in Table 13. These additional techniques were reported by a minority of the total sample in the study. It is clear that the current practice of school psychologists in the psychological assessment of secondary age students does not include standardized adaptive behavior techniques other than the Vineland Social Maturity Scale.

Approaches in Collecting Adaptive Behavior Information

Subjects were requested to indicate the techniques they used most frequently to measure the adaptive behavior of secondary age students according to each of the following reasons:

1. Initial referral for behavioral/emotional problems.
2. Re-evaluation for behavioral/emotional problems.
3. Initial referral for a possible learning disability.
4. Re-evaluation for a learning disability.
5. Initial referral for limited mental ability (mild mental retardation).
6. Re-evaluation for mild mental retardation.
7. Referral for moderate mental retardation.

Table 12

Rank According to Type of Standardized Adaptive Behavior Instrument

Purpose		Mean	Standard deviation
Special education placement	Vineland Social Maturity Scale	2.862	1.337
	Adaptive Behavior Inventory for Children	1.370	.831
	Children's Adaptive Behavior Scale	1.179	.536
Programming/ Instruction	Social and Prevocational Information Battery	1.248	.712
	Cain Levine Social Competency Scale	1.166	.565
	Vocational Adaptation Rating Scale	1.124	.525
	San Francisco Vocational Competency Scale	1.076	.426
	Camelot Behavior Checklist	1.062	.242
Both placement and programming	Adaptive Behavior Scale--Public School Version	1.614	.959
	Adaptive Behavior Scale--School Edition	1.479	1.058

Table 13

Additional Standardized Techniques Used By School Psychologists to Measure the Adaptive Behavior of Secondary Age Students

Technique	Frequency of reported use
Street Survival Skills Questionnaire	6
Developmental Scales (general)	4
Meadow Kendall	4
Burks Behavior Rating Scale	2
Behavior Checklists (general)	2
Weller Shawser	1
Deveroux	1
PACSPD	1
SVI	1
Maxfield Buckholz	1
Hahnemann	1
Walker	1
Money Problem	1
Clifford	1
Achievement Tests	1

8. Referral for severe/profound mental retardation.
9. Other referrals.

Overall approach. The overall ranked frequency in which different approaches are used in collecting adaptive behavior information is reported in Appendix C. Total responses indicate that adaptive behavior instruments are reported to be used more frequently than other approaches to collecting adaptive behavior information when open-ended responses were elicited according to reason for referral. The use of interview (information from others) techniques were used quite frequently by themselves and in combination with other techniques. Forty-one different approaches to collecting adaptive behavior information were listed by participating subjects. The five most common approaches to data gathering involved one or some combination of adaptive behavior instruments, interviews (information from others), and observations. Other approaches to data collection involved one or some combination of the following: behavioral/personality scales, projective tests, clinical impressions/student interviews, local or state developed scales, achievement tests, cognitive or intellectual scales, developmental scales, learning or cognitive styles, vocational tests, and perceptual motor tests. A large percentage

of subjects reported that they did not measure adaptive behaviors for all listed referrals.

Initial referral for behavioral/emotional problems. A total of eighty-nine subjects indicated that they obtained adaptive behavior information regarding the initial referral of secondary age students during the 1982-83 school year with behavioral/emotional problems. Twenty-one different approaches to data gathering were reported. Interviews (information from others) and observations were reported as the most commonly used methods of collecting adaptive behavior information with secondary age students. Data gathering approaches ranked close behind, involving one or some combination of adaptive behavior instruments, behavioral/personality scales, and interviews (information from others). Twenty-two subjects indicated that they did not collect adaptive behavior information (see Appendix C).

Re-evaluation for behavioral/emotional problems. Ninety-two subjects indicated that they obtained adaptive behavior information regarding re-evaluations of secondary age students with behavioral/emotional problems. Twenty different approaches to data gathering were used with these referrals. The use of only interviews (information from others) and interviews along with observations stood out as

the most commonly used approaches to data gathering. Twenty-one subjects indicated that they did not collect adaptive behavior information (see Appendix C).

Initial referral for learning disabilities. Eighty-six subjects indicated that they obtained adaptive behavior information in initial evaluations for learning disabilities with secondary age students. Twenty-two different approaches to data gathering were reported. Interviews (information from others) combined with observations were the most frequently reported approaches used by participating subjects. Ranked a somewhat distant second were interviews (information from others). Adaptive behavior instruments were ranked third, along with interviews (information from others) and clinical impressions/student interviews. Intellectual, perceptual-motor, and projective tests were reported to be used by a minority of subjects as a means of collecting adaptive behavior information. Thirty-four subjects indicated that they did not obtain adaptive behavior information (see Appendix C).

Re-evaluation for learning disabilities. A total of seventy-two subjects indicated that they collected adaptive behavior information for secondary age students referred for re-evaluations regarding learning disabilities. Nineteen

approaches to data gathering were reported. Rank frequencies indicate that there is little difference in the approaches used in initial and re-evaluations. Thirty-nine subjects indicated that they did not collect adaptive behavior information (see Appendix C).

Initial referral for limited mental abilities. Ninety-three subjects indicated that they collected adaptive behavior information in the psychological evaluation of secondary age students initially referred because of limited mental abilities (possible mild mental retardation). Ranked frequencies indicate a strong orientation towards the use of adaptive behavior instruments. Eight of the twenty-two approaches to data collection reported by subjects involved the use of adaptive behavior instruments. Interviews (information from others) were also mentioned as an approach frequently used in data collection. Developmental, cognitive, achievement, and projective tests were included as techniques used by subjects. Nine subjects indicated that they did not collect adaptive behavior information (see Appendix C).

Re-evaluation for mild mental retardation. A total of one hundred and seven subjects reported that they collected adaptive behavior information in the psychological evaluation

of secondary age students referred for a re-evaluation because of mild mental retardation. Rank frequencies indicated the use of similar data gathering approaches as those used in initial referrals for limited mental abilities. That is, there was a strong orientation towards the use of adaptive behavior instruments with the use of interviews (information from others) mentioned either alone or combined with other techniques at a somewhat moderate rate of occurrence. Twenty-one approaches to data gathering were indicated which included projective, cognitive, achievement, and vocational tests as methods of data collection with this population. There were only six subjects who reported that they did not collect adaptive behavior information (see Appendix C).

Referral for moderate mental retardation. Adaptive behavior instruments were again the most frequent approach used in data gathering. In general, responses were similar to those reported for limited mental abilities and mild mental retardation. Developmental, vocational, cognitive, achievement, and projective tests were mentioned as techniques used in collecting adaptive behavior information with moderatley retarded secondary age students. Seven subjects reported that they did not collect adaptive behavior information (see Appendix C).

Referral for severe profound mental retardation. Much like other referrals mentioned earlier concerning mentally retarded students, adaptive behavior instruments were ranked, by far, as the most frequently used method for collecting adaptive behavior information. Also, interviews (information from others) were also mentioned with relative frequency as a method of collecting adaptive behavior information. A total of seventy subjects indicated that they obtained adaptive behavior information for severe/profoundly retarded students during the 1982-83 school year. Only seven reported that they did not collect adaptive behavior information.

Approaches to initial and re-evaluations with secondary age students

Four questions involving approaches school psychologists use in the psychological evaluation of secondary age mild mentally retarded students were included in the study. Subjects were asked to rank what they felt were the relative importance of several possible reasons for conducting psychological evaluations with secondary age mild mentally retarded students. The list of reasons involved assessment issues regarding possible placements in various educational programs and instructional needs at the secondary level. Responses were ranked so that "1" indicated the most

important reason, "2" the next most important, and so on. The following are the reasons subjects ranked for both initial evaluations and re-evaluations:

1. Determine appropriateness of special education placement.

2. Determine appropriateness of a vocational placement.

3. Determine instructional needs for academic performance.

4. Determine instructional needs for vocational training.

5. Determine instructional needs for social competence.

Subjects were also asked to rank what they felt were the relative importance of several assessment components in psychological evaluations with secondary age mild mentally retarded students. The list of components are mandated by law and/or considered appropriate by NASP's Professional Standards. Again, responses were ranked so that "1" indicated the most important component, "2" the next most important, and so on. The following are the components subjects ranked for both initial and re-evaluations:

1. Intellectual functioning.

2. Adaptive behavior.

3. Personality development.

4. Vocational aptitudes and interests.

5. Academic achievement.

Purpose of psychological evaluations. Responses to questions involving the rank order of reasons for conducting psychological evaluations with mild mentally retarded secondary age students are presented in Table 14. Subjects indicated that determining eligibility for special education placements is the most important reason for conducting both initial evaluations and re-evaluations. In fact, there was total agreement in the rank order of each reason for referral with both types of evaluations. The next three rankings involve instructional needs related to academic, vocational, and social competency issues. Determining appropriate vocational placements ranked last in relative importance by participating subjects.

Important components in psychological evaluations. Responses to questions involving the rank order of important components in psychological evaluations with mild mentally retarded secondary age students are presented in Table 15. Subjects indicated that intelligence scales were the most important component in both initial evaluations and re-evaluations. Adaptive behavior and academic achievement were ranked second and third respectively on both scales. There were some differences in the last two rankings as personality development was ranked fourth for initial

Table 14

Rank Order of Perceived Purpose of Initial Evaluations and Re-evaluations with Mild Mentally Handicapped Secondary Age Students

	Initial evaluation		Re-evaluation	
	Mean	Std. dev.	Mean	Std. dev.
1. Special Education Placement	1.978	1.471	2.017	1.572
2. Academic Performance	2.355	1.262	2.967	1.370
3. Vocational Training	3.401	1.071	3.039	1.210
4. Social Competency	3.437	1.269	3.400	1.203
5. Vocational Placement	3.665	1.177	3.408	1.266

Table 15

Rank Order of Components

	Initial evaluation		Re-evaluation	
	Mean	Std. dev.	Mean	Std. dev.
1. Intelligence Scales	1.511	.986	2.174	1.487
2. Adaptive Behavior	2.788	1.037	2.531	1.158
3. Academic Achievement	2.837	1.217	3.112	1.331
4. Personality Development	3.734	1.210	3.309	1.328
5. Vocational Tests	4.027	1.104	3.746	1.196

evaluations while vocational interests and aptitudes were ranked fourth for re-evaluations.

Perceived Competency to Provide Assessment Services to Secondary Age Students

Subjects were requested to indicate on a one to five scale the degree in which they felt prepared to provide assessment services to secondary age students (ages 14 through 21 years). Responses ranged from "1" indicating "not prepared at all" to "5" indicating "fully prepared." Only .5% of the subjects reported that they were not prepared to provide assessment services to this population. At the opposite extreme, 31% felt that they were fully prepared More than two-thirds of all subjects felt less than fully prepared to provide psychological assessment services to secondary age students. Specific rates of responses were as follows: 1 = .5%; 2 = 7.5%; 3 = 23.5%; 4 = 35.3%; 5 = 31.0%; No response = 2.1%.

Areas in which School Psychologists Entering the Profession Need Greater Assessment Skills

Subjects were requested to rank the areas in which school psychologists hired for entry level positions in their department during the past five years should gain greater skills for providing assessment services to secondary

age populations. The same options were provided for this question that were included in earlier mentioned rankings involving initial evaluations and re-evaluations. Responses were ranked so that "1" indicated the most important component, "2" the next most important, and so on. Participant responses are reported in Table 16. Results indicate that participating practitioners felt that greater training was most needed in vocational aptitudes and interests assessment. The next area in which greater training was needed involved adaptive behavior assessment. Personality assessment was ranked third, followed by more traditional skills involving intellectual and academic testing.

Table 16

Areas in Which Additional Skills Are Needed

Rank	Technique	Mean	Standard deviation
1	Vocational Development	2.201	1.258
2	Adaptive Behavior	2.207	1.050
3	Personality Development	2.649	1.172
4	Intelligence	3.837	1.434
5	Academic	3.994	.933

Beliefs Regarding Adaptive Behavior Measurement

Subjects were requested to indicate on a one to five scale how they perceive the general feelings of colleagues in their work settings regarding the measurement of adaptive behavior. The final question in this section involved the degree in which individuals agree with their overall perception of colleagues' opinions. This approach was used to avoid eliciting responses which put oneself in a good light which may or may not accurately reflect an individual's behavior or attitude. Responses ranged from "1" indicating "poor quality," "not relevant," or "total disagreement" to "5" indicating "excellent quality," "extremely relevant," or "total agreement." Results are reported in Table 17. It was indicated that participants generally felt that adaptive behavior instruments are of generally poor quality, especially when addressing the needs of secondary age students. There were a wide range of opinions (both strong and not so strong) regarding the current definition of adaptive behavior which emphasizes out of school behaviors. Wide ranges of opinions were also indicated regarding the relevance of adaptive behavior in the measurement of personality development and in addressing the needs of students referred for reasons other than limited mental ability.

Table 17

School Psychologists' Impressions of Colleague Opinions about Adpative Behavior Measures

Issue	Subjects	Categories	Absolute Frequencies	Relative Frequencies (percent)
Quality of adaptive behavior scales	183	Poor quality	45	(24.1)
		Second	75	(40.1)
		Third	53	(28.3)
		Fourth	8	(4.3)
		Excellent quality	2	(1.1)
		No response	4	(2.1)
Quality of secondary adaptive behavior scales	181	Poor quality	71	(38.0)
		Second	69	(36.9)
		Third	34	(18.2)
		Fourth	6	(3.2)
		Excellent quality	1	(.5)
		No response	6	(3.2)
Emphasis on out of school behavior	181	Not relevant	15	(8.0)
		Second	30	(16.0)
		Third	57	(30.5)
		Fourth	51	(27.3)
		Extremely relevant	28	(15.0)
		No response	6	(3.2)
Adaptive behavior as part of personality development	182	Not relevant	17	(9.1)
		Second	41	(21.9)
		Third	72	(38.5)
		Fourth	40	(21.4)
		Extremely relevant	12	(6.4)
		No response	5	(2.7)

Table 17 (continued)

Issue	Subjects	Categories	Absolute Frequencies	Relative Frequencies (percent)
Relevance of adaptive behavior measurement with non-mentally retarded	180	Not relevant	29	(15.5)
		Second	54	(28.9)
		Third	47	(25.1)
		Fourth	40	(21.4)
		Extremely relevant	10	(5.3)
		No response	7	(3.7)
Degree school psychologists agree with above opinions	181	Total disagree	3	(1.6)
		Second	11	(5.9)
		Third	39	(20.9)
		Fourth	74	(39.6)
		Total agree	56	(28.9)
		No response	6	(3.2)

Results of Statistical Procedures Associated with Survey Variables

Several statistical procedures were used in selecting appropriate variables in the analysis of research questions presented in this study. The first step involved the analysis of condescriptives and frequencies of each variable. Forty-nine of the original one hundred fifteen variables were eliminated, through this process, because of poor distributions and/or limited responses. Highly skewed distributions were related to a strong agreement among school psychologists on many questions which minimized variance to the point that this data could not be used in the analysis of results. Limited responses to many questions appeared to be a result of poor wording of questions and disqualification for completion of a question because of responses on previous questions.

Bivariate correlation coefficients product-moment procedures were used to identify highly correlated variables in avoiding multicolinearity. Analysis through partial correlation procedures were conducted to identify possible interaction effects among variables. Chi-square analyses were used to determine if significant differences occurred in subjects' responses to related variables. Factor analysis and Chi-square procedures were conducted to insure that variables included in the analysis were representative of

the sample, that unique features of the variables were addressed and that variables were independent in their contribution to statistical analyses in this study. The above procedures helped to maximize the reliability and content validity of variables used in the analysis of research questions.

As a result of the above procedures, several variables were eliminated from the analyses while others were tranformed into new variables and/or values. Transformations involving the creation of new variables included the following:

1. A variable called Differences in Purpose was computed from variables involving the sum of squared differences between initial evaluations and re-evaluations regarding the purpose of psychological assessments. Variables used in this transformation included special education placements in initial evaluations, special education placements in re-evaluations, vocational placements in initial evaluations, vocational placements in re-evaluations, academic performance in initial evaluations, academic performance in re-evaluations, vocational training instruction in initial evaluations, vocational training instruction in re-evaluations, social competence in initial evaluations, and social competence in re-evaluations.

2. A variable called Differences in Components was computed from variables involving the sum of squared differences between initial evaluations and re-evaluations regarding the relative importance of assessment components. Variables used in this transformation included intellectual functioning in initial evaluations, intellectual functioning in re-evaluation, adaptive behavior in initial evaluations, adaptive behavior in re-evaluations, personality development in initial evaluations, personality development in re-evaluations, vocational needs in initial evaluation, vocational needs in re-evaluation, academic achievement in initial evaluations, and academic achievement in re-evaluations.

3. A variable called Formal Training in Adaptive Behavior Assessment was computed from existing variables with logarithmic adjustments. Variables used in this transformation included adaptive behavior in intelligence test training, adaptive behavior in personality test training, adaptive behavior in educational test training, adaptive behavior in vocational test training, adaptive behavior in behavioral observation training, and adaptive behavior in multicultural test training. Logarithmic transformations were used because of the negative skewness of the new variable.

4. A variable called Formal Training in Secondary Age Assessment was computed from existing variables with logarithmic adjustments. Variables used in this transformation included secondary age training in intelligence testing, secondary age training in personality testing, secondary age training in educational testing, secondary age training in vocational testing, secondary age training in behavioral observation, and secondary age training in multicultural testing. Logarithmic transformations were used because of the negative skewness of the new variable.

5. A variable called Practical Experience with Secondary Age was computed from existing variables. Variables used in this transformation included practica experience with secondary age students and internship experience with secondary age students.

6. A variable called Informal Training in Adaptive Behavior Assessment was computed from existing variables. Variables used in this transformation included conferences/workshops in adaptive behavior and readings in adaptive behavior.

7. A variable called Informal Training in Secondary School Psychological Services was computed from existing variables. Variables used in this transformation included conferences/workshops in secondary school services and readings in secondary school services.

Value ranges of several variables were recoded through transformation procedures to normalize distributions. The results of these transformations are as follows:

1. Age. 1 = 25 through 30 years; 2 = 31 through 36 years; 3 = 37 through 42 years; 4 = 43 through 48 years; 5 = 48+ years.

2. Years as a school psychologist. 1 = 1 through 3 years; 2 = 4 through 6 years; 3 = 7 through 9 years; 4 = 10 through 12 years; 5 = 12+ years.

3. Graduate Program. 1 = 1 through 4; 2 = 5 through 7; 3 = 8. This variable was than transformed into dummy variables because of nominal values.

4. Formal training in adaptive behavior and secondary age assessment. 1 = 0, 00, 8; 2 = 1; 3 = 2; 4 = 3; 5 = 4; 6 = 5.

5. Experience with secondary age students during training. 1 = 1, 2; 2 = 3; 3 = 4; 4 = 5; 5 = 6; 6 = 7.

6. Percent of time serving secondary/vocational schools. 1 = .00 through .09; 2 = .10 through .19; 3 = .20 through .29; 4 = .30 through .39; 5 = .40 through .49.

7. Number of students in district. 1 = 1 through 3; 2 = 4 through 7; 3 = 8 through 11.

8. Number of full-time school psychologists in district. 1 = 00.0 through 00.9; 2 = 01.0 through 01.9; 3 =

02.0 through 02.9; 4 = 03.0 through 03.9; 5 = 04.0 through 04.9; 6 = 05.0 through 05.9.

9. Geographic area in population density. 1 = 6; 2 = 5; 3 = 4; 4 = 3; 5 = 2; 6 = 1.

In addition to the above transformations, dummy variables were computed for all categorical variables (see Appendix C).

Variables

Eight categories of variables were included in the questionnaires completed by participants in this study. The eight categories include characteristics of school psychology practitioners, training, worksettings, adaptive behavior assessment procedures, approaches to evaluating mild mentally retarded secondary age students, degree practitioners feel prepared to provide assessment services to secondary age students, areas in which new school psychologists need additional assessment training, quality of adaptive behavior scales, and the range of relevance perceived in the definition of adaptive behavior. The specific variables comprising each category are found in Appendix C.

Independent Variables

Factor analytic and Chi-square procedures were used along with previously mentioned appoaches in reducing the

number of variables used in explaining outcomes of research findings. Two sets of variables selected as independent variables involved characteristics of school psychologists and training. Specific variables under the category of school psychologists' characteristics involved age, years in the profession, sex, level of education and graduate program. Training variables were collapsed and categorized as follows: adaptive behavior measurement addressed in formal assessment training, secondary age students in formal assessment training, practica and internship experience with secondary age students, informal training in adaptive behavior measurement and informal training in secondary age services. A principal components factor analysis and orthogonal varimax rotation with iterations were used with both school psychologists' and training variables. This procedure was used to determine the number and nature of unique underlying variables in the above categories. Using SPSS^{x} subprogram FACTOR, a three factor solution was chosen for school psychologists' characteristics. Table 18 presents the eigenvalues and percentages of common variance accounted for by each of six possible factors. Through default procedures, a minimum eigenvalue of 1 was used as the criterion for selecting factors. For purposes of naming and interpretation of each factor, only the highest items were utilized. For purposes

of factor scoring, however, all items were included in a regression based scoring algorithm in order to maintain independence across all factors. Table 19 contains a list of variables grouped by factor and their loadings on each of the three factors with required eigenvalues.

The first factor extracted concerning school psychologists' characteristics was labeled Graduate Program. It contained variables involving the location of graduate programs in which school psychologists received their masters degrees. Factor two was labeled Professional Maturity and included variables involving school psychologists' years in the profession and age. Variables involving sex and education level loaded together to form the third factor which was labeled Male Educational Ascendence.

The eigenvalues and percentages of common variance for training variables are presented in Table 21. The same procedures were used as mentioned previously to select factors and factor loadings for individual variables. Table 22 contains a list of variables grouped by factor and their loadings on each of the two factors with prerequisite eigenvalues.

Table 18

Eigenvalues and Percent of Common Variance Accounted for by Each Psychologist Factor

Factor	Eigenvalue	Percent of Variance
1	1.86661	31.1
2	1.16683	19.4
3	1.15294	19.2
4	.86179	14.4
5	.55197	9.2
6	.39985	6.7

Table 19

Rotated Factor Matrix for Psycholgists

	Factor 1	Factor 2	Factor 3
Factor 1 - Graduate Program			
Education - Psychological foundations	- .85265	- .07923	.03714
Education - Educational foundations	.83391	.13791	.09511
Factor 2 - Professional Maturity			
Years in profession	.08306	.86355	.15379
Age	.13186	.85294	- .12889
Factor 3 - Male Educational Ascendence			
Sex	.16101	- .07258	- .80438
Educational level	.21184	- .04758	.68198

Table 20

Factor Transformation Matrix for Psychologist

	Factor 1	Factor 2	Factor 3
Factor 1	.70791	.69653	.11709
Factor 2	- .70578	.70395	.07953
Factor 3	.02703	.13894	- .98993

Table 21

Eigenvalues and Percent of Common Variance Accounted for by Each Training Factor

Factor	Eigenvalue	Percent of Variance
1	2.08361	41.7
2	1.06685	21.3
3	.90070	18.0
4	.54705	10.9
5	.40180	8.0

Table 22

Rotated Factor Matrix for Training

	Factor 1	Factor 2
Factor 1 - Formal Assessment Training		
Adaptive behavior in formal assessment training	.90355	.01699
Secondary services in formal assessment training	.82907	.24436
Factor 2 - Selective Assessment Training		
Secondary experience in practica and internship	.12646	.81898
Informal training in adaptive behavior	- .00618	.67946
Informal training in secondary services	.32748	.57536

Table 23

Factor Transformation Matrix for Training

	Factor 1	Factor 2
Factor 1	.74226	.67011
Factor 2	- .67011	.74226

Variables involving formal training in adaptive behavior and secondary age assessments made up the first factor extracted concerning training variables. This factor was labeled Formal Training. Factor two was labeled Selective Training and included variables related to time spent serving secondary age students during practica and internships, workshops/conferences attended regarding adaptive behavior/ secondary school psychological services, and selective readings regarding these topics. Each of the five sets of factors extracted from the two factor analytic procedures represent discrete independent variables to be used in addressing research questions. Numeric constants were added to each factored variable to create positive numerals with a minimum value of one.

Analysis of Survey Responses to Research Questions

Research Question 1: To what extent do school psychologists' age, sex, training, experience and worksetting relate to the type of adaptive behavior information gathered in the psychological assessment of secondary age students.

The specific issue addressed in this question involves the relationship of previously mentioned independent variables to school psychologists' use of adaptive behavior measurement techniques designed to address the instructional needs and/or placement needs with secondary age students.

Adaptive behavior instruments listed under each category along with the relative mean frequency in which these procedures are used by school psychologists in measuring the adaptive behavior of secondary age students are presented in Table 11. Ranges of responses were from 1, indicating "never used", to 5, indicating "always use." Because of the limited variability in responses to these techniques no statistical analysis was conducted. The only adaptive behavior instrument reported to be used with any degree of frequency was the Vineland Social Maturity Scale which is primarily used to determine special education placement needs.

> Research Question 2: To what extent do school psychologists' utilize adaptive behavior measurement techniques differently for different types of handicapped secondary age students on initial evaluations and re-evaluations.

In order to deal with this research question, a series of chi-square analyses were run in which the use of different adaptive behavior measurement procedures (adaptive behavior instrumentation, standardized instrumentation, non-psychometric, and not measured) were cross tabulated against types of referral (emotionally disturbed, learning disabled, and mentally retarded) by initial and re-evaluations. Chi-square tests of each cross tabulation are reported in Table 24. There were no significant differences in approaches to

initial evaluations and re-evaluations with emotionally disturbed, learning disabled, and mild mentally retarded students. No significant differences were indicated in assessment techniques used with mild mentally retarded, moderate mentally retarded, and severe/profoundly retarded secondary age students. Since no differences were found between initial evaluations and re-evaluations and with mentally retarded students, a comparison was made between types of techniques used during re-evaluations with emotionally disturbed, learning disabled, and mild mentally retarded students. Significant differences were found in the techniques used and the type of handicap. The Chi-square value was significant beyond the .001 level. (See Table 24 and 25)

> Research Question 3: To what extent do school psychologists who differ in training and other demographic characteristics also differ in the way they assess adaptive behavior with various types of secondary age handicapped students referred for initial evaluations and re-evaluations.

Oneway analysis of variance was used to examine whether school psychologists' characteristics and training differed according to techniques used in assessing the adaptive behavior of different types of secondary age students. Variables examined involved graduate program, professional maturity, male ascendence, formal training, and selective training. Tables 26 through 28 present the results of these analyses. Statistically significant differences were found

Table 24

Adaptive Behavior Measurement Techniques
by Type of Referral

Technique	Referral	Chi square	df	Level of significance
Adaptive behavior instrumentation	Initial/re-evaluation for emotionally disturbed, learning disability and mild mental retardation	1.048	2	NS
Standardized instrument	Initial/re-evaluation for emotionally disturbed, learning disability and mild mental retardation	0.250	2	NS
Non-psychometric	Initial/re-evaluation for emotionally disturbed, learning disability and mild mental retardation	3.906	2	NS
Not measured	Initial/re-evaluation for emotionally disturbed, learning disability and mild mental retardation	0.373	2	NS

Table 24 (continuted)

Technique	Referral	Chi square	df	Level of significance
All	Re-evaluation for emotionally disturbed, learning disability and mild mental retardation	95.366	8	.001
All	Mild mental retardation, moderate mental retardation, severe/profound mental retardation	1.487	8	NS

NS = Not Significant

Table 25

Distribution of Techniques with Referral

Technique	Emotionally disturbed	Learning disability	Mild mental retardation	
Adaptive behavior instrumentation	20	19	78	(117)
Standardized instrument	25	16	10	(51)
Non-psychometric	47	32	18	(97)
Not measured	20	39	10	(69)
	(112)	(106)	(116)	

Table 26

Summary of Oneway ANOVA of Type of Adaptive Behavior Instruments Used by Types of Training with Emotionally Disturbed Secondary Age Students

Variables	Source	D.F.	Sum of squares	Mean squares	F	Sig. F.	Group	N	Mean	Standard Deviation	Error
Graduate program	Between groups	3	6.2962	2.0987	2.0949	.1061	Adaptive behavior	18	2.7964	.9533	.2247
	Within groups	94	94.1715	1.0018			Standardized	25	2.6187	1.1772	.2354
							Non-psychometric	35	2.2024	.9791	.1655
	Total	97	100.4678				Not used	20	2.1850	.8231	.1840
Professional maturity	Between groups	3	2.2222	.7407	.6790	.5670	Adaptive behavior	18	3.0680	1.2309	.2901
	Within groups	94	102.5448	1.0909			Standardized	25	2.7682	1.0374	.2075
							Non-psychometric	35	2.9044	.9304	.1573
	Total	97	104.7670				Not used	20	2.6149	1.0643	.2380
Male educational ascendence	Between groups	3	3.9592	1.3197	1.2975	.2799	Adaptive behavior	18	2.7742	.8906	.2099
	Within groups	94	95.6120	1.071			Standardized	25	2.4418	.8678	.1736
							Non-psychometric	35	2.9612	1.0114	.1710
	Total	97	99.5712				Not used	20	2.7244	1.2413	.2776
Formal training	Between groups	3	3.1206	1.0402	1.3776	.2545	Adaptive behavior	18	4.4986	.7690	.1813
	Within groups	93	70.2228	.7551			Standardized	25	4.4977	.8146	.1629
							Non-psychometric	34	4.2876	.9892	.1697
	Total	96	73.3434				Not used	20	4.0262	.7431	.1773
Selective training	Between groups	3	7.1721	2.3907	2.6535	.0531	Adaptive behavior	18	3.5647	.9930	.2340
	Within groups	93	83.7897	.9010			Standardized	25	2.8216	.7878	.1576
							Non-psychometric	34	2.8944	.9264	.1589
	Total	96	90.9618				Not used	20	2.8865	1.1194	.2503

Table 27

Summary of Oneway ANOVA of Type of Adaptive Behavior Instruments
Used by Types of Training with Learning Disabled
Secondary Age Students

Variables	Source	D.F.	Sum of squares	Mean squares	F	Sig. F.	Group	N	Mean	Standard Deviation	Error
Graduate program	Between groups	3	3.4688	1.1563	1.1767	.3222	Adaptive behavior	19	2.6294	.9860	.2262
	Within groups	106	104.1571	.9826			Standardized	17	2.3049	.9919	.2406
							Non-psychometric	35	2.3590	.9935	.1679
	Total	109	107.6259				Not used	39	2.1174	.9915	.1588
Professional maturity	Between groups	3	5.7699	1.9233	1.8385	.1446	Adaptive behavior	19	3.1501	1.0571	.2425
	Within groups	106	110.3865	1.0461			Standardized	17	3.1217	.9271	.2248
							Non-psychometric	35	2.6257	1.0398	.1758
	Total	109	116.6564				Not used	39	2.6730	1.0293	.1648
Male educational ascendence	Between groups	3	2.0520	.6840	.6959	.5566	Adaptive behavior	19	2.4818	1.0895	.2499
	Within groups	106	104.1924	.9829			Standardized	17	2.4055	1.0420	.2527
							Non-psychometric	35	2.7638	.9029	.1526
	Total	109	106.2443				Not used	39	2.6921	.9966	.1596
Formal training	Between groups	3	.0253	.0084	.0087	.9989	Adaptive behavior	19	4.3217	.8958	.2055
	Within groups	106	102.8383	.9702			Standardized	16	4.2980	1.0595	.2649
							Non-psychometric	36	4.3427	.9770	.1628
	Total	109	102.8636				Not used	39	4.3172	1.0020	.1604
Selective training	Between groups	3	9.0066	3.0022	3.4618	.0190	* Adaptive behavior	19	3.4608	.9673	.2219
	Within groups	106	91.9207	.8672			Standardized	16	2.7256	.9500	.2375
							* Non-psychometric	36	2.6407	.7704	.1284
	Total	109	100.9336				Not used	39	2.8009	1.0359	.1659

* Significant difference between groups

Table 28

Summary of Oneway ANOVA of Type of Adaptive Behavior Instruments Used by Types of Training with Mild Mentally Retarded Secondary Age Students

Variables	Source	D.F.	Sum of squares	Mean squares	F	Sig. F.	Group	N	Mean	Standard Deviation	Error
Professional maturity	Between groups	3	.0937	.0312	.0285	.9935	Adaptive behavior	76	2.7775	1.1198	.1284
	Within groups	108	118.4541	1.0968			Standardized	10	2.7451	.8374	.2648
							Non-psychometric	16	2.7903	.8569	.2142
	Total	111	118.5478				Not used	10	2.8705	.8874	.2806
Male educational ascendence	Between groups	3	3.6143	1.2048	1.2007	.3131	Adaptive behavior	76	2.6659	1.0106	.1159
	Within groups	108	108.3652	1.0034			Standardized	10	2.7836	.9315	.2946
							Non-psychometric	16	3.1435	1.0036	.2509
	Total	111	111.9794				Not used	10	2.4982	.9913	.3135
Graduate program	Between groups	3	1.8557	.6186	.5948	.6198	Adaptive behavior	76	2.3467	1.0354	.1188
	Within groups	108	112. 53	1.0400			Standardized	10	2.4522	1.2021	.3801
							Non-psychometric	16	2.1226	.9673	.2418
	Total	111					Not used	10	2.6539	.7360	.2328
Formal training	Between groups	3	1.3393	.4464	.4600	.7108	Adaptive behavior	75	4.3186	1.0171	.1174
	Within groups	107	103.8552	.9706			Standardized	10	4.3673	1.0234	.3236
							Non-psychometric	16	4.1397	.9472	.2368
	Total	110	105.1945				Not used	10	3.9877	.7006	.2215
Selective training	Between groups	3	8.5774	2.8591	3.6472	.0319	Adaptive behavior	75	3.0368	1.0416	.1203
	Within groups	107	100.3965	.9383			Standardized	10	2.6372	.6892	.2179
							Non-psychometric	16	2.3682	.5008	.1252
	Total	110	108.9739				Not used	10	3.3561	1.1586	.3664

in assessment procedures in selective training with learning disabled ($F = 3.4618 > P = .05$) and mild mentally retarded students ($F = 3.0422 > P = .05$). Post Hoc testing through Scheffe procedures found a significant difference between individuals who use adaptive behavior instruments and those who use non-psychometric procedures according to their selective training in adaptive behavior and secondary school psychological services. Also, selective training is close to significant (Prob. = .053) in assessment with emotionally disturbed students. No other variables came close to significance for any of the referred handicaps.

> Research Question 4: To what extent do the training and experience of school psychologists contributes to the differences between the reasons and procedures they utilize in initial evalutions versus re-evaluations of mild mentally retarded secondary age students.

Mild mentally retarded secondary age students are the only objects of assessments used in this analysis because these students have been shown here to be the only students to whom adaptive behavior techniques are applied with any meaningful frequency. Differences between initial and re-evaluations was selected to be the dependent variable in this analysis because it is expected that the rationale for this difference will reveal the basis of decisions made by school psychologists. The predictors used in this analysis

are the five factor scores developed and reported earlier. They are the most stable, reliable, valid indicators of training and experience which can be extracted from this data base. In addition, their method of construction allows them to remain largely independent of each other, which makes multiple regression the most powerful means of answering this research question.

Four variables were entered in the first step of analysis with the fifth variable entered in the second step to determine its main effect while controlling the contribution of other variables in the model. This process was repeated so each variable would be examined to determine separate main effects. The results of this analysis are reported in Table 29. No significant main effects were indicated. Thus, the psychologist and training variables measured in this study do not explain differences in the reasons school psychologists report for conducting initial evaluations and re-evaluations. Analysis of possible interactions were not pursued because there were no significant main effects.

Pearson Product-Moment correlation coefficients were conducted to determine if there was a relationship between differences in reasons reported for conducting evaluations and the size of school districts employing psychologists. School district size was examined because of research

Table 29

Summary of Main Effects for Differences in Reasons for Initial and Re-evaluations

Variables Entered	Multiple R	R Square	R Square Change	F Change	Significant F Change
First analysis					
First step:					
1) Formal assessment training					
2) Male educational ascendence					
3) Graduate program					
4) Professional maturity	.02136	.00046	.00046	.01964	.9992
Second step:					
1) Selective assessment training	.02776	.00077	.00031	.05380	.8168
Second analysis					
First step:					
1) Selective assessment training					
2) Graduate program					
3) Male educational ascendence					
4) Professional maturity	.02585	.00067	.00067	.02875	.9984
Second step:					
1) Formal assessment training	.02776	.00077	.00010	.01757	.8947

Table 29 (continued)

Variables Entered	Multiple R	R Square	R Square Change	F Change	Significant F Change
Third analysis					
First step:					
1) Selective assessment training					
2) Formal assessment training					
3) Graduate program					
4) Professional maturity	.02568	.00066	.00066	.02837	.9984
Second step:					
1) Male educational ascendence	.02776	.00077	.00011	.01909	.8903
Fourth analysis					
First step:					
1) Selective assessment training					
2) Formal assessment training					
3) Graduate program					
4) Male educational ascendence	.02745	.00075	.00075	.03242	.9980
Second step:					
1) Professional maturity	.02776	.00077	.00002	.00299	.9565

Table 29 (continued)

Variables Entered	Multiple R	R Square	R Square Change	F Change	Significant F Change
Fifth analysis					
First step:					
1) Selective assessment training					
2) Formal assessment					
3) Male educational ascendence					
4) Professional maturity	.02124	.00045	.00045	.01941	.9993
Second step:					
1) Graduate program	.02776	.00077	.00032	.05469	.8154

indicating that psychlogists' role and function may vary according to the number of students in the district (Hughes and Clark, 1981). Results do not indicate a significant relationship between size of district and the differences for conducting initial evaluations and re-evaluations ($r = .0136$; $p = .430$).

A oneway analysis of variance was conducted to examine if differences in reasons for conducting evaluations related to regions of the country. Region was examined because litigation regarding assessment procedures have centered in the Western region of the country (Diana v. state of California, 1920; Guadalupe v. Tempe Elementary District, 1972; and Larry P. v. Riles, 1974, 1979). Results are reported in Table 30. No significant relationship was indicated. Thus, differences in reasons for conducting initial evaluations and re-evaluations cannot be explained by the regional variables included in this study.

The second phase of analysis with this research question involves the sum of squared differences between the perceived importance of various components used in the initial evaluations and re-evaluation of secondary age students by school psychologists. No analytical procedures were used because of the extreme negative skew of the frequency distribution. These results indicate that the school

Table 30

Summary of Oneway ANOVA for Differences in Reasons for Evaluating and Region of the Country

Source	D.F.	Sum of squares	Mean squares	F	Sig. F.	Group	N	Mean	Standard Deviation	Error
Between groups	4	556.7338	139.1835	.9058	.4619	North East	47	22.1915	12.9391	1.8874
Within groups	174	26735.7466				South East	41	18.7805	10.1748	1.5890
Total	178					North Central	42	22.2619	14.0627	2.1699
						West Central	22	21.2727	13.2887	2.8332
						West	27	18.0370	10.8786	2.0936

psychologists in this sample tend to rank the importance of various evaluation components similarly for initial evaluations and re-evaluations.

Analysis of Survey Responses to Supplemental Questions

Analytical procedures were used with three additional questions extracted from the questionnaire. These questions involve the degree school psychologists feel prepared to address the assessment needs of secondary age students, areas in which school psychologists entering the field need additional assessment training and the degree in which school psychologists agree with what they feel are their colleagues' opinions regarding the quality of adaptive behavior instruments and the range of relevance in the definition of adaptive behavior.

> Supplemental Question 1: To what extent do school psychologists' characteristics, training, and worksetting relate to the degree in which they feel prepared to provide assessment services to secondary age students?

Multiple regression analysis was used in examining the relationship of the five variables created through factor analysis and the degree in which school psychologists feel prepared to provide assessment services to secondary age students. The same procedures were used as indicated in

research question 4. Four variables were entered in the first step of analysis with the fifth variable entered in the second step to determine its main effect while controlling the contribution of other variables in the model. The results of this analysis are reported in Table 31. With all variables, 27% of the variance was accounted for. Three significant main effects were indicated in the oneway analysis of covariance. Selective assessment training accounted for 15% of the variance when controlling other variables. This contribution to the overall variance was significant beyond the .0001 level. Formal assessment training accounted for 2.76% of the variance and was significant at the .0109 level. Finally, professional maturity accounted for 1.73% of the variance and was significant at the .0432 level.

Interactions were examined through similar regression analysis procedures. Size of school district was examined with each significant main effect to determine if there are any significant interactions. As mentioned earlier, research suggests that the range of psychologists role and function may vary according to size of the school district. Also, each variable significantly contributing to a main effect was examined in multiple combinations to determine if the variables interacted. Table 32 illustrates how none of the interactions were significant.

Table 31

Summary of Main Effects in the Degree School Psychologists Feel Prepared to Provide Assessment Services to Secondary Age Students

Variables Entered	Multiple R	R Square	R Square Change	F Change	Significant F Change
First analysis					
First step:					
1) Graduate program					
2) Professional maturity					
3) Male educational ascendence					
4) Selective assessment training	.49270	.24275	.24275	14.10507	.0000
Second step:					
1) Formal assessment training	.51995	.27035	.02760	6.61892	.0109
Second analysis					
First step:					
1) Graduate program					
2) Professional maturity					
3) Male educational assessment					
4) Formal assessment training	.34185	.11686	.11686	5.82223	.0002
Second step:					
1) Selective assessment training	.51995	.27035	.15349	36.81268	.0000

Table 31 (continued)

Variables Entered	Multiple R	R Square	R Square Change	F Change	Significant F Change
Third analysis					
First step:					
1) Graduate program					
2) Professional maturity					
3) Formal assessment training					
4) Selective assessment training	.51742	.26772	.26772	16.08659	.0000
Second step:					
1) Male educational ascendence	.51992	.27035	.00262	.62952	.4286
Fourth analysis					
First step:					
1) Graduate program					
2) Male educational ascendence					
3) Formal assessment training					
4) Selective assessment training	.50305	.25306	.25306	14.90677	.0000
Second step:					
1) Professional maturity	.51995	.27035	.01729	4.14714	.0432

Table 31 (continued)

Variables Entered	Multiple R	R Square	R Square Change	F Change	Significant F Change
Fifth analysis					
First step:					
1) Professional maturity					
2) Male educational ascendence					
3) Formal assessment training					
4) Selective assessment training	.51298	.26315	.26315	15.71355	.0000
Second step:					
1) Graduate program	.51995	.27035	.00720	1.72672	.1905

Table 32

Summary of Non-significant Interactions for Perceived Level of Preparation

Variables Entered	Multiple R	First Step R Square	Second Step R Square	R Square Change
First analysis				
First step:				
1) Professional maturity	.50710	.25725		
2) Formal training				
3) Selective training				
4) Students in district				
Second step:				
1) Students in district/ professional maturity			.26130	.00416
Second analysis				
First step:				
1) Selective training	.50710	.25715		
2) Formal training				
3) Students in district				
4) Professional maturity				
Second step:				
1) Students in district/ formal training			.26238	.00524

Table 32 (continued)

Variables Entered	Multiple R	First Step R Square	Second Step R Square	R Square Change
Third analysis				
First step:				
1) Selective training	.50710	.25715		
2) Formal training				
3) Students in district				
4) Professional maturity				
Second step:				
1) Students in district/ self-directed training			.25849	.00134
Fourth analysis				
First step:				
1) Selective training	.50380	.25382		
2) Formal training				
3) Professional maturity				
Second step:				
1) Professional maturity/ self-directed training			.26015	.00633

Table 32 (continued)

Variables Entered	Multiple R	First Step R Square	Second Step R Square	R Square Change
Fifth analysis				
First step:				
1) Selective training	.50380	.25382		
2) Formal training				
3) Professional maturity				
Second step:				
1) Professional maturity/ formal training			.26551	.01169
Sixth Analysis				
First step:				
1) Selective training	.50380	.25382		
2) Formal training				
3) Professional maturity				
Second step:				
1) Formal training/ self-directed training			.25770	.00388

Pearson Product-Moment correlation coefficients were conducted to determine if there was a relationship between the degree in which school psychologists feel prepared to provide assessment services to secondary age students and the size of school districts employing psychologists. Results do not indicate a significant relationship between size of district and perceived preparedness ($r = .0248$; $p = .372$).

A oneway analysis of variance was conducted to examine if differences in perceived preparedness related to the region of the country in which school psychologists are employed. Findings are reported in Table 33. A significant relationship was not indicated. Thus, perceived preparedness cannot be explained by the regional variables included in this study.

> Supplemental Question 2: To what extent do school psychologists' age, years in the profession, and district size relate to the areas in which they feel new school psychologists entering the field need greater skills for providing assessment services to secondary age students?

Age and years in the profession were examined to see if opinions vary in relation to the time school psychologists were initially exposed to issues regarding adaptive behavior, nonbiased assessment and vocational school psychology. Nonparametric correlation coefficients were obtained through

Spearman Rho procedures. Findings are presented in Table 34. One small but significant relationship was found. That is, there appears to be some tendency for the perceived need for personality test training to increase with age. Caution should be made when interpreting this fairly weak relationship. Years in the profession has a near significant relationship with a greater need in vocational assessment training. Here, a greater need for vocational training is reported as the years of experience decrease. Again, caution must be made not to over interpret this relatively weak relationship. No other statistically significant relationships were indicated.

> Supplemental Question 3: To what extent do school psychologists' characteristics relate to their opinions regarding colleagues' attitudes about the definition of adaptive behavior and the quality of adaptive behavior scales?

Chi-square procedures were used to examine possible relationships between school psychologists' age, sex, and years of experience with their opinions regarding colleagues' attitudes about the definition of adaptive behavior and the quality of adaptive behavior scales. No significant relationships were found regarding school psychologists' opinions and their sex (X^2 = .17001; df = 1; sig. = .68); age (X^2 = .55295; df = 4; sig = .9681); and professional experience (X^2 = 3.20263; dif = 4; sig = .52). Thus, the above

Table 33

Summary of Oneway ANOVA for Degree Prepared and Region of the Country

Source	D.F.	Sum of squares	Mean squares	F	Sig. F.	Group	N	Mean	Standard Deviation	Error
Between groups	4	.7713	.1928	.2085	.9335	North East	50	3.9400	.8901	.1259
						South East	41	4.0000	1.0247	.1600
Within groups	178	164.6495	.9250			North Central	43	3.8605	.9656	.1473
Total	182	165.4208				West Central	21	3.8095	.9808	.2140
						West	28	3.8571	.9705	.1834

Table 34

Non-parametric Correlations Between Professional Maturity, District Size, and Areas in which Greater Skills are Needed

Variables	Correlation coefficient	Significance
Age with intelligence testing	-.0363	.318
Years with intelligence testing	-.0924	.115
Size with intelligence testing	.0209	.395
Age with adaptive behavior	.0013	.493
Years with adaptive behavior	-.0562	.232
Size with adaptive behavior	-.0485	.266
Age with personality development	-.1423	.030
Years with personality development	-.0734	.169
Size with personality development	.0803	.150
Age with vocational testing	.0626	.206
Years with vocational testing	.1234	.053
Size with vocational testing	-.0353	.325
Age with academic testing	.0093	.452
Years with academic testing	-.0662	.195
Size with academic testing	-.0453	.281

mentioned characteristics do not appear to relate to psycholgists opinions of colleagues' attitudes regarding adaptive behavior.

Summary

The 187 school psychologists in this study were practitioners randomly selected from the NASP Directory (1983). It was found that the majority of practicing school psychologists receive formal assessment training such as intelligence testing, personality assessment, behavioral observations, and educational testing. However, a minority of practicing school psychologists have formal graduate training in less traditional areas such as multicultural assessment and vocational testing. Vocational testing and multicultural assessments are the areas in which the greatest emphasis in training are placed on adaptive behavior and secondary age assessment. Many school psychologists receive little, if any, experiential training with secondary age students.

The measurement of adaptive behavior with secondary age students is generally required only for mentally retarded students. Also, school psychologists are typically the individuals required to collect adaptive behavior information. This information is collected to different degrees with behavioral/emotionally disturbed, learning disabled,

and mentally retarded students. However, adaptive behavior instruments are used most frequently with all levels of mental retardation. The Vineland Social Maturity Scale is the only instrument used with any degree of regularity. No instruments developed since the passage of Public Law 94-142 are used on a regular basis with this population. The combination of experiential training and continuing education with secondary age students and adaptive behavior measurement techniques is an important factor in the approach school psychologists use in addressing the adaptive behavior of secondary age students.

Practicing school psychologists tend to perceive identical reasons for conducting initial evaluations and re-evaluations with secondary age mild mentally retarded students. Eligibility for special education services is considered the most important reason for evaluation. Practicing school psychologists tend to perceive the importance of different components in the initial evaluation and re-evaluation of mild mental retardation as almost identical. The most important component is believed to be individual intelligence scales.

The majority of school psychologists feel less than fully prepared to provide assessment services to secondary age students. The most important factor regarding their

perceived preparedness again involves the combination of experience during training and continuing education with secondary age students and adaptive behavior measurement. Few school psychologists receive any continuing education in adaptive behavior assessment or secondary school psychological services. Practicing school psychologists feel that colleagues entering the field need the greatest training in vocational assessment procedures, followed closely by adaptive behavior procedures to better serve secondary age students. This feeling appears to be most prevalent among school psychologists who are fairly new in the field.

There tends to be overwhelmingly strong agreement that adaptive behavior instruments are of poor quality, especially when addressing the needs of secondary age students. Also, school psychologists tend to have wide ranges of opinions regarding the current definition of adaptive behavior.

CHAPTER V

Summary, Discussion, Conclusions, and Recommendations

In this chapter, a summarization of the study is presented including its purpose and design. The survey findings drawn from the data analysis are then summarized and discussed. Following sections include study conclusions, implications, and recommendations for further action.

Review of the Problem and Research Methods

An analysis of how adaptive behavior information is obtained and used by school psychologists with secondary age students was the focus of this investigation. School psychologists are often considered to be important sources of information regarding the initial identification and programming of students placed in special education classes. Because the adaptive behavior instruments developed for public school use have emphasized the initial placement/identification of elementary age students, it is unknown how school psychologists approach the adaptive behavior issue with secondary age students. This question is critical in light of research indicating the poor post secondary transition of many handicapped students and the limited training of school psychologists in providing services for secondary

age students. Specifically, the study sought answers to the following questions:

1. To what extent do school psychologists' age, sex, training, experience, and worksetting relate to the type of adaptive behavior information gathered in the psychological assessment of secondary age students?

2. To what extent do school psychologists utilize adaptive behavior measurement techniques differently for different types of handicapped secondary age students on initial evaluations and re-evaluations?

3. To what extent do school psychologists who differ in training and other demographic characteristics also differ in the way they assess adaptive behavior with various types of secondary age handicapped students referred for initial evaluations and re-evaluations?

4. To what extent do the training and experience of school psychologists contribute to the differences between the reasons and procedures they utilize in initial evaluations versus re-evaluations of mild mentally retarded secondary age students?

Supplemental questions were added during the course of the study. These questions involve the following:

1. To what extent do school psychologists' characteristics, training, and worksetting relate to the degree in which they feel prepared to provide assessment services to secondary age students?

2. To what extent do school psychologists' age, years in the profession, and district size relate to the areas in which they feel new school psychologists' entering the field need greater skills for providing assessment services to secondary age students?

3. To what extent do school psychologists' characteristics relate to their opinions regarding colleague's attitudes about the definition of adaptive behavior and the quality of adaptive behavior scales?

To gather the data needed for the study, a questionnaire was mailed to a representative sample of the membership of the National Association of School Psychologists residing in the United States. The forty-five questions that comprise the questionnaire were divided into sections involving characteristics of school psychologists, characteristics of their worksites, assessment procedures used with referred secondary age students, beliefs about the purpose and necessary components in psychological evaluations of secondary age students, and the orientation of school psychologists regarding the measurement of adaptive behavior. One hundred eighty-seven school psychologists practicing primarily in the schools provided data used in the study.

The specific computational techniques employed in the data analysis included:

1. Condescriptives, frequency distributions, Pearson Product-Moment Coefficients, Partial Correlations, Factor Analysis, and Chi Square procedures were used in preliminary analysis of data obtained from respondents. These procedures were used to examine bias in sample selection, quality of

distributions, item response rates, multicolinearity, interaction effects, and unique features of variables.

2. Chi square procedures were used to examine selectivity in employment of particular types of school psychologists in different kinds of worksettings.

3. Frequency distributions were used in examining dependent variables in research questions which lack sufficient variance for further analysis.

4. Multiple Regression Analysis, Chi Square Analysis, Oneway Analysis of Variance, Pearson Product-Moment Coefficients, and Spearman Rho Coefficients were used to examine the relationship of independent variables with dependent variables in the analysis of research and supplemental questions.

Summary of Findings

A total of 81.4% of mailed questionnaires were returned. Statistical procedures involving Chi square analysis found no statistically significant differences in school psychologists regarding selection, participation, or response to prompts. Demographic variables involving school psychologists' age, sex, experience, and degree closely resembled previously reported distributions (NASP Directory, 1983, Shepard, 1982). The majority of school psychologists in the study had formal coursework during their graduate training

in intelligence testing, personality assessment, behavioral observations, and educational testing. A minority of school psychologists had formal graduate training in multicultural and vocational testing. In most cases, less than 30% of school psychologists' formal assessment training involved adaptive behavior and secondary age assessment. In terms of experiential training, nearly two-thirds of the respondents had no more than 20% of their practica experiences devoted to secondary age populations. Subjects appeared to have a little more experience with secondary age students during their internships. Also, few school psychologists participated in any continuing education activities regarding adaptive behavior measurement or secondary school psychological services.

In the majority of worksettings, the measurement of adaptive behavior is required of secondary age students at all levels of mental retardation. It is not required for other handicapping conditions in most worksettings. School psychologists are by far the most likely individuals to be responsible for collecting adaptive behavior information for secondary age students in most worksettings.

There did not appear to be any selectivity of particular types of school psychologists according to size of student population. However, a significant relationship

beyond the .05 level was indicated between region of the country and age of respondents. This relationship appeared to be centered in the North Central region where it was suggested that a larger percentage of older school psychologists were employed than in the other regions.

The only adaptive behavior instrument reported to be used with any degree of frequency with secondary age students was the Vineland Social Maturity Scale (VSMS). According to Coulter and Morrow (1978c) the VSMS has been used primarily to measure adaptive behavior in the nonbiased assessment process for special education placement. Techniques developed specifically for secondary and post secondary populations (e.g., Adaptive Behavior Scale-School Edition, San Francisco Vocational Competency Scale, Social and Prevocational Information Battery, and the Vocational Adaptation Rating Scale) were rarely used. Non-standardized techniques (e.g., interviews, observations, etc.) were reported to be used more frequently in the psychological assessment of secondary age students than formal adaptive behavior scales.

No differences were found in approaches to initial evaluations and re-evaluations with emotionally disturbed, learning disabled, and mild mentally retarded students. Also, no differences were indicated in assessment techniques

used with mild mentally retarded, moderate mentally retarded, and severe/profoundly retarded secondary age students. Significant differences beyond the .001 level were found in the techniques used and the type of handicap. That is, adaptive behavior was measured most frequently with mentally retarded students and adaptive behavior instruments were used most frequently with this population. However, non-standardized techniques were used most frequently with emotionally disturbed and learning disabled students when adaptive behavior was addressed. In general, there appeared to be a wide variety of approaches to collecting adaptive behavior regardless of type of referral.

Significant relationships were found in assessment procedures used with learning disabled and mild mentally retarded students by the amount of self-directed training in adaptive behavior and secondary school psychological services. Differences were also found between school psychologists who use adaptive behavior instrumentation and those who use non-standardized procedures with learning disabled students according to their self-directed training. Those who used adaptive behavior instruments had a higher mean score on self-directed training than those who used non-standardized procedures (adaptive behavior instrumentation $x = 3.4608$, $SD = .9673$; non-standardized $x = 2.6407$,

SD = .7704). Also, self-directed training was close to significant in assessment procedures used with emotionally disturbed secondary age students. No other training or psychologist variable had a significant relationship to the type of assessment procedure used with this population of students.

Respondents indicated that determining eligibility for special education placements is the most important reason for conducting both initial evaluations and re-evaluations with mild mentally retarded secondary age students. There was total agreement in the rank order of each reason for referral with both types of evaluations. The next three rankings involved instructional needs related to academic, vocational, and social competency issues. Determining appropriate vocational placements ranked last in relative importance by respondents. No significant relationships were found between psychologists' characteristics and training with differences in the reasons school psychologists conduct initial evaluations and re-evaluations. Also, there was no relationship between size of student population and region of the country with differences in reasons for conducting both types of evaluations. Thus, differences in reasons for conducting initial evaluations and re-evaluations cannot be explained by psychologist training or worksetting variables included in this study.

Intelligence scales were reported to be the most important component in both initial evaluations and re-evaluations of mild mentally retarded students. Adaptive behavior and academic achievement were ranked second and third respectively on both scales. There were some differences in the last two rankings as personality development was ranked fourth for initial evaluations while vocational interests and aptitudes were ranked fourth for re-evaluations. No analytical procedures were conducted to determine relationships between psychologist, training, and worksetting variables with differences in important components between both types of evaluations of secondary age mild mentally retarded students.

Only 5% of the respondents reported that they were not prepared to provide assessment services to this population. At the opposite extreme, 31% felt that they were fully prepared. Overall, more than two-thirds of all subjects felt less than fully prepared to provide assessment services to secondary age students. Multiple regression procedures were used to examine the relationship of psychologist and training variables with the degree in which respondents felt prepared to provide assessment services to secondary age students. Graduate program, professional maturity, male ascendance, formal training, and self-directed training

accounted for 27% of the variance in the level of preparedness felt by respondents. Self-directed training was by far the largest single contributor to the total variance (R^2 = .15349). Formal training accounted for 2.7% of the total variance and professional maturity accounted for 1.7% of the total variance. Although significant, the positive contribution of these last two variables was rather small from a practical stand point. No other significant relationships were found. Also, there were no significant interactions indicated for the following: school population x professional maturity, school population x formal training, school population x self-directed training, professional maturity x formal training, professional maturity x self-directed training, and formal training x self-directed training. There was no relationship between school population and region of the country. Thus, self-directed training was the most important factor regarding the degree respondents felt prepared to provide assessment services to secondary age students. This training involved practical experience through supervised practica and internships with secondary age students. It also included conferences, workshops, post graduate courses, and selected readings regarding adaptive behavior and secondary school psychological services.

Respondents indicated that the most important area in which school psychologists hired for entry level positions during the past five years should gain greater assessment skills for secondary age students involved vocational aptitudes and interests. This area was followed closely by adaptive behavior assessment. Personality assessment was ranked third, followed by more traditional skills involving intellectual and academic testing. Spearman Rho correlations indicated a small but significant relationship involving a tendency for the perceived need for personality test training to increase with age of respondent. Years in the profession had a near significant relationship with a greater need for vocational assessment training. Here, a greater need for vocational training was reported with a decrease in years of experience. Caution must be emphasized not to over interpret this relatively weak relationship.

It was generally felt by respondents that their colleagues would rank adaptive behavior instruments as being of poor quality, especially when addressing the needs of secondary age students. There were wide ranges of opinions regarding colleagues' perceived impressions of the current definition of adaptive behavior which emphasized out of school behaviors. Wide ranges of opinions were also

indicated regarding colleagues' perceived impressions of the relevance of adaptive behavior in the measurement of personality development in addressing the needs of students referred for reasons other than limited mental abilities. No relationship between respondent characteristics and their rating of colleagues opinions was indicated.

Conclusions

1. The majority of practicing school psychologists received formal assessment training in traditional areas such as intelligence testing, personality assessment, behavioral observations, and educational testing. However, a minority of practicing school psychologists had formal graduate training in less traditional areas such as multicultural assessment and vocational testing.

2. Practicing school psychologists' formal assessment training tended to involve some degree of adaptive behavior and secondary age assessment. However, many areas of psychological assessment training received by practicing school psychologists did not include adaptive behavior or secondary age assessment. Adaptive behavior assessment was stressed most frequently in multicultural assessment training. Secondary age assessment training was stressed most frequently in vocational assessment. An important finding was that a minority of practicing school psychologists received

training in these areas. A relatively small amount of their experiential training was with secondary age students. This fact was especially true in their practica experiences, as over two-thirds of the study respondents had less than 20% of their training with secondary age students. Also, school psychologists received little, if any, continuing education training in adaptive behavior measurement or secondary school psychological services.

3. The measurement of adaptive behavior was typically required for all levels of mental retardation with secondary age students. Adaptive behavior information was generally not required with other handicaps at the secondary level. Also, school psychologists were by far the most likely individuals in a school district to be responsible for collecting adaptive behavior information regarding secondary age students.

4. Practicing school psychologists in the North Central region of the United States tended to be older than in the other regions of the country.

5. The Vineland Social Maturity Scale (VSMS) was the only adaptive behavior instrument used with any degree of relative frequency with secondary age students. Practicing school psychologists did not increase their repertoire of adaptive behavior instruments since the measurement of

adaptive behavior was mandated in the identification of mental retardation (Coulter, 1980).

6. Practicing school psychologists collected adaptive behavior information with behaviorally/emotionally disturbed, learning disabled, and all levels of mentally retarded students. However, adaptive behavior instruments were used most frequently with all levels of mental retardation. Non-standardized approaches alone were most common with behaviorally/emotionally disturbed and learning disabled students. In general, a wide variety of approaches were used in the measurement of adaptive behavior.

7. Self-directed training was an important factor in the approach school psychologists use in addressing the adaptive behavior of mild mentally retarded and learning disabled secondary age students. Also, it could possibly be an important factor in the approach used with behaviorally/emotionally disturbed secondary age students. In most cases, the more self-directed training the greater likelihood that adaptive behavior scales would be used. These generalizations were less applicable with mild mentally retarded students as practicing school psychologists with greater self-directed training often did not collect adaptive behavior information.

8. Practicing school psychologists tended to perceive identical reasons for conducting initial evaluations and

re-evaluations with secondary age mild mentally retarded students. Eligibility for special education services was considered the most important reason. This reason was followed by determining academic performance, vocational training, instructional needs, social competency needs, and vocational placement needs.

9. Within this sample, there were no significant relationships involving practicing school psychologists' characteristics, training, and worksettings with perceived reasons for conducting initial evaluations and re-evaluations with secondary age mild mentally retarded students.

10. Practicing school psychologists tended to perceive the importance of different components in the initial evaluation and re-evaluation of mild mentally retarded secondary age students as almost identical. The most important component is believed to be individual intelligence scales. This component was followed in importance by adaptive behavior scales, academic achievement tests, vocational tests, and personality tests.

11. Practicing school psychologists tended to feel prepared to some degree to provide psychological assessment services to secondary age students. However, the majority felt less than fully prepared to provide assessment services to this population.

12. Self-directed assessment training, formal assessment training, and professional maturity are significantly related to the degree in which practicing school psychologists felt prepared to provide psychological assessment services to secondary age students. Among these factors, self-directed training involved the most relevant relationship from a practical standpoint with degree of preparedness.

13. Within this sample, there were no significant relationships involving worksetting with degree school psychologists felt prepared to provide assessment services to secondary age students.

14. Practicing school psychologists believed that colleagues hired for entry level positions during the past five years need greater skills in vocational assessment with secondary age students. This need was followed closely by adaptive behavior assessment. Personality assessment was third, followed by intellectual and academic testing.

15. There was a small but significant relationship between the age of practicing school psychologists and the perceived need for greater skills in personality assessment with secondary age students. That is, the perceived need for greater personality assessment skills increases with age.

16. Practicing school psychologists' years in the profession could have related to the perceived need for

greater training in vocational assessment by colleagues entering the field in the last five years. That is, the fewer years in the profession, the greater the perceived need for vocational assessment training.

17. Practicing school psychologists tended to feel that adaptive behavior instruments were of poor quality, especially when addressing the needs of secondary age students.

18. Practicing school psychologists had wide ranges of opinions regarding the current definition of adaptive behavior.

19. Within this sample, practicing school psychologists' sex, age, and professional experience did not relate to their opinions of colleagues' attitudes regarding adaptive behavior.

Discussion

The focus of this study centered on the way school psychologists address adaptive behavior issues in psychological assessments of secondary age students. The results of this study provide information regarding current practices in collecting adaptive behavior information and opinions regarding secondary age/adaptive behavior assessment. Some significant relationships were found involving school

psychologists' characteristics and training with current practices and opinions regarding secondary age adaptive behavior issues.

The Vineland Social Maturity Scale (VSMS) is the only standardized adaptive behavior instrument used with any degree of frequency with secondary age students. Coulter (1980) reported the results of two surveys that ranked the AAMD Adaptive Behavior Scale-Public School Version (ABS-PS) and the Vineland Social Maturity Scale as the two most commonly used adaptive behavior instruments. It seems logical that the ABS-PSV would not be used with any degree of frequency in this study since its norms do not address secondary age populations. Also, the ABS-PSV was developed specifically for elementary age mentally retarded students. Thus, its utility with the secondary age population, in general, may have influenced its limited use in this study.

Several adaptive behavior instruments have been developed since the surveys reported by Coulter. The most widely publicized and scientifically examined of these recent instruments have focused on non-biased assessment issues with secondary age students (Reschly, 1982; Sattler, 1982). The one exception to this rule involves the AAMD Adaptive Behavior Scale-School Edition (ABS-SE). Here, revisions were made to the ABS-PS which increased the

standardization sample to include secondary school students sixteen years of age and provide directions for use in non-biased assessment as well as for instructional planning (Lambert, Windmiller, Tharinger, and Cole, 1981). Ironically, this instrument was reported in this study to be used less frequently than the ABS-PS. Also, techniques developed specifically for secondary and post secondary populations were rarely used by school psychologists. These findings suggest that school psychologists generally have not adapted newer and possibly better approaches to the measurement of adaptive behavior. One can only speculate that low opinions reported in this study regarding the quality of adaptive behavior instruments may be a factor in the limited adoption of newer adaptive behavior instruments. The predominate use of the VSMS and findings indicating the importance of special education placement decisions in the evaluation process with secondary age students suggests that adaptive behavior information may be used to a large degree to address non-biased assessment issues with this population.

Among secondary age students, adaptive behavior instruments are used most frequently in evaluations involving students at all levels of mental retardation. These instruments are also used to some extent with behavioral/ emotionally disturbed students. These results are consistent

with the frequency adaptive behavior instruments that are used for handicapped students of all ages (Galvin and Elliott, 1985). The study did not address why adaptive behavior instruments are used primarily with mentally retarded students. It seems logical to hypothesize that non-biased assessment issues and restricted norms involving mentally retarded students have influenced this orientation to adaptive behavior instruments.

These findings reflect the techniques used most frequently, and the type of secondary age student addressed most often with adaptive behavior instruments. However, it does not reflect the regularity in which adaptive behavior instruments were used. Two studies involving small but diverse samples indicated limited use of adaptive behavior instruments in the psychological assessment of mild mentally retarded students (Furlong and LeDrew, 1985; Prout and Sheldon, 1984). Thus, some question could be raised regarding the regularity in which adaptive behavior instruments are used with secondary age mild mentally retarded students by respondents in this study.

Self-directed training was an important factor regarding how adaptive behavior was addressed in psychological evaluations. This aspect was distinctly true with learning disabled and mild mentally retarded students. The

significance of self-directed training's impact was unclear with behavioral/emotionally disturbed students. A visual analysis of the data implies that school psychologists with more self-directed training tend to use adaptive behavior instruments with learning disabled and behavioral/ emotionally disturbed populations. However, it is difficult to make this generalization with mild mentally retarded students. School psychologists with more self-directed training often do not address adaptive behavior issues at all. No clear explanation for these results was available from the data. Negative opinions regarding the quality of adaptive behavior instruments, wide ranges of opinions regarding the definition of adaptive behavior, limited skills in secondary age assessment, and emphasis on special education placements in psychological assessments may be areas worth exploring in explaining these results. Also, personality characteristics of those who seek more self-directed training in secondary age/adaptive behavior could be studied in addressing these findings.

No differences were found in the reasons school psychologists report for conducting initial evaluations and re-evaluations with secondary age students. Also, no differences were indicated in what school psychologists perceive as important assessment components in initial

evaluations and re-evaluations. The consistency of initial evaluation and re-evaluation practices have been found with the general population of handicapped students (Galvin and Elliott, 1985). Galvin and Elliott (1985) reported, in a national study of school psychologists and administrators, that few changes in special education placements were made following re-evaluations. Thus, reforms in current re-evaluation practices could possibly optimize the changing needs of school age students (Hortshorne and Hoyt, 1985). Appropriate reforms in re-evaluations for secondary age students would involve the assessment of skills required for post secondary success (Hohenshil, Levinson, and Heer, 1985). The results of this study do not indicate that such reforms are in wide practice by school psychologists.

The perceived need for greater skills in vocational assessment, and to a lesser degree, adaptive behavior skills may be an indication that many practicing school psychologists perceive the need for additional skills that will address the post secondary needs of secondary age handicapped students. The need for additional skills in vocational assessments appear especially prevalent among newer school psychologists. It is possible that newer school psychologists have been exposed during their graduate training to recent trends in special education, vocational

education, and school psychology regarding the handicapped student's transition from school to work.

School psycholgists tend to feel relatively prepared for providing assessment services to secondary age students. However, the majority feel less than fully prepared. As previously mentioned, school psychologists perceived the need for greater training in vocational and adaptive behavior assessment with secondary age students. Self-directed training is the best indicator of the degree in which practicing school psychologists feel prepared to provide assessment services to secondary age students. The exact meaning of this variable is not clear. One possible explanation is that school psychologists become more confident with additional training. An alternative explanation may suggest that individual characteristics of school psychologists who are self-directed to gain additional skills may be related to their level of confidence regardless of amount of training. It is also possible that there may be some combination of the above explanations. Other factors that relate to level of preparation to a somewhat lesser degree involve formal training and professional maturity. It is important to recognize that perceived level of preparation does not necessarily reflect quality of skills. This idea is especially important with professional maturity, as experience

could reflect complacency with mediocracy as easily as knowledge and growth over time.

Implications of the Study

There appear to be six general implications which can be drawn from the results of this study.

1. Practicing school psychologists have not adapted newer techniques designed for the measurement of adaptive behavior with secondary age students. If school psychologists are to adequately address the post secondary needs of secondary age students, they will need to become familiar with newer adaptive behavior instruments which address issues beyond the non-biased assessment of mild mentally retarded students.

2. Reforms are needed regarding the utility of re-evaluations with secondary age students. It is questionable if the current practice of validating special education placements is an efficient and effective use of school psychologists' time. Also, it is questionable if current assessment practices help in facilitating the post secondary transition of secondary age students.

3. The amount of self-directed training practicing school psychologists receive in adaptive behavior assessment and secondary school psychological services relate to how they approach the measurement of adaptive behavior with

secondary age students. Further study is needed to better understand the relationship of self-directed training to the measurement of adaptive behavior.

4. Additional training in vocational and adaptive behavior assessment is needed to help school psychologists improve their skills in the psychological evaluation of secondary age students.

5. Further study is needed regarding the selectivity of older school psychologists in the North Central region. The orientation and practice of school psychologists in this region could be different than in the rest of the United States.

6. Test publishers need to support the development and marketing of adaptive behavior instruments which can better address the needs of secondary age students across a variety of handicaps.

Recommendations for Further Research

On the basis of the results of this study, the following recommendations for further research are offered:

1. Research the quality of recently developed adaptive behavior instruments in addressing the post secondary transition of secondary age students.

2. Research the impact of preservice and inservice training on the use of newer adaptive behavior instruments with secondary age students.

3. Research the frequency in which adaptive behavior is measured with secondary age students with different handicaps and what would influence changes in current practices.

4. Research the relationship of self-directed training to personality characteristics and the use of adaptive behavior instruments.

5. Research to determine if current approaches to re-evaluations are a reflection of preference or mandates in the psychological assessment of secondary age students.

6. Replication of the study in individual states to determine if state policies have a relationship to the use of adaptive behavior instruments with secondary age students.

7. Research vocational and special educators regarding information that is most relevant in psychological evaluations of secondary age students.

8. Replication of this study in four to five years time and compare results with the findings of this study.

9. Survey a nationwide sample of school psychologists' trainers regarding competencies to provide formal and

experiential training in secondary age assessment. This study should especially focus on skills regarding the vocational and adaptive behavior assessment of secondary age students.

Recommendations for the Profession

On the basis of the results of this study, the following recommendations to the profession are offered:

1. Formal training in adaptive behavior and vocational assessment of secondary age students should be core skills taught in school psychology training programs.

2. Experiential training with secondary age students should be offered to all school psychology graduate students prior to completing their programs.

3. Continuing education should be available to school psychologists to upgrade their assessment skills with secondary age students. NASP, state associations, and school psychology training programs should encourage and initiate participation in such training.

4. School psychology training programs should attempt to recruit new faculty with expertise in secondary age assessment practices. Specific skills should include vocational and adaptive behavior assessment.

5. School psychologists should support and conduct field-based research regarding the applicability of new

adaptive behavior instruments with secondary age students.

6. School psychologists should initiate and maintain a close liaison with other school personnel involved in the assessment of secondary age students. Roles and responsibilities in addressing adaptive behavior and vocational issues could be established in facilitating the development of skills necessary in post secondary transitions.

Summary

The results of this study indicate the need for school psychologists to become familiar with adaptive behavior instruments which address issues beyond the non-biased assessment of mild mentally retarded students. Reforms in current re-evaluation practices are needed to facilitate the post secondary transition of secondary age students. Also, training programs need to place greater emphasis in skill development with secondary age students. Finally, additional research and test development are indicated.

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APPENDIX A

NATIONAL SURVEY ON ASSESSMENT PRACTICES IN SECONDARY SCHOOLS

1. Your primary role as a professional. (circle one number)

   1. SCHOOL PSYCHOLOGIST-PRACTITIONER IN THE SCHOOLS
   2. SCHOOL PSYCHOLOGIST-PRACTITIONER IN PRIVATE PRACTICE
   3. SCHOOL PSYCHOLOGIST-TRAINER
   4. STUDENT
   5. OTHER (please specify:_____)

If you responded to items 2 thru 5 on question #1, you may discontinue and return the questionnaire.

2. Your present age: _____YEARS

3. Length of time as a school psychologist: _____YEARS

4. Your sex. (circle number of your answer)

   1. MALE
   2. FEMALE

5. Which is the highest level of education that you have completed? (circle number)

	Degree	Year completed
1.	BACHELOR'S DEGREE	
2.	MASTER'S DEGREE	
3.	6th YEAR/SPECIALIST DEGREE	
4.	DOCTORATE (please specify major)	
5.	OTHER (please specify)	

6. The graduate program from which you received your masters degree was located in: (circle number)

   A. COLLEGE OF EDUCATION
      1. PSYCHOLOGY DEPARTMENT
      2. SCHOOL PSYCHOLOGY DEPARTMENT
      3. SCHOOL PSYCHOLOGY/COUNSELING PSYCHOLOGY DEPARTMENT
      4. SCHOOL PSYCHOLOGY/FOUNDATIONS DEPARTMENT
      5. COUNSELOR EDUCATION DEPARTMENT
      6. SPECIAL EDUCATION DEPARTMENT
      7. ELEMENTARY/SECONDARY EDUCATION DEPARTMENT

   B. COLLEGE OF ARTS AND SCIENCES
      8. PSYCHOLOGY DEPARTMENT
      9. CLINICAL/COUNSELING/SCHOOL PSYCHOLOGY DEPARTMENT
      10. OTHER (Please specify _____)

   C. SCHOOL OF HEALTH PROFESSIONS
      11. SCHOOL PSYCHOLOGY DEPARTMENT
      12. SCHOOL/CLINICAL/COUNSELING PSYCHOLOGY DEPARTMENT
      13. OTHER (Please specify _____)
      14. NOT APPLICABLE (Do not have a masters degree or equivalent.)

7. Please indicate each of the following areas in which you had formal training during your graduate studies. (circle all that apply)

   1. INDIVIDUAL INTELLIGENCE ASSESSMENT
   2. PERSONALITY ASSESSMENT
   3. EDUCATIONAL ASSESSMENT
   4. VOCATIONAL ASSESSMENT (e.g. interests and aptitudes)
   5. BEHAVIORAL/OBSERVATIONAL ASSESSMENT
   6. MULTICULTURAL ASSESSMENT

8. For each item circled on question #7, indicate the approximate percentage of your training in which the measurement of adaptive behavior was addressed. (NOTE: Refer to cover letter for the definition of adaptive behavior.)

	(Circle appropriate answer)				
1. INDIVIDUAL INTELLIGENCE ASSESSMENT	0%	1-15%	16-30%	31-45%	46-60%
2. PERSONALITY ASSESSMENT	0%	1-15%	16-30%	31-45%	46-60%
3. EDUCATIONAL ASSESSMENT	0%	1-15%	16-30%	31-45%	46-60%
4. VOCATIONAL ASSESSMENT	0%	1-15%	16-30%	31-45%	46-60%
5. BEHAVIORAL/OBSERVATIONAL ASSESSMENT	0%	1-15%	16-30%	31-45%	46-60%
6. MULTICULTURAL ASSESSMENT	0%	1-15%	16-30%	31-45%	46-60%

9. For each item circled on question #7, indicate the approximate percentage of your training time in which services to secondary age students was addressed.

	(Circle appropriate answer)				
1. INDIVIDUAL INTELLIGENCE ASSESSMENT	0%	1-15%	16-30%	31-45%	46-60%
2. PERSONALITY ASSESSMENT	0%	1-15%	16-30%	31-45%	46-60%
3. EDUCATIONAL ASSESSMENT	0%	1-15%	16-30%	31-45%	46-60%
4. VOCATIONAL ASSESSMENT	0%	1-15%	16-30%	31-45%	46-60%
5. BEHAVIORAL/OBSERVATIONAL ASSESSMENT	0%	1-15%	16-30%	31-45%	46-60%
6. MULTICULTURAL ASSESSMENT	0%	1-15%	16-30%	31-45%	46-60%

10. Which of the following best describes the amount of experience you gained with secondary age populations during your practica while training to become a school psychologist? (circle number)

1. NEVER TOOK A PRACTICUM COURSE
2. NO EXPERIENCE WITH SECONDARY AGE POPULATIONS
3. 1% TO 20% OF PRACTICA
4. 21% TO 40% OF PRACTICA
5. 41% TO 60% OF PRACTICA
6. 61% TO 80% OF PRACTICA
7. 81% TO 100% OF PRACTICA

11. Which of the following best describes the amount of experience you gained with secondary age populations during your school psychology internship? (circle number)

1. NEVER HAD A SCHOOL PSYCHOLOGY INTERNSHIP
2. NO EXPERIENCE WITH SECONDARY AGE POPULATIONS
3. 1% TO 20% OF INTERNSHIP
4. 21% TO 40% OF INTERNSHIP
5. 41% TO 60% OF INTERNSHIP
6. 61% TO 80% OF INTERNSHIP
7. 81% TO 100% OF INTERNSHIP

12. Please indicate on the scale below the degree in which you feel prepared to provide assessment services to secondary age students (ages 14 through 21 years). Responses may range from "1" indicating not prepared at all to "5" indicating fully prepared. (circle number)

1	2	3	4	5
Not at all				Fully Prepared

13. Number of conferences and/or workshops attended in the last five years regarding adaptive behavior measurement. (circle number)

1. NONE
2. ONE
3. TWO
4. THREE
5. MORE THAN THREE

14. Approximate number of journal articles and/or book chapters read in the last five years regarding adaptive behavior measurement. (circle number)

1. NONE
2. ONE TO THREE
3. FOUR TO SIX
4. SEVEN TO NINE
5. MORE THAN NINE

15. Number of journal articles and/or book chapters authored or co-authored in the last five years regarding adaptive behavior measurement. (circle number)

1. NONE
2. ONE TO THREE
3. FOUR TO SIX
4. SEVEN TO NINE
5. MORE THAN NINE

16. Number of formal post graduate and/or continuing education courses taken since receiving your last degree in areas related to the measurement of adaptive behavior (i.e., multicultural assessment, behavioral assessment, vocational adjustment assessment, observational assessment, etc.). (circle number)

1. NONE
2. ONE
3. TWO
4. THREE
5. MORE THAN THREE

17. Number of formal post graduate and/or continuing education courses taught since receiving your last degree in areas related to adaptive behavior assessment (i.e., multicultural assessment, behavioral assessment, vocational adjustment assessment, observational assessment, etc.) (circle number)

1. NONE
2. ONE
3. TWO
4. THREE
5. MORE THAN THREE

18. Number of conferences and/or workshops attended during the last five years regarding secondary school psychological services. (circle number)

1. NONE
2. ONE
3. TWO
4. THREE
5. MORE THAN THREE

19. Approximate number of journal articles and/or book chapters read in the last five years regarding secondary school psychological services. (circle number)

1. NONE
2. ONE TO THREE
3. FOUR TO SIX
4. SEVEN TO NINE
5. MORE THAN NINE

20. Number of journal articles and/or book chapters authored or co-authored during the last five years regarding secondary school psychological services. (circle number)

1. NONE
2. ONE
3. TWO
4. THREE
5. MORE THAN THREE

21. Number of formal post graduate and/or continuing education courses taken since receiving your last degree in areas related to secondary school psychological services (i.e., adolescent psychology, secondary school curriculum, secondary special education methods, vocational rehabilitation, career development, vocational education, etc.) (circle number)

1. NONE
2. ONE
3. TWO
4. THREE
5. MORE THAN THREE

22. Number of formal post graduate and/or continuing education classes taken since receiving your last degree in secondary school psychological services. (circle number)

1. NONE
2. ONE
3. TWO
4. THREE
5. MORE THAN THREE

23. Number of formal graduate and/or continuing education classes taught during the last five years in secondary school psychological services. (circle number)

1. NONE
2. ONE
3. TWO
4. THREE
5. MORE THAN THREE

24. Number of formal post graduate and/or continuing education courses taught since receiving your last degree in areas related to secondary school psychological services (i.e., adolescent psychology, secondary school curriculum, secondary special education methods, vocational rehabilitation, career development, vocational education, etc.)

1. NONE
2. ONE
3. TWO
4. THREE
5. MORE THAN THREE

The next section of the questionnaire will focus on your worksite.

25. In what state are you primarily employed or self-employed as a school psychologist?
_____STATE

26. The geographic area in which you work is mostly (circle number):

1. LARGE METROPOLITAN: CONTAINS CITY OF 500,000 OR MORE, MANY SUBURBS, VERY LITTLE OPEN COUNTRY.
2. MEDIUM METROPOLITAN: CONTAINS CITY OF 150,000 TO 499,999, SEVERAL SUBURBS, SOME OPEN COUNTRY.

3. SMALL METROPOLITAN: CONTAINS CITY OF 50,000 TO 149,999, FEW SUBURBS, CONSIDERABLE OPEN COUNTRY.
4. SEMI-URBAN: CITY OF 10,000 TO 49,999, FEW SMALLER TOWNS AND CONTAINS MUCH OPEN COUNTRY.
5. SEMI-RURAL: CONTAINS CITY OF 2,500 TO 9,999, ONE OR TWO SMALLER TOWNS, MOSTLY OPEN COUNTRY.
6. RURAL: CONTAINS TOWN OF LESS THAN 2,500, SURROUNDED ENTIRELY BY OPEN COUNTRY.

27. What percentage of your time was spent providing services in secondary and/or vocational schools (serving grades 9 through 12) during the 1982-83 school year?

_____%

28. What is the approximate total number of students served by your school district (K-12)? (circle number)

1. LESS THAN 1,000
2. 1,000 to 1,999
3. 2,000 to 2,999
4. 3,000 to 4,999
5. 5,000 to 7,999
6. 8,000 to 11,999
7. 12,000 to 19,999
8. 20,000 to 29,999
9. 30,000 to 39,999
10. 40,000 to 49,999
11. OVER 50,000

29. Please estimate the percentage of the total student population in your district enrolled in secondary education programs (grades 9 through 12).

_____%

30. How many full-time equivalent school psychologists are employed by your school district?

_____ PSYCHOLOGISTS

31. For the secondary schools in your district, indicate the handicapping conditions in which local policy requires the measurement of adaptive behavior. (circle all that apply)

1. MILD MENTAL RETARDATION
2. MODERATE MENTAL RETARDATION
3. SEVERE/PROFOUND MENTAL RETARDATION
4. LEARNING DISABILITIES
5. EMOTIONAL DISTURBANCE
6. HEARING IMPAIRED
7. SPEECH IMPAIRED
8. VISUALLY IMPAIRED
9. MULTIHANDICAPPED
10. OTHER (PLEASE SPECIFY _____)
11. NONE

32. What individual(s) in your school district is(are) responsible for collecting adaptive behavior information with secondary age students? (check all that apply)

1. NOT SPECIFIED
2. CLASSROOM TEACHER
3. EDUCATIONAL DIAGNOSTICIAN
4. GUIDANCE COUNSELOR
5. SCHOOL PSYCHOLOGIST
6. SCHOOL SOCIAL WORKER (OR EQUIVALENT)
7. SPECIAL EDUCATION TEACHER
8. VOCATIONAL EVALUATOR
9. VOCATIONAL TEACHER
10. OTHER (Please specify _____)

Question 33 focuses on secondary age students (14 to 21 years of age) referred to you for psychological evaluation.

33. This question involves techniques you use to measure the adaptive behavior of secondary age students referred for a psychological evaluation. As you may be aware, a number of formal techniques can be used in the measurement of adaptive behavior. Please indicate on the following scales the approximate frequency you use data from each of the various adaptive behavior techniques. Your responses may range from "1" indicating that the technique is never used to "5" indicating use on every evaluation. (circle appropriate number)

___ Please check here if you did not complete any psychological evaluations with secondary age students during the 1982-83 school year. If so, please skip to question #34.

A. ADAPTIVE BEHAVIOR INVENTORY FOR CHILDREN (ABIC)

1 2 3 4 5
never used always use

B. ADAPTIVE BEHAVIOR SCALE-PUBLIC SCHOOL VERSION (ABS-PSV)

1 2 3 4 5
never used always use

C. ADAPTIVE BEHAVIOR SCALE-SCHOOL EDITION (ABS-SE)

1 2 3 4 5
never used always use

D. ADAPTIVE BEHAVIOR SCALE-CLINICAL VERSION (ABS-CV)

1 2 3 4 5
never used always use

E. CAIN-LEVINE SOCIAL COMPETENCY SCALE

1 2 3 4 5
never used always use

F. CAMELOT BEHAVIOR CHECKLIST

1 2 3 4 5
never used always use

G. CHILDREN'S ADAPTIVE BEHAVIOR SCALE (CAB)

1 2 3 4 5
never used always use

H. CLINICAL IMPRESSIONS

1 2 3 4 5
never used always use

I. INFORMATION FROM CLASSROOM TEACHERS

1 2 3 4 5
never used always use

J. INFORMATION FROM SCHOOL SOCIAL WORKER

1 2 3 4 5
never used always use

K. INFORMATION FROM VOCATIONAL EVALUATOR

1 2 3 4 5
never used always use

L. LOCAL OR STATE DEVELOPED SCALES

1 2 3 4 5
never used always use

M. NATURALISTIC OBSERVATION

1 2 3 4 5
never used always use

N. SAN FRANCISCO VOCATIONAL COMPETENCY SCALE

1 2 3 4 5
never used always use

O. SOCIAL AND PREVOCATIONAL INFORMATION BATTERY

1 2 3 4 5
never used always use

P. SOCIOMETRIC TECHNIQUES

1 2 3 4 5
never used always use

Q. STRUCTURED OBSERVATION

1 2 3 4 5
never used always use

R. VINELAND SOCIAL MATURITY SCALE (1965 EDITION)

1 2 3 4 5
never used always use

S. VOCATIONAL ADAPTATION RATING SCALE

1 2 3 4 5
never used always use

T. OTHER (PLEASE SPECIFY _____)

1 2 3 4 5
never used always use

34. Please indicate which of the following reasons secondary age students were referred to you for a psychological evaluation during the 1982-83 school year. For each reason for referral, please indicate the technique (if any) you used most frequently to measure the adaptive behavior of secondary age students. (check and complete all that apply)

Referred

_____ BEHAVIORAL/EMOTIONAL PROBLEMS - INITIAL REFERRAL

TECHNIQUE_____ NONE_____

_____ BEHAVIORAL/EMOTIONAL PROBLEMS - RE-EVALUATION

TECHNIQUE_____ NONE_____

_____ POSSIBLE LEARNING DISABILITY - INITIAL REFERRAL

TECHNIQUE_____ NONE_____

_____ LEARNING DISABILITY - RE-EVALUATION

TECHNIQUE_____ NONE_____

_____ LIMITED MENTAL ABILITY - INITIAL REFERRAL

TECHNIQUE_____ NONE_____

_____ MILD MENTAL RETARDATION - RE-EVALUATION

TECHNIQUE_____ NONE_____

_____ MODERATE MENTAL RETARDATION

TECHNIQUE_____ NONE_____

_____ SEVERE/PROFOUND MENTAL RETARDATION

TECHNIQUE_____ NONE_____

_____ OTHER REFERRALS (please specify _____)

TECHNIQUE_____ NONE_____

This next section involves your beliefs about the purpose and necessary components in the psychological evaluation of secondary age students (14 to 21 years of age).

35. The following are generally agreed to be important reasons for conducting a psychological assessment. Please rank these reasons indicating what you feel is the relative importance of each for the general population of secondary age students initially referred because of limited ability in school (i.e., possible mild mental retardation). Responses should be ranked so that "1" indicates the most important reason, "2" the next most important, and so on. (please fill in numbers by rank)

_____ DETERMINE APPROPRIATENESS OF A SPECIAL EDUCATION PLACEMENT.

_____ DETERMINE APPROPRIATENESS OF A VOCATIONAL PLACEMENT.

_____ DETERMINE INSTRUCTIONAL NEEDS FOR ACADEMIC PERFORMANCE.

_____ DETERMINE INSTRUCTIONAL NEEDS FOR VOCATIONAL TRAINING.

_____ DETERMINE INSTRUCTIONAL NEEDS FOR SOCIAL COMPETENCE.

36. The following are generally agreed to be important components in psychological assessments conducted by school psychologists. Please rank these components indicating what you feel is the relative importance of each for the general population of secondary age students initially referred because of limited ability in school (i.e., possible mild mental retardation). Responses should be ranked so that "1" indicates the most important component, "2" the next most important, and so on. (please fill in numbers by rank)

_____ INTELLECTUAL FUNCTIONING.

_____ ADAPTIVE BEHAVIOR.

_____ PERSONALITY DEVELOPMENT.

_____ VOCATIONAL APTITUDES AND INTERESTS.

_____ ACADEMIC ACHIEVEMENT.

37. Please rank the reasons for conducting a psychological assessment indicating what you feel is the relative importance of each for the general population of secondary age mild mentally retarded students referred for a three-year re-evaluation. Responses should be ranked so that "1" indicates the most important purpose, "2" next most important, and so on. (fill in numbers by rank)

_____ DETERMINE APPROPRIATENESS OF A SPECIAL EDUCATION PLACEMENT.

_____ DETERMINE APPROPRIATENESS OF A VOCATIONAL PLACEMENT.

_____ DETERMINE INSTRUCTIONAL NEEDS FOR ACADEMIC PERFORMANCE.

_____ DETERMINE INSTRUCTIONAL NEEDS FOR VOCATIONAL TRAINING.

_____ DETERMINE INSTRUCTIONAL NEEDS FOR SOCIAL COMPETENCE.

38. Please rank the components in a psychological assessment conducted by a school psychologist indicating what you feel is the relative importance of each for the general population of secondary age mild mentally retarded students referred for a three-year re-evaluation. Responses should be ranked so that "1" indicates the most important component, "2" next most important, and so on. (fill in numbers by rank)

_____ INTELLECTUAL FUNCTIONING.

_____ ADAPTIVE BEHAVIOR.

_____ PERSONALITY DEVELOPMENT.

_____ VOCATIONAL APTITUDES AND INTERESTS.

_____ ACADEMIC ACHIEVEMENT.

39. Please rank the areas in which school psychologists, hired for entry level positions in your department during the past five years, should gain greater skills for providing assessment services to secondary age populations. Responses should be ranked so that "1" indicates the most important component, "2" next most important, and so on. (fill in numbers by rank)

_____ INTELLECTUAL FUNCTIONING.

_____ ADAPTIVE BEHAVIOR.

_____ PERSONALITY DEVELOPMENT.

_____ VOCATIONAL APTITUDES AND INTERESTS.

_____ ACADEMIC ACHIEVEMENT.

This last section involves the orientation of.school psychologists regarding the measurement of adaptive behavior.

40. Please indicate below the general feeling school psychologists in your work setting have concerning the quality of adaptive behavior measurement instruments for all grade levels. Responses may range from "1" indicating poor quality to "5" indicating excellent quality.

1	2	3	4	5
poor quality				excellent quality

41. Please indicate below the general feeling school psychologists in your work setting have concerning the quality of adaptive behavior measurement instruments for secondary age students. Responses may range from "1" indicating poor quality to "5 indicating excellent quality.

1	2	3	4	5
poor quality				excellent quality

42. Please indicate below the general feeling school psychologists in your work setting have concerning the emphasis on out of school behavior in the current definition of adaptive behavior. Responses may range from "1" indicating not relevent on school related issues to "5" indicating extremely relevant to school related issues.

1	2	3	4	5
not relevant				extremely relevant

43. Please indicate below the general feeling school psychologists in your work setting have concerning the use of adaptive behavior information as a measurement of personality development. Responses may range from "1" indicating not relevant as a measurement of personality development to "5" indicating extremely relevant as a measurement of personality development.

1	2	3	4	5
not relevant				extremely relevant

44. Please indicate below the general feeling school psychologists in your work setting have concerning the relevance of measuring adaptive behavior with students who are referred for reasons other than limited mental ability. Responses may range from "1" indicating not relevant to "5" indicating extremely relevant with students referred for reasons other than limited mental ability.

1	2	3	4	5
not relevant				extremely relevant

45. To what degree do you agree with the feelings of school psychologists in your work setting on questions 40 through 44. Responses may range from "1" indicating total disagreement with other school psychologists to "5" indicating total agreement with other school psychologists.

1	2	3	4	5
total disagreement				total agreement

APPENDIX B

March 7, 1984

Dear Colleague:

We are writing to urge your participtiion in a study being conducted by Fred Capps, a doctoral candidate in the Virginia Tech/James Madison University cooperative doctoral program.

The study is designed to examine psychological evaluation practices of school psychologists with secondary age students. Particular interest is focused on the use of adaptive behavior instruments with this population. Fred's study has been endorsed by the NASP National Committee on Vocational School Psychology, which will use the results to assist in the development of various types of pre- and inservice education activities for school psychologists. Your individual re-sponses will be kept in strict confidence since only group data will be used in the analysis.

We hope that you will assist Fred Capps and NASP by taking 20-25 minutes to complete and return the materials you will be receiving in a few days. His study will generate valuable data to assist the further development of the school psychology profession.

Sincerely,

Thomas H. Hohenshil
Virginia Tech

Harriet Cobb
James Madison University

/es

March 10, 1984

Dear Colleague:

As a school psychologist presently working on my dissertation in the Virginia Tech/James Madison University cooperative doctoral program, I am asking for your help in the collection of my data.

Enclosed with this letter is a questionnaire regarding psychological evaluation practices of school psychologists with secondary age students. Particular interest is focused on the use of adaptive behavior instruments with this population. As you may already know, the American Association on Mental Deficiency defines adaptive behavior as "the effectiveness or degree in which the individual meets the standards of personal independence and social responsibility expected of his age." The materials I am asking you to complete will require about 20-25 minutes of your time.

As you know, the study is endorsed by the NASP National Committee on Vocational School Psychology. Several leaders in NASP have already expressed their interest and support for this study. The results will be used by the NASP National Committee to assist in the development of various types of pre- and inservice activities for school psychologists. Your individual responses will, of course, be kept in strict confidence since only group data will be used in the analysis.

Thank you, in advance, for your assistance. I will send you a summary of the results of the study when it is completed.

Sincerely,

C. Frederick Capps
School Psychologist
Doctoral Candidate

CFC:es
Enclosures

P.S. Enclosed is a package of Sanka coffee. Help yourself to a coffee break while you are completing the materials.

- SAMPLE OF POSTCARD -

Dear Colleague:

Last week a questionnaire seeking information concerning school psychological assessment practices was mailed to you. You name was drawn from a random sample of the NASP membership.

If you have already completed the questionnaire and returned it to me, please accept my sincere appreciation. If not, please do so today. It is very important that your questionnaire be included in the study if the results are to accurately represent the assessment practices of our organization's membership.

If for some reason you did not receive a questionnaire, or it got misplaced, please call me now, collect (804-979-4242) and I will get another one in the mail to you today.

Sincerely,

C. Frederick Capps
School Psychologist
Doctoral Candidate

COLLEGE OF EDUCATION

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

DIVISION OF ADMINISTRATIVE AND EDUCATIONAL SERVICES

March 31, 1984

Dear Colleague:

About four weeks ago 367 school psychologists throughout the United States were asked to participate in a study conducted by Fred Capps. The response of our fellow school psychologists has been tremendous. At the present time, approximately 70% have responded by completing and returning the survey materials.

According to Fred's records, he has not received your completed materials. Since we want the highest possible participation, I would appreciate it very much if you will assist Fred with his study. Your responses are vital to his findings. The results are intended to show school psychological assessment practices with secondary age students. These findings will be used by the National Association of School Psychologists in its ongoing study of secondary/vocational school psychological services. All individual responses will be held in strictest confidence.

Enclosed are duplicate survey forms and a stamped self-addressed envelope. Won't you please take a few minutes to complete and forward them on to Fred?

Sincerely yours

Thomas H. Hohenshil
Professor
School Psychology

APPENDIX C

NASP Membership and Survey Sample:

Region of the Country

Region	NASP membership 1983		Subjects in study	
	Frequency	Percent	Frequency	Percent
North East	1966	(26.33)	102	(27.8)
South East	1483	(19.86)	81	(21.9)
North Central	1898	(25.42)	86	(23.5)
West Central	899	(12.04)	43	(11.8)
West	1221	(16.35)	55	(15.0)
Total				

X^2 = 2.1117 (df = 4) not significant

NASP Membership and Survey Sample:

Sex

Sex	NASP membership 1983		Subjects in study	
	Frequency	Percent	Frequency	Percent
Male	2007	(42)	78	(41.7)
Female	2741	(58)	104	(58.3)
Total	4748		187	

X^2 = 0.0232 (df = 1) not significant

Response to Survey Prompts:
Sex of School Psychologist

Sex	Non-respondents and refused		First mailing		Second mailing		Third mailing	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Male	29	(37.67)	62	(40.79)	32	(44.44)	26	(39.39)
Female	48	(62.33)	90	(59.21)	40	(55.56)	40	(60.61)

X^2 = .7983 (df=3) : not significant

Response to Survey Prompts:
Region of the Country

Region	Non-respondents and refused		First mailing		Second mailing		Third mailing	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
North East	18	(23.38)	43	(28.29)	22	(30.55)	16	(24.24)
South East	21	(27.27)	39	(25.66)	12	(16.67)	13	(19.70)
North Central	20	(25.97)	30	(19.74)	17	(23.61)	15	(22.72)
West Central	10	(12.99)	18	(11.84)	11	(15.28)	11	(16.67)
West	8	(10.39)	22	(14.47)	10	(13.89)	11	(16.67)
Total	77	(100.00)	152	(100.00)	72	(100.00)	66	(100.00)

X^2 = 7.5613 (df=12) : not significant

Rank Order of Overall Adaptive Behavior Assessment Styles with Secondary Age Populations

Rank	Style	Frequency
1	Adaptive behavior instruments	187
2	Interviews/information from others and observations	83
3	Interviews/information from others	62
4	Interviews/information from others and adaptive behavior instruments	61
5	Interviews/information from others, observations, and adaptive behavior instruments	57
6	Interviews/information from others and clinical impressions/student interviews	30
7	Projective tests	28
8	Behavioral/personality scales	23
9	Observations	20
10	Interview/information from others and behavioral/personality scales	15
11	Behavioral/personality scales, interviews/ information from others, and observations	14
12	Clinical impressions/student interviews and observations	10
13	Clinical impressions/student interviews	9
14.5	Adaptive behavior instruments and local or state scales	8
14.5	Cognitive or intellectual scales	8
17.5	Interview/information from others, observations, and local or state scales	6

Rank	Style	Frequency
17.5	Local or state scales	6
17.5	Interviews/information from others, observations, and clinical impressions/student interviews	6
17.5	Adaptive behavior instruments and developmental scales	6
21	Interviews/information from others and projections	5
21	Learning or cognitive style	5
21	Interview/information from others, adaptive behavior instruments, observations, and clinical impressions/student interviews	5
24	Adaptive behavior instruments and achievement tests	4
24	Interviews/information from others, projective tests, and adaptive behavior instruments	4
24	Vocational tests	4
26	Developmental scales	3
29.5	Adaptive behavior instruments, behavioral/personality scales, and local or state scales	2
29.5	Interviews/information from others, clinical impressions/student interviews and adaptive behavior instruments	2
29.5	Developmental scales, adaptive behavior instruments, observations, and interviews/information from others	2

Rank	Style	Frequency
29.5	Perceptual motor tests	2
29.5	Intellectual scales and perceptual motor tests	2
29.5	Local or state scales and observations	2
37	Local or state scales, clinical impressions/student interviews, and interviews/information from others	1
37	Adaptive behavior instruments, clinical impressions/student interviews, and projective tests	1
37	Local or state scales and clinical impressions/student interviews	1
37	Local or state scales, clinical impressions/student interviews, and adaptive behavior instruments	1
37	Behavioral/personality scales, clinical impressions/student interviews, and interviews/information from others	1
37	Money problem checklist	1
37	Intellectual scales and learning style	1
37	Intellectual and developmental scales	1
37	Behavioral/personality scales, local or state scales, clinical impressions/ student interviews and interviews/ information from others	1
41	Total	690

Rank Order of Adaptive Behavior Assessment Styles: Behavioral/Emotional Problems--Initial Referral

Rank	Style	Frequency
1	Interviews/information from others and observations	15
2	Interviews/information from others	13
3	Adaptive behavior instruments	10
4	Behavioral/personality scales	9
5	Interviews/information from others and adaptive behavior instruments	7
6	Projective tests	6
7	Behavioral/personality scales, interviews and observations	4
10.5	Clinical impressions/student interviews	3
10.5	Observations	3
10.5	Interviews/information from others and clinical impressions/student interviews	3
10.5	Interviews/information from others, observations, and adaptive behavior instruments	3
10.5	Interview/information from others and behavioral/personality scales	3
13	Clinical impressions/students interviews and observations	2
17.5	Local of state scales	
17.5	Interviews/information from others, observations, and clinical impressions/ student interviews	1
17.5	Local or state scales and observations	

Rank	Style	Frequency
17.5	Adaptive behavior instruments and local or state scales	1
17.5	Interviews/information from others, observations, and local or state scales	1
17.5	Behavioral/personality scales, local or state scales, clinical impression/student interviews, and interviews/information from others	1
17.5	Behavioral/personality scales, clinical impressions/student interviews, and interviews/information from others	1
17.5	Money problem checklist	1
21	Total	89

Rank Order of Adaptive Behavior Assessment Styles: Behavioral/Emotional Problems--Re-evaluation

Rank	Style	Frequency
1	Interviews/information from others and observations	21
2	Interviews/information from others	16
4	Behavioral/personality scales	6
4	Projective tests	6
4	Interviews/information from others and adaptive behavior instruments	6
6	Adaptive behavior instruments	5
8	Observations	4
8	Interviews/information from others and behavioral/personality scales	4
8	Behavioral/personality scales, interviews/ information from others, and observations	4
11	Interviews/information from others and clinical impressions/student interviews	3
11	Interviews/information from others, observations, and adaptive behavior instruments	3
11	Interviews/information from others and projective tests	3
14	Clinical impressions/students interviews and observations	2
14	Adaptive behavior instruments and local or state scales	2
14	Adaptive behavior instruments, behavioral/ personality scales, and local or state scales	2

Rank	Style	Frequency
18	Clinical impressions/student interviews	1
18	Interviews/information from others, observations, and local or state scales	1
18	Local or state scales, clinical impressions/ student interviews, and interviews/ information from others	1
18	Interviews/information from others, adaptive behavior instruments, observations, and clinical impressions/student interviews	1
18	Adaptive behavior instruments, clinical impressions/student interviews, and projective tests	1
20	Total	92

Rank Order of Adaptive Behavior Assessment Styles: Learning Disabilities--Initial Referral

Rank	Style	Frequency
1	Interviews/information from others and observations	18
2	Interviews/information from others	11
3.5	Adaptive behavior instruments	8
3.5	Interviews/information from others and clinical impressions/student interviews	8
5	Interviews/information from others and adaptive behavior instruments	6
6.5	Projective tests	5
6.5	Observations	5
8	Behavioral/personality scales	4
10	Interviews/information from others, observations, and adaptive behavior instruments	3
10	Interview/information from others and behavioral/personality scales	3
10	Behavioral/personality scales, interviews/ information from others, and observations	3
12.5	Clinical impressions/student interviews	2
12.5	Clinical impressions/students interviews and observations	2
18	Local or state scales	1
18	Interviews/information from others, observations, and clinical impressions/ student interviews	1

Rank	Style	Frequency
18	Adaptive behavior instruments and local or state scales	1
18	Local or state scales and clinical impressions	1
18	Interviews, projective tests, and adaptive behavior instruments	1
18	Learning or cognitive style	1
18	Perceptual motor tests	1
18	Intellectual scales and preceptual motor tests	1
18	Intellectual scales and learning styles	1
22	Total	86

Rank Order of Adaptive Behavior Assessment Styles: Learning Disabilities--Re-evaluation

Rank	Style	Frequency
1	Interviews/information from others and observations	15
2.5	Interviews/information from others	8
2.5	Adaptive behavior instruments	8
4.5	Observations	6
4.5	Interviews/information from others and adaptive behavior instruments	6
6	Interviews/information from others and clinical impressions/student interviews	5
7	Behavioral/personality scales	4
9	Projective tests	3
9	Interviews/information from others, observations, and adaptive behavior instruments	3
9	Interviews/personality scales, interviews/ information from others, and observations	3
11.5	Interview/information from others and behavioral/personality scales	2
11.5	Learning or cognitive style	2
16	Clinical impressions/student interviews	1
16	Clinical impressions/students interviews and observations	1
16	Interviews/information from others, observations, and clinical impressions/ student interviews	1

Rank	Style	Frequency
16	Adaptive behavior instruments and local or state scales	1
16	Interviews/information from others, observations, and local or state scales	1
16	Interviews, projective tests, and adaptive behavior scales	1
16	Perceptual motor tests	1
19	Total	72

Rank Order of Adaptive Behavior Assessment Styles: Limited Mental Ability--Initial Referral

Rank	Style	Frequency
1	Adaptive behavior instruments	36
2	Interviews/information from others, observations, and adaptive behavior instruments	10
3	Interviews/information from others and adaptive behavior instruments	9
4	Interviews/information from others	7
5	Interviews/information from others and observations	5
6.5	Projective tests	4
6.5	Interviews/information from others and clinical impressions/student interviews	4
9	Interview/information from others, adaptive behavior instruments, observations, and clinical impressions/student interviews	2
9	Adaptive behavior instruments and developmental scales	2
9	Learning or cognitive style	2
16.5	Clinical impressions/student interviews	1
16.5	Local or state scales	1
16.5	Clinical impressions/student interviews and observations	1
16.5	Local or state scales and observations	
16.5	Adaptive behavior instruments and local or state scales	1

Rank	Style	Frequency
16.5	Interview/information from others, observations, and local or state scales	1
16.5	Interviews, projective tests, and adaptive behavior scales	
16.5	Adaptive behavior instruments and achievement tests	1
16.5	Interview/information from others and behavioral/personality scales	1
16.5	Intellectual scales and perceptual motor tests	
16.5	Vocational tests	1
16.5	Intellectual and developmental scales	
22	Total	93

Rank Order of Adaptive Behavior Assessment Styles: Mild Mental Retardation Re-evaluation

Rank	Style	Frequency
1	Adaptive behavior instruments	48
2	Interviews/information from others, observations, and adaptive behavior instruments	12
3	Interviews/information from others and adaptive behavior instruments	11
4	Interviews/information from others	6
5	Interviews/information from others and observations	5
7	Projective tests	3
7	Interviews/information from others and clinical impressions/student interviews	3
7	Cognitive or Intellectual Scales	3
10	Interview/information from others, observations, and local or state scales	2
10	Interview/information from others, adaptive behavior instruments, observations, and clinical impressions/student interviews	2
10	Vocational tests	2
16.5	Clinical impressions/student interviews	1
16.5	Local or state scales	1
16.5	Clinical impressions/student interviews and observations	1
16.5	Interviews/information from others, observations, and clinical impressions/student interviews	1

Rank	Style	Frequency
16.5	Adaptive behavior instruments and local or state scales	1
16.5	Interviews/information from others, projective tets, and adaptive behavior instruments	1
16.5	Adaptive behavior instruments and developmental scales	1
16.5	Adaptive behavior instruments and achievement tests	1
16.5	Interviews/information from others, clinical impressions/student interviews and adaptive behavior instruments	1
16.5	Interview/information from others and behavioral/personality scales	1
21	Total	107

Rank Order of Adaptive Behavior Assessment Styles: Moderate Mental Retardation

Rank	Style	Frequency
1	Adaptive behavior instruments	41
2	Interviews/information from others, observations, and adaptive behavior instruments	15
3	Interviews/information from others and adaptive behavior instruments	9
4	Interviews/information from others and observations	4
5.5	Interviews/information from others	3
5.5	Interviews/information from others and clinical impressions/student interviews	3
7	Cognitive or Intellectual Scales	2
12.5	Local or state scales	1
12.5	Projective Tests	
12.5	Interviews/information from others, observations, and clinical impressions/student interviews	1
12.5	Adaptive behavior instruments and developmental scales	1
12.5	Adaptive behavior instruments and achievement tests	1
12.5	Interviews/information from others, clinical impressions/student interviews, and adaptive behavior instruments	1
12.5	Local or state scales, clinical impressions/ student interviews, and adaptive behavior instruments	1

Rank	Style	Frequency
12.5	Interviews/information from others and behavioral/personality scales	1
12.5	Vocational tests	1
12.5	Developmental scales	1
17	Total	87

Rank Order of Adaptive Behavior Assessment Styles: Severe/Profound Mental Retardation

Rank	Style	Frequency
1	Adaptive behavior instruments	31
2	Interviews/information from others, observations, and adaptive behavior instruments	8
3	Interviews/information from others and adaptive behavior instruments	7
4	Interviews/information from others and observations	5
5.5	Interviews/information from others	3
5.5	Cognitive or Intellectual Scales	3
8	Adaptive behavior instruments and developmental scales	2
8	Developmental scales, adaptive behavior instruments, observations, and interviews/ information from others	2
8	Developmental scales	2
13	Local or state scales	1
13	Observations	1
13	Interviews/information from others and clinical impressions/student interviews	1
13	Clinical impressions/student interviews and observations	1
13	Interviews/information from others, observations, and clinical impressions/student interviews	1

Rank	Style	Frequency
13	Adaptive behavior instruments and local or state scales	1
13	Adaptive behavior instruments and achievement tests	1
16	Total	70

Dummy Variables in Statistical Analyses

Original variables	Transformed variable
Sex	Female Male
Graduate program	Education with psychological foundations Education with educational foundations Arts and science in psychology department
Region	Northeast Southeast North central West central West
Behavioral/emotional techniques--initial referral	Adaptive behavior instruments Standardized instruments--other Nonstandardized only All these types of techniques
Behavioral/emotional techniques--reevaluation	Adaptive behavior instruments Standardized instruments--other Nonstandardized only All these types of techniques
Learning disability techniques--initial referral	Adaptive behavior instruments Standardized instruments--other Nonstandardized only All these types of techniques

Original variables	Transformed variable
Learning disability techniques--reevaluation	Adaptive behavior instruments Standardized instruments--other Nonstandardized only All these types of techniques
Limited mental ability--initial referral	Adaptive behavior instruments Standardized instruments--other Nonstandardized only All these types of techniques
Mild mental retardation--reevaluation	Adaptive behavior instruments Standardized instruments--other Nonstandardized only All these types of techniques
Moderate mental retardation techniques	Adaptive behavior instruments Standardized instruments--other Nonstandardized only All these types of techniques
Severe profound mental retardation techniques	Adaptive behavior instruments Standardized instruments--other Nonstandardized only All these types of techniques

Categories of Variables

Category	Variables
Characteristics of school psychologists	Role Age Years as a school psychologist Sex Education level Graduate program
Worksetting of school psychologists	Region of country Geographic areas Percent of time serving secondary age populations Number of students in school district Percent of students in secondary programs Ratio of psychologists to students Responsibility for assessing adaptive behavior Requirements regarding adaptive behavior assessment
Adaptive behavior assessment procedures	Types of approaches used most frequently Assessment styles Assessment styles according to referrals

Category	Variables
Orientation to initial and reevaluations with mild mentally retarded secondary age students	Reasons for referral Evaluation components
Quality of adaptive behavior scales	Quality of all adaptive behavior scales Quality of secondary adaptive behavior scales
Range of relevance perceived in the definition of adaptive behavior	Emphases on out-of-school behavior part of personality development

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