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FACTOR ANALYSIS OF THE REVISED CONNERS'S TEACHER RATING SCALE AND THE MODIFIED BEHAVIOR PROBLEM CHECKLIST ON A NORMATIVE SAMPLE OF PUERTO RICAN CHILDREN

Volume I

By

Ana Margarita Cebollero

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ABSTRACT

FACTOR ANALYSIS OF THE REVISED CONNERS'S TEACHER RATING SCALE AND THE MODIFIED BEHAVIOR PROBLEM CHECKLIST ON A NORMATIVE SAMPLE OF PUERTO RICAN CHILDREN

By

Ana Margarita Cebollero

This project describes the development of the Spanish version of the Revised Conners's Teacher Rating Scale (CTRS-R) and a modified version of the Quay and Peterson (1975) Behavior Problem Checklist. The rating scales were completed by Puerto Rican teachers for a sample of 638 Puerto Rican children to provide epidemiological data of children's overactivity, behavior, and attention problems.

The factor analyses of the behavioral checklists revealed four scales for both measures. Reliability, inter-correlations among scales, and concurrent validity data as well as normative data is presented. Gender, age, and grade effects were found to be significant determinants of children's scores. Results show that behavioral and attention problems appear to be unstable attributes throughout childhood. As expected, boys consistently displayed more severe problems than girls. The analyses suggest the usefulness of an oblique rotation when studying 'hyperactive' dimensions.

The comparison of the obtained factor structure with other studies indicated substantial cross-cultural factor similarity, but also important differences. The factor structure of the measures took on unique forms for Puerto Rican children. The Anglo-American, Mexican-American, and Puerto Rican children exhibited culture common patterns of behaviors but also cultural differences. For Puerto Rican children, behavior problems and overactivity emerged as a single factor and separate from inattention.

Prevalence rates were assessed using the abbreviated CTRS-R and a 'traditional' 1.5 cutoff score and compared with others obtained using the same instrument in other countries. Differences in prevalence rates reflect the problems associated with the selection of cutoff criteria. Although the CTRS-R appears to be a short, reliable measure to screen children with behavior and attention difficulties, it is evident that the abbreviated CTRS-R failed to identify a high percentage of inattentive and behaviorally-disordered children. I concur with previous recommendations (Ullmann et al., 1985) that the use of abbreviated CTRS-R should be discontinued.

The lack of agreement between the empirically derived 'hyperactive' dimensions and the DSM-III-R diagnostic criteria support the argument that the Attention-deficit/ Hyperactivity and Oppositional Defiant diagnoses cannot adequately identify Puerto Rican children.

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ANA MARGARITA CEBOLLERO

1989

For my children, Mario Ricardo,
Alberto, Adrian, and Maria Eugenia

ACKNOWLEDGMENTS

This project began five years ago when Wade Horn, then my professor, gave me a reading about a similar cross-cultural project. During the following years, the initial idea transformed into a research proposal and finally carrying the research project to completion.

I am grateful to my Dissertation Committee. My special thanks go to Garry Stollak, Chairperson, Robert Caldwell, Mary Ann Reinhart, and Ellen Strommen, who supplied me with valuable feedback and comments at various stages of completion.

I want to thank James P. O'Donnell, K. Daniel O'Leary, Julian Barling, and Keith Conners for sharing the results of their studies with me; their cooperation allowed me to compare my results with theirs.

I want also to thank my professors from the Psychology Department at Michigan State University, friends, and colleagues, whose encouragement and support sustained me and guided me throughout. I especially want to mention Karen Cruise and Robert DeYoung; I benefited from their assistance. Special thanks are due to Gerald Koocher, Chief Psychologist at Children's Hospital-Boston, for his generosity with his and my time, for which I am deeply grateful.

This project is about Puerto Rican children. I wish to thank the Department of Education of the Commonwealth of Puerto Rico, which granted permission for the public schools participation. I also want to thank the school coordinators and school directors of private and public schools for their contribution. I am deeply grateful to the Puerto Rican teachers who provided the information for my data and to the participating families because they are the core of the project; without them this project would not have been possible.

I especially thank my family, whom I consider my most important source of knowledge, and in particular I thank my sons, Mario Ricardo, Alberto, and Adrian, and my daughter, Maria Eugenia. Without their understanding, support, and acknowledgment, this task would have been difficult.

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CHAPTER I

Introduction

Conception of the Problem

Estimates vary as to how many emotionally disturbed children there are in the United States. The Joint Commission on Mental Health of Children (1969) estimated that 2-3% of U. S. children are severely emotionally disturbed, with an additional 8-10% having emotional problems serious enough as to require special services. Hobbs (1982) cited figures reported by the 1978 President's commission on mental health of between 3 to 6 million. Balow (1979) judged that about 20% of U.S. children have temporary emotional disorders. Chazan, Laing, Jones, Harper, and Balton (1983) reported that 1 of every 10 U.S. children in each classroom is likely to need some attention because of poor social or emotional adjustment at the nursery school stage.

Of all these children in need of psychological services, Attention-deficit/Hyperactivity, Conduct, and Oppositional Disorders are the most common causes of referrals to child guidance clinics, accounting for 30-40% of the referred cases (O'Leary, 1980; Spivack, Swift, & Prewitt, 1971; Weiss, 1985). Clinicians and researchers, appreciative of children's worth to society, have taken up the study of these disturbances in an effort to discover their etiologies and develop effective treatment plans. Despite a sizeable literature on these disorders, there is a good deal of confusion about what

conditions--biological, psychological, or social--give rise to these and other kinds of behavior problems in children.

Part of the confusion stems from the lack of standard classifications. There are no definitions of these disorders that are accepted by all professionals (O'Leary, Vivian, & Cornoldi, 1984; Ullmann et al., 1981). Differences in theoretical orientations is a factor contributing to the disagreement about definitions of behavior disturbances. In addition, problems in the measurement of behavior (e.g., Koriath, Gualtieri, Van Bourgondien, Quade, & Werry, 1985), the scope and variability of normal behavior, and differences in aims served by definitions (e.g., school or clinical services, research) add to these difficulties. The picture is compounded by the developmental aspect of some behavior problems during childhood and the consequences of labeling (Hobbs, 1982; Whalen & Henker, 1976). Furthermore, the overlap of externalizing behavior disorders with other internalizing childhood disorders such as depression (Biederman et al., 1987; Jacobsen, Lahey, & Strauss, 1983; Staton & Brumback, 1981) complicates the diagnostic process (Kauffman, 1981).

It is also noticeable that even though age, cultural, socioeconomic, and familial variables have been related to biases in labeling and differences in prevalence of these disorders (e.g., Langsdorf, Anderson, Waechter, Madrigal, & Juarez, 1979; O'Donnell, Stein, Machabanski, & Cress, 1982; Waechter, Anderson, Juarez, Langsdorf, & Madrigal, 1979), most studies and conclusions about Attention-deficit/Hyperactivity

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and Conduct or Oppositional Disorders have been about Anglo-American children. Obviously, this oversight creates problems because all children in United States are not "Anglos and middle class" (DeCosta, 1984).

Many of the children in need of psychological services belong to ethnic minority groups, Hispanics being one of the subgroups. In the last few decades many communities in the United States have experienced an influx of people from the many Spanish-speaking nations, including Mexico, Cuba, and Puerto Rico. Teachers are being faced with increasing numbers of Spanish-speaking children in their classrooms. In spite of the fact that Spanish-surnamed children have become the second largest group of minority children in the United States, there is a noticeable dearth of standardized screening instruments to assess the behaviors of these youngsters. This is surprising in view of theories which suggest that children of Hispanic immigrants experience certain stresses and strains particularly because of language and cultural differences, which may increase these children's vulnerability to behavior problems (Figueroa & Gallegos, 1978; O'Donnell et al., 1982; Pacheco, Wapner, & Lucca-Irizarry, 1980; Pacheco, Lucca-Irizarry, & Wapner 1984; Touliatos & Lindholm, 1980a; 1980b). It has been particularly noted that Puerto Rican children may be more susceptible to mental health problems because they are exposed to more stress-inducing events in their lives than other children (Canino, Earley, & Rogler, 1980). In addition, it is likely that children from this minority background may

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be particularly vulnerable to errors of assessment (Gandara, Keogh, & Yoshioka-Maxwell, 1980; Stevens, 1981; Sue & Sue, 1987). This issue will be discussed in a subsequent section.

To date, only a few known cross-cultural study have actually examined the prevalence of these dimensions (Attention-deficit/Hyperactivity, Conduct and Oppositional Disorders) in Hispanic countries (Arias & O'Leary, 1984; Bird et al., 1988). Indeed most cross-cultural studies in the United States contrast samples of different cultural or ethnic background instead of comparing samples of the same ethnic background (i.e., an ethnic group who live in their culture of birth compared with another of the same ethnic background who live in this country), which might exaggerate differences between groups (Sue, 1983).

Given the increased emphasis among mental health professions on the early detection of Conduct or Oppositional Disorders and Attention-deficit/Hyperactivity, a question that arises from the perspective of cross-cultural research is whether the prevalence of these disorders among Puerto Rican children and among children of other cultures are comparable. The assessment of prevalence, however, requires diagnosis of these disorders. It has been suggested that behavior checklists, which consist of standard questions and responses, may be used to diagnose Attention-deficit/ Hyperactivity and Conduct or Oppositional Disorders (Spring, Blunden, Greenberg, & Yellin, 1977). Perhaps the most frequently used instruments in this area of research have

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been the Behavior Problem Checklist (Quay & Peterson, 1975) and the Conners's Teacher Rating Scale (Conners, 1969). However, in view of the existing problems in diagnosing Conduct or Oppositional Disorders and Attention-deficit/ Hyperactivity, an investigation of the factor structure of both rating scales for Puerto Rican children is seen as appropriate. Such work is also necessary because there is a need for appropriate and useful screening measures and norms to assess Puerto Rican children's behavior problems.

Purpose of the Project

The study had two specific purposes. The first was to conduct an epidemiological investigation of Conduct and Oppositional Disorders and Attention-deficit/Hyperactivity on the island of Puerto Rico. A second goal was to provide measures of behavior disorders that are relevant to the objective classification of Attention-deficit/Hyperactivity and Conduct or Oppositional Disorders for Puerto Rican children living on the island. To achieve these goals, Puerto Rican teachers of children between the ages of 4 and 12, living on the island, completed the Revised Conners's Teacher Rating Scale (Goyette, Conners, & Ulrich, 1978) and a modified version of the Quay and Peterson (1975) Behavior Problem Checklist (O'Donnell, Stein, Machabanski, & Cress, 1982). It was expected that by using teachers born and living in Puerto Rico there would be a greater likelihood of tapping behavioral differences between different dimensions of child behavior rather than cultural differences. The expectation

was that there would be considerable differences in the way Puerto Rican teachers perceive occurrence or nonoccurrence of behaviors on behavioral checklists as compared with how they have been reported to be perceived in studies done in United States and in countries of Anglo-Saxon heritage. Consequently, the factor structure of the two behavioral checklists in Puerto Rico would reflect the conceptual meanings that Puerto Rican teachers place on children's behaviors (Triandis & Brislin, 1984). The norms computed for these two behavior checklists would be based on teachers' judgement of children's behaviors.

I have already defined the needs and goals of the project. I will now examine several points of the literature focusing on Conduct or Oppositional Disorders and the Attention-deficit/Hyperactivity Syndrome. Particular emphasis will be placed, first, upon classification systems, second, on measurement criteria focusing in cross-cultural research, third, on prevalence rates for both disorders in the United States and in other countries. The terms Attention-deficit/ Hyperactivity and Conduct or Oppositional Defiant Disorders (DSM-III-R classifications)(see Appendix A) will be used throughout this paper when discussing child behavior that disturbs adults including conduct problems, attention span, impulsive, and hyperactive symptoms. Additionally, the methodology used in the project will be delineated. Finally, the results of the research will be presented followed by discussion of the results. In view of the paucity of research on

Puerto Rican children regarding these diagnostic classifications, I have used research findings both from United States and other countries and from other ethnic minority groups to provide information and to illustrate problems in assessment. Before presenting and discussing the literature available on Attention-deficit/Hyperactivity, Conduct, and Oppositional Defiant Disorders, I will briefly describe the Puerto Rican population.

Puerto Rican Families: An Examination of the Ideology

To be able to understand behavioral problems in Puerto Rican national children it is crucial to present an overview of Puerto Rican values, familial structure, and the cultural **ideal** of what a well-functioning Puerto Rican family is (Bernal & Flores-Ortiz, 1984).

People in a culture share a social reality and a similar value system which provide common meanings to everyday life experiences. Thus, individuals may define their identities as long as they share meanings with others in the community-at-large. The family is the basic social institution in charge of teaching these meanings to the children, therefore, preserving the culture. Family structure and function are largely determined by economic and cultural factors. As a social institution, the family has a dynamic structure which responds to the historical present consonant with society's development. As cultural and societal processes condition family life, so does family life change and condition the culture.

All societies exert pressure on their members, especially on their children, to conform to societal norms and behavior (Zern, 1983, 1984). People follow codes of behavior and provide rewards and punishments to enforce them. The codes also provide alternatives for possible deviations to make the latter socially acceptable.

The Traditional Puerto Rican

Traditional Puerto Ricans share a particular way of viewing social reality. "Respeto" (respect), honor, and dignity are central aspects of interpersonal relationships. Honor and dignity focus on inner qualities while "respeto" acknowledges another's social worthiness and "makes everything possible or impossible" (i.e., if these attributes are held, a wide range of behaviors are permitted in interpersonal relationships; if lacking (the attributes) many behaviors are not allowed and can even be considered offensive) (Garcia-Prieto, 1982). A core of personal characteristics distinguishes **traditional** Puerto Ricans. They are expected to be brave, sound, serious, responsible, capable and worthy; a **man of few words.** The model presupposes a man "in peace with himself" (Diaz-Royn, 1976). Interestingly, although these characteristics are shared by men and women alike, the anecdotal information (e.g., expressions) gathered and the literature review present it as typical of men.

Traditionally Puerto Ricans' code of behavior allows them to legitimate not only their behavior but their relationships as well. Interpersonal relationships are characterized

by mutual "respeto", trust, and consideration. People associate with those who share their values and offer them unconditional acknowledgment. These basic qualities help to keep and maintain close, interpersonal relationships.

Puerto Ricans tend to prefer cooperative to competitive modes of interaction (Bernal & Flores-Ortiz, 1984). They also place emphasis on a peaceable demeanor reminiscent of Taino Indians (inhabitants of the island when it was discovered), on tranquility, and on kinship and dependence of the group (Garcia-Prieto, 1982). Bird and Canino (1982) suggest their "tranquility" is really a passive-aggressive trait derived from double standards relative to the emphasis placed on control of aggression on one hand and the expectancy of being bold and daring on the other.

Characteristics of the Traditional Puerto Rican Family

Puerto Rican family values must be understood in the context of their culture: a heterogeneous, complex, stratified society which has always been under the influence and dominated by a more powerful nation. Characteristics of the Hispanic heritage such as the Spanish language and extended families lend uniformity to the insular culture. Puerto Rican families maintain a bond of loyalty and unity which includes nuclear family members, extensive kinship networks comprised of grandparents, uncles, aunts, blood relatives as well as fictive kins such as godparents of one's children and neighbors (Bernal & Flores-Ortiz, 1984). Usually the relatives live close by and are involved in helping to rear the

children (Bird & Canino, 1982). Elderly people are revered by children and adults alike and are usually treated with extreme "respeto".

The cult of virginity, which is closely tied or complemented by the "machista" ideology, demarcate sexual behavior. These characteristics, once typical of the rural culture and the Hispanic heritage, are shared in varying degrees by all families regardless of their social class status. Munoz-Vazquez and Fernandez-Bauzo (1988), however, have found a higher degree of authoritarianism and "machismo" ideology in couples from the urban working and middle classes. Gender roles are clearly delineated, although more flexibility can be observed in higher social classes (Bird & Canino, 1982). Religion plays an important part in family life. Family members---mostly women and children---pray together and seek counsel from priests and ministers of religion. Their prayers to superhuman powers are usually expressions of hope, gratitude, and requests for help to overcome their problems. Until recently, children used to ask for the blessing ("bendicion") of adult family members (Zayas & Bryant, 1984).

In summary, in the Puerto Rican culture the family is the main social institution by which an individual defines his/her identity. Family members support and protect each other "through thick and thin". This family orientation makes of the Puerto Rican family a strong and positive

influence in a child's socialization process (Zayas & Bryant, 1984).

Family Relationships

Man and woman

As in other countries, the roles of husband and wife are acquired when a man and a woman align to each other, legally through marriage or consensually. Puerto Rican marital relationships are still characterized by a patriarchal structure, dominated by the father or a male figure, who is an absolute authority and usually the main provider (Bird & Canino, 1982; Munoz-Vazquez & Fernandez-Bauzo, 1988). Within the patriarchal family organization there is rigid division of labor where the housework and the care of the children are assigned to the woman and the public labor sold for a wage to the man. Further, the woman is in a subordinate position in relation to the man, and both wife and husband share a strong sense of ownership toward each other, but most often the husband toward the wife (Munoz-Vazquez & Fernandez-Bauzo, 1988). Men are supposed to be good fathers, good husbands, and good citizens; women take care of their children and their husbands and are respectful wives. They are able in the domestic domain, but give up their leadership as soon as the husband is present. In the marital relationship the wife expresses affection in the privacy of the home, but public expression of feelings is not seen with good eyes. The man holds an instrumental gender role: he takes charge of the family's welfare and well-being. His main responsibility is

to provide for the family in the present and to build up a future for them. In contrast, the woman holds an affective gender role: through her the children learn about emotional caring and closeness and to trust others. Traditionally, for the Puerto Rican woman, her wife's role has been assumed to precede all other adult female roles, and its acceptance has implied acceptance of the related roles of housewife and mother. If she cannot provide that care herself, she must arrange for others, usually a grandmother, to do so.

This relational pattern involves a parental role that is primarily child and family oriented. It is a complementary pattern, similar to the ones observed in southern Mediterranean cultures (Campbell, 1964), which originates in the island's Hispanic heritage. As Zayas and Bryant (1984) point out, successful parenting results in reinforcement of the parents' sense of honor and dignity and enhancement of their self-esteem through the respect and admiration they receive from family, friends, and community.

Parent and child

Some researchers have reported that parent-child interactions are best portrayed by an authoritarian discipline pattern (e.g., Bird & Canino, 1982; Zayas & Bryant, 1984), with the father being morally responsible for the respectful behavior of his children and the whole family. In this view, children do not usually see the mother as an authority figure as she relies on the father to enforce compliance (Rodriguez, Gonzalez, & Nunez, 1978). The children learn to value their

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parents' efforts and actively participate in the family's tasks to support its organization. In addition, parents are obliged to make all kinds of sacrifices for their children; for them they will "count the grains of sand in the sea". Offsprings in return are expected to show gratitude, that is, assume responsibilities for younger brothers and sisters and parents in old age.

Although this pattern seems to work when both father and mother are present, it is my impression that it creates a problem for the single woman with children because first, she lacks practice in enforcing compliace, and second, children do not see her as having 'real' authority since it is a characteristic outside of her parental role. When faced with her children's noncompliance, she feels out of control and may resort to severe physical punishment as a means to control her children.

The Puerto Rican child is taught early in life to behave in a manner that will not bring shame ("verguenza") to the family. A strong emphasis is placed on the unquestioning obedience of children toward their parents (Zayas & Bryant, 1984). Children show "respeto" toward adults, those in authority and elders by politeness and absence of eye contact (Bernal & Flores-Ortiz, 1984). Children that do not show "respeto" are severely censured and make the family an object of criticism from the entire community. All disciplinary techniques and valued attributes of dependence, obedience, passivity, and control of aggression are developed as a

function of "respeto", which at the same time impose social distance (Bernal & Alvarez, 1983). It seems that this social norm maintains the Puerto Rican cooperative mode of interaction. Actully, as Zern (1983) has pointed out, obedience training is related to social pressure to become group oriented rather than individually oriented.

Puerto Rican children are "to be seen and not heard"; they are not believed to be capable of acting independently until they reach "maturity", which is postponed until they demonstrate their ability to assume personal responsibility (i.e., by working and marrying), regardless of physical and emotional development of the child. Further, their incapability leads to parental overconcern and overprotection (Garcia-Prieto, 1982). For example, in contrast to United States where children tend to leave home earlier, Puerto Rican children do not leave home until they marry. This, for women, means lengthening their role of mother and homemaker.

Dependence is inculcated through disciplinary techniques and the idea of sacrifice (Bernal & Alvarez, 1983). The violation of family rules brings about demands for conformity and punitive measures, such as restrictions on social activities, curfews, etc. Although stern punishment is common, children are highly valued in Puerto Rican families. They are cared for and loved by parents and extended family and in that way they learn to relate to others according to their gender, age, and socioeconomic level.

Within the Puerto Rican culture, there are different gender role expectations for males and females. Puerto Rican boys and girls grow up and develop in an atmosphere that does not offer the opportunity to feel they are equal. This ideology is transmitted by means of child-rearing patterns and education, hence reinforcing men's and women's differences since childhood. Girls and boys are maintained in their places, trapped in the idea that there are certain behaviors natural to each gender. Boys are directed to be free, masculine, aggressive, and to show sexual expression, while girls are reinforced for being weak, passive, and submissive while engaging in the care of others as an extension of herself (Cortes et al., 1984; Santiago-Marazzi, 1984).

In the mother-daughter relationship, a narrow, female gender role is taught early in a girl's life. Mothers closely supervise and protect their daughters, even though they are indulged, but emphasizing obediency and control of anger. Thus, the girl's social behavior is defined by this value system. Although before adolescence some freedom is allowed in a girl's interaction with boys, in adolescence more restraint is expected. She is required to keep her virginity and "purity." Actually, if she behaves differently, she brings shame to her family. Heterosexual relationships after adolescence must be serious, enduring relations with marriage as an ultimate goal (Zayas & Bryant, 1984). This traditional woman image and relational structure is reinforced by public opinion (e.g., literature, radio, and

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TV) (Acosta-Belen, 1980; Arrillaga, 1984). Nevertheless, in education, females seem to have the advantage over males and they can accomplism things through education endeavors (Christensen, 1979).

Conversely, the mother accepts "mischievous macho and sexual behavior" of her sons. As an adolescent he is expected to seek sexual experimentation and expression. Marquez (1963) has rightly noted that the socialization process breeds the "macho", a "combination of virtue and sin" (Garcia-Prieto, 1982), an aggressive, bold, but irrational man who often attempts to assert his power and virility while placing severe restrictions regarding female's freedom. Further, the demands for obedience are found to be much higher with boys than with girls (Bird & Canino, 1982). This social maneuver, although seemingly contradictory to the ascribed role of the male child, seems to aim for the development of internal control which will hopefully result in a competent adult male, able in his social role. **Traditional** Puerto Rican family values create a conflict for Puerto Rican boys. A submissive child fits with the female role, but not with the male role in Puerto Rico, where males should be aggressive and daring and at the same time be "good boys" meaning respectful, accepting, and obedient (Nieves-Falcon, 1972).

The Impact of Social Change on Family Structure and Family Relationships

The situation of the Puerto Rican family needs to be understood within the diverse socioeconomic and cultural

context throughout Puerto Rican history and in the context of a society in the process of developing into a capitalist economy. Central to the Puerto Rican family's development, are the dramatic changes that the Puerto Rican society has undergone over the past several decades. In a few years Puerto Rico evolved from a rural society to a predominantly urban one and from an agricultural economy to an industrial one.

The transformation of the island's economy to an industrial technological system had an impact in the traditional Puerto Rican patterns and values that were characteristic of the agrarian society, and consequently, in the traditional social structure (Azize, 1979, 1985). It had an effect on the Puerto Rican family size and structure, and definitely altered the perception that Puerto Rican women have of themselves (Rivera-Quintero, 1980). Furthermore, the acculturation process resulting from the large migration waves to the United States, paired with the phenomena of return migration, and the colonial status of the island have resulted in a strong Americanizing influence on traditional cultural values (Bird & Canino, 1982).

Industrialization and technical advancement liberated women from some of their domestic responsibilities and freed them to pursue personal development and to receive adequate education (Acosta-Belen & Sjostrom, 1980; Fernandez-Cintron & Rivera-Quintero, 1974; Silvestrini, 1980). Fernandez-Cintron and Rivera-Quintero (1974) have pointed out that, for women,

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going to work was a form of liberation, as it provided them with a certain degree of economic independence. They were unable, however, to liberate themselves from the primary responsibility that society gives them, the home. Rivera-Ramos (1985) who has examined this area, has stated that although there has been an increase of women in educational institutions at all levels, on graduation women continue to experience prejudice and discrimination in terms of the jobs they are offered as well as in terms of salaries and promotions. They are not used according to their academic preparation, and the jobs they perform are also traditionally feminine (e.g., teaching, clerical work). In the period between 1977 and 1978, female work force participation was only of 28.2% while the male work force participation was of 63.1%. For 1985, more than fifty percent of the women who were married did not work (Acin, 1979; Vazquez-Calzada, 1986). Of the women who were not working, seventy-three percent said that housework and child care prevented them to do so.

As the economy of Puerto Rico became more industrialized, a new social base was created--the urban working class. This social class represents an urban mass that has retained a great deal of its previous rural cultural heritage (Bernal & alvarez, 1983). In contrast, the urban middle class, as well as the wealthy families, progressively correspond to the family type characteristic of modern industrialized societies. That is, a small family constituted by the

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parents and their children (Carnivali, 1987; Vazquez-Calzada, 1978, 1986). The Puerto Rican woman, which in the past did not have much choice regarding the mother's role, with the greater availability of diverse and effective birth control methods on the one hand and her increased ability to make decisions and to exert control on the other, has increased her degree of choice over the mother's role.

Traditional Puerto Rican family values create a conflict for Puerto Rican women. The feminine values emerging from a new life style as a result of women's massive incorporation into the labor's force come in direct conflict with traditional values. In many cases, the current Americanizing trend of assertiveness, independence, and sexual freedom is at odds with the ideal of female conduct. As a response, and in their effort to preserve a valued traditional public image, middle-class women resort to manipulation as a direct way to influence their husbands rather than using more direct and confrontative tactics in their efforts to establish themselves as significant and powerful (Lopez-Garriga, 1980).

Socioeconomic changes have had an impact in marriage as more women want to relate to men on an equal basis. On requesting more equality in their relationships many marriages have not been able to stand the strain and separated (Munoz-Vazquez, 1980, 1985). After 1950, the divorce rate in Puerto Rico raised dramatically. The current rate of female-headed families is between 18% and 21% (Munoz-Vazquez & Fernandez-Bauzo, 1988; Vazquez-Calzada, 1986). In addition, consensual

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relationships are on the increase (Vazquez-Calzada, 1986; Vazquez-Calzada, Cunningham, & Morales del Valle, 1981). Better educated women more frequently live in the least traditional family organizations (Vazquez-Nutall, Romero-Garcia, & De Leon, 1987).

However, the Puerto Rican woman is far from being in equal position to the man. The male dominance and female submissiveness is fostered through the socialization of children and perpetuated by the capitalist ideology. The stereotyped concepts that are held and maintained about both men and women in the society considerably hinder women's active participation in other environments apart from the home. Sexism and masculine chauvinism are profoundly rooted in Puerto Rican culture and society and there is a strong tendency to discount the situation of women's equality as just another expression of the North American influence in Puerto Rico (Fernandez-Cintron & Rivera-Quintero, 1974; Valle, 1980). The inequities found in the machista ideology, overtly or covertly, pervade the education system and interpersonal relationships (Pico, 1989). Munoz-Vazquez (1985) have reported that although married women perceive themselves as powerful and having more personal freedom than divorced women, men continue to make more decisions, start sexual relations, and socialize alone while women continue to do the housework and take care of children.

It is outstanding that the changes in Puerto Rican economy which have had such a significant impact in the role

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and situation of women has left the highly restrictive patriarchal family structure unchanged. In general, the transformation that have occurred in the Puerto Rican culture has not removed the subordinate role the woman holds in her relationship with the Puerto Rican man. Thus, the male dominance of the family is maintained. The specific form of family organization (the patriarchy) with its unfair division of labor, especially those that confine the women to the domestic domain and the sense of ownership of the husband toward the wife, form the basis of the difficulties with which couples confront themselves. Further, the role of bread-winner still comes to rest squarely on the shoulders of men, and by the same token, the blame if he cannot be "a good provider" (Acosta-Belen, 1980; Azize, 1985; Lopez-Garriga, 1980; Munoz-Vazquez, 1978, 1985; Munoz-Vazquez & Fernandez-Banzo, 1988; Ostolaza-Rey, 1989; Pico, 1989; Valle, 1980).

Contemporary Puerto Rican researchers have begun to uncover the depth and pervasiveness of men's and women's relational patterns. It is a fallacy to assume that femenine emancipation depended on the incorporation of women in the labor market. One of the things that is becoming increasingly clear is that the participation of women in the job market, electoral participation, more education, and even new laws, have not been able to resolve the discriminative situation that Puerto Rican women face. The specific character of the subordinate position of the woman is also determined by her rol in marriage, in the family, and as a

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mother (Azize, 1985; Ostolaza-Rey, 1989). The complexity of the dynamics has only accentuated the role differences and the inequality of status and power. Pico (1980) has argued that it appears as if capitalism strengthened the patriarchal organization in Puerto Rico.

It is necessary to point out that this line of analysis focus on the social role of women. Puerto Rican men did not experience social transformation as drastically. They had been outside the home and knew how to be in work relationships. For them, there was no direct need to change old value systems. It is evident, however, that men are also immersed in the Puerto Rican social system, and concomitantly, the process carries consequences for them as much as for women.

The above exposition leads me into a brief discussion of the parenting dimension of Puerto Rican families. The patriarchal family structure continues to be defined by an authoritarian discipline pattern and deep parental love and overprotection for children. At least in appearance, the father still represents the parent responsible for the respectful behavior of his children even though the mother is the person regularly in charge of discipline (Rodriquez et al., 1978). Many adults participate in child-rearing functions and sanctions are provided for transgression. Further, within the Puerto Rican culture there are different socialization patterns for boys and girls, hence reinforcing gender differences since childhood (Bernal & alvarez, 1983).

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Although there is general agreement of the generalized portrait of man/woman pattern of relationship, child-rearing patterns of Puerto Rican families have not been extensively studied. The few studies that do exist are descriptive and typically emphasize the importance of dependence, obedience, passivity, and control of aggression as a function of "respeto", the core of personality traits. It is generally accepted that child-rearing practices are related to behavior patterns of their children and to the acquisition of culture. However, it is not clear how the Puerto Rican child have reacted to the transformation in his/her mother's social role, to single parenthood (for some), and to the acculturation process resulting from United States' influence on one hand and the unchanged patriarchal family structure on the other. Indeed, it is possible that exposure to different experiences may result in the development of considerable different patterns of behavior for Puerto Rican children.

In sum, the traditional traits which can be identified in different degrees on all Puerto Ricans are derived from the profound cultural reality of the country. For Puerto Ricans, traditional values are seek to preserve what has been called their "stubborn" national identity (Gonzalez, 1986). Within this context one must view the status of the Puerto Rican family. The family's situation is intertwined with that of the culture in an industrialized society. The Puerto Rican culture is in constant vacillation between the old Hispanic-traditional-agricultural heritage and the new Anglo-

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consumeristic-industrial influence. Each new generation is faced with two realities, current Puerto Rican reality and past Puerto Rican reality. The Puerto Rican family, as a social institution, has a dynamic structure which is in constant interaction with the environment. This process carries the possibility of evolution, renovation, and change. The past is not left behind, rather it shapes and is absorbed into the present. The process of growth will emanate from the consolidation of the past and the present. Even if social changes have been indeed substantial, things have begun to change only recently. The fact that cultural norms change slowly cannot be ignored.

Classification Systems

In the past, children's emotional problems were classified according to adult standards. Definitional problems for children have been addressed only within the last 15 years and remain unresolved (Boyle & Jones, 1985). Before the etiology and treatment of children's behavior disorders can be reasonably examined, the disorders themselves need to be described. For descriptive effectiveness and generalization, there is a need to develop more objective, precise means of delineating and defining behavioral abnormality (Lapouse & Monk, 1968).

Clinical diagnosis of childhood disorders predominantly centers on two broad-based categories, emotional and behavior disorders (Quay, 1977; Rutter, 1976). The content of these diagnostic entities closely resembles the two major symptom

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clusters that have been derived empirically in a number of different studies (Boyle & Jones, 1985).

Emotional and behavioral disorders refer broadly to persistent dysfunctional mental processes and the affects and behaviors (social actions) linked to them. Moreover, these disturbances differ conceptually from disorders of cognitive functioning and are linked closely to prevailing social values, particularly those delineating acceptable feelings and approved behaviors (Thompson, 1962 cited in Boyle & Jones, 1985).

Emotional disorders are usually defined by clusters of symptoms associated with disturbances of emotion, behavior, and personal relationships. These states are experienced individually, appear to exist on a continuum (e.g., happy, sad), and have physiological correlates and behavioral manifestations. The criteria for determining the presence of an emotional disorder requires consideration of the frequency, duration, seriousness of symptoms, and degree of impairment. On the other hand the essential feature of behavior disorders is a socially undesirable pattern of behavior (e.g., fighting, stealing, lying). This pattern of behavior is observable and may reflect inadequate social bonds and violation of age-appropriate social norms. The severity of the symptoms (e.g., thefts, physical violence, arguing, noncompliance), repetitiveness, and an enduring pattern of conduct are essential features contributing to the diagnosis of the disorder (Boyle & Jones, 1985).

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There are two major contrasting conceptualizations of behavior disorders. The descriptive, qualitative model provides explicit diagnostic criteria for the diagnosis of each childhood psychiatric disorder. It also holds that a disorder is either present or absent and all or nearly all the symptoms must be present before the disorder can be considered to be present. The DSM III-R exemplifies this approach. In contrast, the quantitative or dimensional model views a disorder as a group of symptoms with the number of symptoms present being a measure of the severity of the disorder. This approach relies on statistical procedures to define clusters of intercorrelated behaviors to form a dimension. All individuals have a place on the dimension and most people fall on the low end of the scale (Quay, 1983). Nevertheless, as Stein and O'Donnel (1985) have noted, there has been a gradual convergence between the qualitative and empirirical approaches to measuring childhood disorders which eventually may result in a useful classification system.

Currently, whether a descriptive or a dimensional view is taken has a vast impact on the diagnosis of a disorder since both models depend on different diagnostic criteria. While the descriptive model holds that a disorder is either present or absent, the dimensional models views it as having different levels of severity (Quay, 1977). Consequently, different results will be found when studies depend upon either a descriptive classification or a dimensional one to determine the presence or absence of these disorders. For

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example, with respect to prevalence of Attention-deficit/ Hyperactivity or Conduct/Oppositional Disorders, the apparent differences between British and American estimates are largely resolved by consideration of the severity criteria and approach to determination of the disorder (Glow, Glow, & Rump, 1982).

Measurement Criteria

Several criteria have been proposed for establishing the validity of diagnostic categories (Rutter, 1977) and for epidemiological research in general population (Boyle & Jones, 1985). The most fundamental criteria are that the syndrome (a) be identifiable (i.e., to be able to classify individuals into a set of predefined categories), (b) must constitute a handicapping condition, and (c) differentiate among individuals in terms of clinically relevant phenomena such as etiology, course, prognosis, and response to treatment.

Cross-cultural Psychology

Assessment of psychological states and behavior is problematic for both mainstream and cross-cultural research. As Rohner (1984) rightly noted, behavior in human population is variable with respect to virtually every dimension one wishes to explore. However, the application of psychological procedures and methods with ethnic minority groups raises particular methodological issues (Jones & Thorne, 1987; Sue & Sue, 1987). Clinical psychologists have become increasingly aware of limitations in assessment tools used to evaluate the psychological states of ethnic minority groups. These

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limitations are particularly apparent when assessment instruments have not been standardized or validated on these groups and when the ethnic individuals are markedly different from mainstream Americans (Sue & Sue, 1987). Closely linked with assessment limitation is the adequacy concerning methods to do multicultural research.

Still, as Butcher (1987) has indicated, psychological theories and techniques have long been interchanged between scholars from different cultures. Indeed, some measures and viewpoints have flourished in a country very different from their place of origin (e.g., Stanford-Binet Intelligence Test). Nevertheless, there are problems that need to be addressed when applying techniques developed in one culture to individuals from another culture (Butcher, 1987; Jones & Thorne, 1987). The latter have advocated for the use of a cross-cultural paradigm that is sensitive to the cultural loading in our measures and to the problems associated with the interpretation of the data. Rohner (1984), who has contributed significantly to cross-cultural research, has stated that cross-cultural psychologists are interested in the way behavior and meanings of behaviors affect and are affected by psychological and developmental processes and issues of mental health and illness, including etiology and prevalence of different syndromes.

From the point of view of cross-cultural research, four main methodological issues have been raised regarding clinical assessment and research (Clark, 1987; Jones & Thorne,

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1987; Rohner, 1984; Triandis & Brislin, 1984). A primary concern has to do with construct definition, namely, what is it that our procedures and measures actually allow us to know and understand (Clark, 1987; Jones & Thorne, 1987)? Until recently, it had been assumed that standard measures could adequately map the experience, reality, and meanings of a particular population (Jones & Thorne, 1987). Lately, however, it has been consistently noted (Jones & Thorne, 1987; Rohner, 1984; Triandis & Brislin, 1984) that concepts may not have the same meanings across cultures. That is, that there may be some universal aspects to a concept and also a culture-specific meaning. This point of view, which has been called in psychology the emic-etic distinction (Star & Wilson, 1980), is helpful in differentiating aspects of concepts which are culture-common (etic) from culture-specific (emic) ones. Rohner (1984) suggests that concepts have both an etic core and an emic coloring of that core. From this model, cross-cultural research can often identify a universal core of meaning of a theoretical construct as well as variations of the meaning of the construct.

The second issue, closely related to the first one, is that multiple meanings for what seems to be the same concept also arises when attempts are made to translate from one language to another (Candell & Hulin, 1986; Rohner, 1984). Equivalence of meaning concerns the question of whether different forms of a measure or procedure are tapping the same construct. Clark (1987) has indicated that lack of equivalence

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of meaning (i.e., when measures are translated from one language to another) is an important source of variance. A backtranslation technique has been suggested to identify basic errors in translation. This technique requires for the material to be prepared in an original language version and it passes through the efforts of several bilinguals. Some translate from the original to the new language, and others translate back from the new language to the original and the original material is modified to clarify it. The goal is to be able to express the concepts in the two languages. There would have to be words in the new language for the concepts to survive the translation into and out of the new language. If the wording in the new language is different, then there may be emic coloring of the concepts (Triandis & Brislin, 1984).

A third issue in cross-cultural research has to do with methodology. The mono-method when doing cross-cultural research has been critized (Rohner, 1984). Some researchers (Clark, 1987; Rohner, 1984) advocate for the use of multiple methods (Cronbach & Meehl, 1955) for construct validation. Jones and Thorne (1987) propose the use of the factor analytic method because it helps to clarify the meaning of dimensions in different populations. Namely, is the factor structure of a scale similar or universal (etic) in nature or is it different (emic) to other countries? These researchers further observe that conventional inventory-type measures can be adapted to different cultural groups if matters such as

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backtranslation, equivalence of factor structures, and intercultural generality of tests constructs are worked out and if normative studies are conducted. Similarly, they emphasize the need to find evidence, through validation studies, that the diagnostic classification system from which a scale is derived is applicable cross-culturally.

A fourth persistent problem in cross-cultural research, which is of particular interest in this study, is the percentage of items endorsed differently by ethnic minorities and dominant culture groups. Studies have consistently shown that the endorsement rate for scale items among, for example, Black-American, Hispanics, and Anglo-Saxon, is different for a very high percentage of items (e.g., Waechter et al., 1979). Jones and Thorne (1987) propose that this happens because the content of these items is culturally sensitive.

The problems in cross-cultural or intercultural assessment are also illustrated in the evaluation of psychological dysfunction, especially as measured through conventional inventory-type measures. There is significant evidence that minority status or ethnicity introduce important sources of variation on such assessment instruments (e.g., Waechter et al., 1979). Two possible ways to resolve the dilemma are 1) renorming standard measures or 2) constructing entirely new, culture-specific instruments.

Jones and Thorne (1987) posit that although the construction of new norms acknowledges the pluralistic nature of United States society, it fails to consider important

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sources of variation in the minority groups (e.g., education, regionality), processes of acculturation, and the dynamic, everchanging nature of society. Although these investigators accept the necessity to develop new norms for scales to be used with ethnic minority groups, they express:

> "...we would be confronted with an array of new norms for many different population subgroups and with a growing proliferation of a psychotechnology that places us at an ever increasing distance from the subject of our inquiry" (Jones & Thorne, 1987, p. 489).

In their view, it might be wiser to adapt measures to an ethnic minority contained within national boundaries (i.e., ethnic minority who live in their country of origin) than to United States ethnic minority populations because of the complexity of the latter. For example, renorming scales for Hispanics, would require, at the very least, an adequate sampling for regional differences, and still, would the new norms be valid for distinct Hispanic subgroups? The adaptation of conventional measures to United States Hispanic ethnic minority groups is hindered by the heterogeneity of its population (e.g., Cubans, Mexican-Americans, Puerto Ricans) (Jones & Thorne, 1987). Although these Hispanic minority groups have a number of shared characteristics, they have different attributes as well. It has been suggested (Bernal & Flores-Ortiz, 1984) that these ethnic minority groups share language, religion, philosophy of life, family structure, and marriage and gender roles. However, there are differences in class and historical roots of Hispanics living

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on the "mainland" (United States). For example, Mexican-American and Puerto Rican migrants are largely drawn from the lower socioeconomic strata and their decision to emigrate was often economic, differing from members of other Hispanic groups (e.g., Cubans), who came to United States for political reasons (Bernal & Flores-Ortiz, 1984; Panitz, McConchie, Sauber, & Fonseca, 1983). Further, some Hispanics are recent arrivals while many have resided in the United States for generations.

The other proposed alternative to mainstream assessment procedures advocates the constructing entirely new, culture-specific instruments. This solution foregoes inter-cultural assessments entirely, and indeed, challenges the soundness of applying any assessment procedure in cross-cultural comparisons. The rationale behind the construction of these culture-specific measures is that they more accurately reflect minority experiences, values, and personality characteristics than do conventional measures.

Yet, the question remains; do these culture-specific measures truly enlarge our understanding of human behavior and of its deviations? In some ways, such culture-specific measures seem to repeat the problems of the conventional mainstream measures. They tend to ignore the heterogeneity of ethnic or culture groups (e.g., religion, geography, social status differences, generation). Further, such an approach fails to address one of the most difficult and persistent problems in cross-cultural assessment, how to

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ensure that assessment techniques adequately reflect the experience of a cultural group and at the same time facilitate the communication of findings among communities of scholars, which will find it difficult to develop comprehensive understandings if assessment procedures are highly specialized and are not comparable across samples. Clearly, the problems in adapting or developing measures for minority groups are far from being thoroughly worked out, and it is difficult to imagine that they ever entirely will be (Clark, 1987; Jones & Thorpe, 1987).

How can mainstream psychology benefit from cross-cultural research? Obviously, its importance is of interest far beyond its epidemiological value because cross-cultural research may result in theory development and in a better understanding of important variables (e.g., gender, socioeconomic status). Cross-cultural research may also increase the range of variables, for example, age at which an event occurs (e.g., weaning), allows examination of the context in which behavior occurs, and lastly, permits the unconfounding of variables that occur together in any one culture (Brislin, 1983; Rohner, 1984; Triandis & Brislin, 1984).

Clark (1987) has stressed the need to identify commonalities between variables that are clearly related but have different manifestations across cultures; therefore, clarifying which factors are responsible for cross cultural differences or mediate patterns of similarities and differences. Such variables as gender, age, socioeconomic status, and education

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(i.e., demographic variables) are popular addition to studies. However, the demographic variables which we ordinarily treat as independent variables are themselves no more psychological than is culture (Sechrest, 1976). A problem with demographic variables in psychological studies is their diverse sources of variability which makes difficult, if not impossible, to know what specific characteristics might have been involved in an outcome. The solution would seem to lie in developing measures, or using those available, of the variables for which demographic variables are surrogates. Hence, if one is interested in children's behavior problems, then a direct measures should be included in the study. In that way one not only has a more certain knowledge of just what variable is implicated in an experimental outcome, but one can determine whether the obtained pattern of similarities or differences exists within the specified demographic variables, and hence is a genuine experimental effect (Sechrest, 1976). An investigator who is not specifically concerned with cross-cultural research has suggested

> "...a variable framework that allows the investigator to delineate the "meaning" of some demographic variables (e.g., age) in other than a purely demographic sense. Put another way, what is necessary is a scaffolding that delineates which psychological and social influencing structures are important, and that also allows for developmentally linked variations in the extent to which different structures play a role at different stages" (Zucker, 1984, p. 1).

It is within this framework that attention to those aspects of one's demography that impinge upon life style

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(e.g., what gender one is, whether one lives in an urban as compared to a rural area, what school one attends) assumes special importance (Zucker & Noll, 1987). Further, Clark (1987) has pointed out the importance to clarify relationships between variables at a psychological rather than a demographic or sociocultural level. She suggests that this type of analysis could help to examine in-group variability (e.g., gender differences in certain disorders).

At another but related level is the prominence cross-cultural psychology gives to culture as the independent variable. However, culture per se is not a variable, but rather it is composed of numerous separable factors (characteristics of the culture). Cross-cultural investigators have further proposed that cross-cultural research needs to attend simultaneously to culture and to behavior of individuals as a product of culture (Sechrest, 1976; Segall, 1986).

In sum, all of these issues are of special concern to the cross-cultural studies field. It is in this context that cross-cultural researchers must define their tasks in the search to sort the universal from the culture-specific.

Rating Scales

There are multiple techniques available for the study of social patterns and the behaviors of children. Measures may vary in their utility for purposes of initial assessment, diagnosis or delineation of groups, and for evaluation of changes in specific behaviors over time. In the recent literature, increasing use has been made of behavioral observation

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methods and behavior rating scales. For some applications, judgements by raters are most effective; for other purposes, behavior observations have been seen as the method of choice (Cairns & Green, 1979).

The distinguishing characteristic of rating scales is that they involve a judgement on the part of the observer in regard to the placement of an individual on some psychological or behavioral dimension (Cairns & Green, 1979). They also help to quantify the everyday judgements each of us make about other persons.

Generally the rating scales consist of a series of characteristics or behaviors which are judged by the rater in terms of the degree they are exhibited by a child. Behavior ratings from reliable and valid scales for which there are normative data have a firmly established place in assessment. Such ratings are simple, quick, and inexpensive to obtain and permit clinicians, parents, teachers, and other caretakers to describe their observations of a child in a systematic and useful way (Briggs, 1981). In addition they are easily converted into a score or diagnosis.

Rating scales are not exempt from problems. They measure a narrow range of dimensions, contain few items tapping the behavior under study, and are subject to halo effects leading to excessively high or low ratings (e.g., teachers may be responding to behavioral impulsiveness with a negative halo, viewing impulsive children as having many concomitant behavioral characteristics whether or not these behaviors cluster

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empirically). It has also been noted that rating scales are unstable across time and thus the differences between pretest and posttest ratings cannot be attributed wholly to intervention effects and often show a lack of congruence when the same child is assessed by more than one adult (Whalen & Henker, 1976).

However, behavior rating scales for Attention-deficit/Hyperactivity, and Conduct/Oppositional Disorders are frequently used as screening devices, as part of a diagnostic battery, and in research. Two of these scales, which are useful in school, in the clinical setting, and in research are the Revised Conners's Teacher Rating Scale (CTRS-R) (Goyette et al., 1978) and the modified Behavior Problem Checklist (BPC) (O'Donell et al., 1982).

In measuring Attention-deficit/Hyperactivity and Conduct/Oppositional Disorders, both conceptual and empirical approaches have tended to use observation and responses from clinic populations even though childhood disorders conceived in this way exist very infrequently in the general population. In addition, it seems that when Anglo-American teachers rate poor children and children from different ethnic backgrounds, the clusters in the rating scales take on unique forms (O'Donnell et al., 1982; Waechter et al., 1979). Specifically, there are differences in terms of total score and patterning of scores (some would be rated as more hyperactive than others according to total score) and as exhibiting different types of behavior (according to frequency of

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ratings on various items). The children in these studies, although labeled Attention-deficit/Hyperactive or Conduct/Oppositional Disordered, were different from the Anglo-Americans in that they were not acting the same way or doing the same things. Although the CTRS-R and the modified BPC have been widely used as screening devices, we could find no evidence in the literature that allowances have been made for possible cultural or ethnic differences in behavior patterns.

The main question raised by these findings has to do with the validity of the diagnostic dimension under study. If different patterns of correlations between items are found for different ethnic groups, do the scores on such dimensions have validity when extended to a different culture? In particular, do high or low scores on the dimensions characterize children who are identified (in the case of Attention-deficit/Hyperactivity and Conduct/Oppositional Disorders) as very active, aggressive, impulsive, and inattentive, namely, as having psychological problems and as being in need of treatment? Suppose, for instance, that Puerto Rican teachers might fail to distinguish any clear dimension of hyperactivity in behavior, the value of comparisons based on such a dimension would then be dubious. This problem has been highlighted by Jones and Thorne (1987) who reported that a consistent problem in cross-cultural research when comparing United States ethnic minorities and Anglo-Americans is the high percentage of items endorsed differently by United States ethnic minorities and dominant culture groups.

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I have also commented on the importance of identifying culture-specific and culture-common aspects of a concept to be able to examine the meaning and implications of differences between cultures. Jones and Thorne (1987) have suggested the use of factor analysis for examining dimensions in the ethnic minority country of origin before attempting to study it in this country. Several questions need to be answered: Will the factor structure differ as a function of the population? Is the factor structure equivalent to the factor structure found in United States or other countries? Although it is known that people from different cultures have different personal constructs and different ideas about what constitutes 'good noteworthy behavior', what do we make of differences, if found?

Therefore, it appears important to do epidemiological research within general populations from cultural backgrounds other than Anglo-Saxon to examine prevalence rates and clusters derived from rating scales measuring childhood behavior problems which tap behavioral differences between different dimensions of child behavior rather than cultural differences. There are many commonalities in disorders across cultures, but there are cultural differences as well in what behaviors are considered normal, in the frequency of diagnosis of disturbances, and in the expression of the disturbance (Rohner, 1984). Cultural influences should be taken into account in the formation of diagnostic classification.

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Teachers as Raters

Parents, peers, siblings, teachers, trained observers, clinicians, or the children themselves contribute to our attempt to gain a comprehensive and valid picture of a child's behavior. Each type of information represents unique perceptions, qualifications, and biases. There is no question that in our western culture parents are the most important adults in children's lives. They also are the most common source of child mental health referrals. However, parents identify only a minority of children eventually diagnosed by clinicians as having a particular disorder. Next to parents, teachers are often the second and sometimes the most important adults in children's lives. Aside from parents they have more contact with school-age children than any other adults (Edelbrock & Achenbach, 1984).

The identification of Attention-deficit/Hyperactivity, and Conduct/Oppositional Disorders most often involves the active cooperation of teachers. Teachers are acquainted with a broad range of children engaged in a large number of school activities and thus can compare children's behavior to the reference group. Teachers can also quickly complete questionnaires regarding behaviors occurring in a school situation. These questionnaires could be used to discriminate different types of behavior or emotional disorders as well as discriminate between children who show disorder and who do not. Teacher ratings have been found to be reasonably stable over time (Conger, Conger, Wallander, Ward, & Dygdon, 1983)

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and possess discriminative validity (e.g., Brown & Wynne, 1982). In addition, teachers are in an excellent position to observe children's social skills and peer relations and to observe children's responses to tasks that require sustained attention, persistence, and organization. Also because of the practical importance of the child's behavior in school, questionnaires completed by teachers are particularly useful screening devices (Rutter, 1967).

However, teachers may differ from one another in differences in their mean ratings (degree of leniency or severity), variances of ratings (central tendency), and range (anchor points and avoidance of extremes) (Conger et al., 1983). Moreover, research has shown that teachers' classroom behavior vary as a function of students' ethnicity. In a well-controlled study, Buriel (1983) examined Anglo-American and Mexican-American student-teacher interactions on fourth and fifth grade students. A dyadic interaction system was used to record interactions. Results showed that teachers more often praised Anglo-Americans than Mexican-Americans. The Hispanic children received less teacher affirmation following correct responses although Hispanic high achievers received more acknowledgment than Hispanic low achievers. These findings suggest that ethnicity affects teacher-student interactions.

It has also been reported that ethnicity coupled with social class status of the child may influence teacher ratings of Attention-deficit/Hyperactivity (Stevens, 1981).

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These findings will be discussed in a later section. Moreover, the highest rate of Attention-deficit/Hyperactivity as perceived by Anglo-American teachers has been in schools situated in lower socioeconomic neighborhoods and where Anglo-American children were a minority (Langsdorf et al., 1979).

Some analysts (e.g., Triandis & Brislin, 1984) have suggested that cultural differences may introduce errors of judgement when a person from one culture evaluates the behavior from another. In these situations, the evaluation is likely to be lower than when individuals come from the same culture. A possible explanation for the lower evaluation is that the teacher is often not aware of norms in another culture that require certain behaviors resulting in a lack of congruence between teacher held values regarding appropriate classroom behavior and the values transmitted to the children at home or among their peers (Langsdorf et al., 1979).

The question of whether or not ethnicity affects teachers' evaluation is a sensitive one because it raises concerns about teachers' prejudices. Further, a rating scale's reliability is unknown when used by a foreign teacher (i.e., the meaning of a high score in the scale might be different in the two cultures). However, it is known that many of the children's referrals to mental health services are a result of teachers' complaints about a child's classroom behavior to parents. In addition, many of these children are referred to treatment, including medication, and to special needs classrooms.

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Therefore, there can be serious consequences for children evaluated by teachers. Thus, it is necessary to examine the perceptions of teachers from the same ethnic background as their pupils, and see how they affect rates of Attention-deficit/Hyperactivity and Conduct/Oppositional Disorders and the derived factor structure of behavior rating scales for children as perceived by such teachers.

Classification and Measurement of Minority Children

Normality and deviance are culturally defined and may differ from time to time and for specific purposes (Benedict, 1934; Foucault, 1973; Szasz, 1961). Behaviors may be considered inappropiate in one situation or context and not in another simply because of differences in the expectancies of the people around the child (e.g., sleeping by oneself, weaning, Kauffman, 1981). Some behaviors may be accepted in one environment and rejected in another, thus becoming a problem only in the second environment. For example, certain behaviors which in a middle class, Anglo-American child may be considered symptomatic by a parent, teacher, or clinician may well be part of a family custom in a child living in a very different environment.

A study addressing this important issue was done by Korn and Gannon (1983). These researchers studied the relationships among temperament, cultural variation, and behavioral adjustment in two groups of Anglo-American and Puerto Rican five-year-old boys living in New York. No information regarding the generational distance from time of

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immigration to the United States for the parents or the boys was given. The Anglo-American boys were from middle-class, well-educated families and the Puerto Rican boys came from low socioeconomic families. The researchers reported more and different symptomatology in the Anglo-Americans than in the Puerto Rican children. In addition, a significant relationship was found between symptomatology and temperament in the middle-class children but not in the Puerto Rican children. The authors discuss cultural patterns in determining what is or what is not considered behavioral maladjustment. Parental handling of children varied considerably between middle-class, Anglo-American and Puerto Rican families. The latter made fewer demands of their young children for self-feeding, self-dressing, and bedtime. The children in Puerto Rican families presented fewer problems related to feeding and sleep than children from middle class families. On the other hand there is a greater concern among Puerto Rican families about discipline. Good behavior is expected in their children and they discipline their children more severely. Children in turn show more symptoms related to this area. Certain behaviors which were considered inappropiate in middle-class, Anglo-American families, in the Puerto Rican families were part of a family custom. An example is the Puerto Rican custom of the mother sitting by the child's bedside until the child falls asleep. The Anglo-American mother would likely consider the Puerto Rican mother's behavior inappropriate and would negatively label the child's

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behavior. The authors suggest that environmental demands and parental handling of children accounted for the development of behavioral difficulties in the Anglo-American sample.

Hobbs (1975) noted that diagnostic classification of ethnic minority children can profoundly affect what happens to them. Furthermore, he claims that the use of diagnostic labels because of deviant behaviors may have damaging side effects. He also reported that large numbers of ethnic minority group children—Chicanos, Puerto Rican, American blacks, Appalachian Americans—have been inaccurately classified as a result of unstandardized measures. As a result, these children were placed in inadequate special classrooms or treatment programs, which could have diminished the children's opportunities to succeed in life.

It is evident that economically disadvantaged families (e.g., immigrants, poor, large families) and their children run the risk of being labeled as deviant by the social class in control. This value system can permanently stigmatize a disadvantaged child and cause him/her to be left out of opportunities necessary for his/her normal development (Hobbs, 1975). An ethnic minority child may be assigned to an inadequate educational program or be committed to an institution on the basis of inappropiate diagnostic procedures and culturally biased assessments.

Besides, review of labeling studies reveals that many are flawed and inconclusive (Fernald & Gettys, 1980). Nevertheless, ethnic minority children with special needs do need

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assistance to develop their abilities and overcome their impairments. Labeling as a result of a careful evaluation by means of valid and reliable measures can open doors to services and experiences the child needs to grow in competence. Furthermore, other studies have demonstrated beneficial consequences of labeling, including greater tolerance for deviant behavior because people feel they better understand a child's behavior problems and that in turn they become more accepting of the child. It has also been suggested that given appropriate classification procedures, labeling then can be helpful, elicit altruistic responses from others, and increase tolerance of deviant behavior (Fernald & Gettys, 1980).

The main implication of this discussion is the urgent need to develop adequate classification procedures for ethnic minority children to be able to identify those children in need of services and to plan intervention programs.

Attention-deficit/Hyperactivity Syndrome

Evolution of the Syndrome's Definition

It has been proposed that Attention-deficit/Hyperactivity is one of the most widely studied disorders of childhood (Barkley, 1981; Cantwell, 1984). In the last twenty years there has been an increased effort to understand the Attention-deficit/Hyperactivity Syndrome. Reports about children with this problem can be seen in clinical case histories dating back to the late 1800s. Although the symptoms mentioned

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in these past accounts are similar to the ones observed today, labeling of the disorder itself has varied.

In the 1940s Werner, a developmental psychologist, and Strauss, a neuropsychiatrist, noticed symptoms of restlessness, impulsivity, poor concentration, and overactivity in groups of retarded or severely neurologically impaired children. They concluded the behaviors occurred as a result of neurologic problems. The notion that Attention-deficit/Hyperactive children were brain damaged gained support and still today exerts influence upon theories about the etiology of Attention-deficit/Hyperactivity (Chelune, Ferguson, Koon, & Dickey, 1987; Gillberg & Gillberg, 1983); however, most studies do not support the brain damage hypothesis (Rutter, 1977; Schmidt et al., 1987). Another group of explanations, also drawing on the medical model, propose organic deficits (e.g., neurotransmitters, overarousal or underarousal abnormalities (Conte, Kinsbourne, Swanson, Zirk, & Samuels, 1986; Zentall & Meyer, 1987)), food sensitivities and food allergies (Varley, 1984), prenatal factors (Hartsough & Lambert, 1985), developmental delays or temperamental differences (Achenbach, 1982), and genetic (Heffron, Martin, & Welsh, 1984) hypotheses. Although the influence of environmental variables (i.e., social and familial) have been pointed out (e.g., August & Stewart, 1984; Barkley, Karlsson, & Pollard, 1985; Biederman et al., 1987; McGee, Williams, & Silva, 1984a; Stewart, deBlois, & Cummings, 1979), an environmental theory of Attention-deficit/Hyperactivity has not been developed.

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Prevalence

Even though Attention-deficit/Hyperactivity in children is widely recognized as a problem and frequently diagnosed, it is still poorly defined. There is so much chaos surrounding this classification that research has provided no clear prevalence rates (Shekim et al., 1985). Despite surface similarities in these children's behaviors, the clinical picture is undoubtedly complex (Solanto & Conners, 1982; Ullmann et al., 1981; Weiss, 1985). Disagreements not only over diagnosis and characteristics of the disorders (e.g., O'Leary et al., 1984) but also about measures used to assess the disorder (Shekim et al., 1985; Trites, Dugas, Lynch, & Ferguson, 1979), the population studied (Shekim et al., 1985), and the method and criterion used to identify the prevalence rate (Holborow, Berry, & Elkins, 1984) are common. For example, when prevalence is based on only one source of information (i.e., teachers' perception captured in a rating scale), a larger number of children will be classified Attention-deficit/Hyperactive (Mattison, Bagnato, & Strickler, 1987). On the other hand, when more than one rater (e.g., parents and teachers), or more rigorous criteria are used, the prevalence estimates are lower (Mattison et al., 1987).

Table 1 provides information on prevalence studies and show the percentage of children identified as hyperactive in different countries according to a cutoff score selected on the Conners's Teacher Rating Scale (CTRS) (Conners, 1969, 1973).

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Table 1

Prevalence Rates of Hyperactivity using 1.5 + Cutoff Score on the Abbreviated CTRS (1973)

	Rate among Boys	Rate among Girls	Overall Study Rate
Spain (N=451)	22%	10.3%	16.2%
Arias & O'Leary, 1983*			
Italy (N=344)	20%	3%	12%
O'Leary, Vivian, & Nisi, 1985*			
South Africa (N=555)			5.3%
Barling, O'Leary, & Taffinder, 1983*			
Blacks	8%	6.7%	7.4%
Indian	5.9%	1.9%	3.9%
White	6.2%	3.0%	4.6%
United States	Not reported		15%
Langsdorf et al.,1979)(N=1,719)*			
White	Not reported		13%
Blacks	Not reported		24%
Mexican-American	Not reported		8%
Sprague, Cohen, & Werry, 1975*	9%	2%	5.5%
Midwest (N=291)			
Ullmann, Sleator, & Sprague, 1984*			
Blacks			27%
White	21%	12%	16.5%
Germany (N=5,357)	12%	5%	8.5%
Sprague, Coelm, & Eichlseder, 1977*			
New Zealand (N=418)	22%	9%	15%
Werry & Hawthorne, 1976**			
Canada (N=9,583)	21%	8%	14%
Trites, Dugas, Lynch, & Ferguson, 1979**			
Hong Kong (N=506)	8.9%	None	8.9%
Salili & Hoosain, 1985*			
Brazil (N=1,068)	19%	15%	17%
Brito, 1987*			
Puerto Rico (N=638)			
Ceballero, 1989*	18.3%	7%	12.2%

Note. *These researchers used a cutoff score of 1.5 (or 15+) on the Conners's (1973) abbreviated teacher rating scale.

**These researchers used a cutoff score of 1.5 on the Conners's (1969) Hyperactivity factor.

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As Table 1 shows, estimates of the prevalence of this disorder vary greatly both between countries and between professions within each country (e.g., O'Leary et al., 1984; Sandberg, Wieselberg, & Shaffer, 1980; Satin, Winsberg, Monetti, Sverd, & Foss, 1985; Taylor & Sandberg, 1984). Depending on which symptoms of Attention-deficit/ Hyperactivity one chooses, source of information, the gender of the children involved, their socioeconomic status as well as cultural or ethnic background, the prevalence estimates will vary widely. For example, Rutter, Tizzard, and Whitemore (1970) estimated that 2 children in 2,000 in the Isle of Wight could be diagnosed as hyperactive. The same data was used by Schachar, Rutter, and Smith (1981), but this time they selected three 'hyperactivity' items in the teacher rating scale they used. This time 220 children received an Attention-deficit/Hyperactive diagnosis.

The incidence of Attention-deficit/Hyperactivity in United States has been estimated at 5% of the elementary school children (U.S. Department of Health, Education, and Welfare, 1971, cited in O'Leary, 1980) and according to mental health professionals can be as high as 40% of clinic populations (Spivack et al., 1971). Survey data have produced prevalence estimates ranging from 1.19% to 20% of the school population depending on the scale (e.g., 39-item CTRS, 10-item abbreviated CTRS) and method and criteria used (O'Leary, 1980; Shekim et al., 1985). Researchers and clinicians believe it to be the most common problem referred to

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child guidance clinics in United States (Barkley, 1982; Cantwell, 1981). According to Barkley (1981), a realistic estimate of prevalence is 3-5% of school-aged population, the incidence being of about one child in every classroom.

Trites et al. (1979) conducted a large epidemiological investigation of problem behavior in Ontario, Canada. They obtained teacher ratings on the Conners's Teacher Rating Scale (Conners, 1969) on 14,093 elementry-school children. Prevalence estimates of Attention-deficit/Hyperactivity showed marked consistency across age and teachers, with boys diagnosed more frequently behaviorally distressed than girls. According to Barkley (1981), their results indicated that if a 1.5 cutoff score (using a statistical method based on the assumption of a distribution of scores) in a rating scale were used, 14.3% of the children would have been considered Attention-deficit/Hyperactive. This is far more children than would be expected to be Attention-deficit/Hyperactive if instead of using the 1.5 score they would have used two standard deviations above the mean. A higher cutoff score would have restricted the labeling of Attention-deficit/ Hyperactive. It is also evident that the cutoff score used in this study (1.11 S. D. above the mean) may have resulted in too many false positives.

Trites, Blouin, and Laprade (1982) reported that the derived factor structure of the CTRS from their investigation in Ontario, Canada revealed marked similarities to the results of ealier studies. Factors appeared to reflect

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dimensions of behaviors such as Hyperactivity, Conduct Disorder, Anxious-Passive, Emotional-Overindulgent, Unsociability, and Daydreams-Attendance.

Taylor and Sandberg (1984) explored the factor structure of the 39-item CTRS (Conners, 1969). They obtained teacher ratings on 437 English school children, aged 6-9. These researchers reported that the factor structure derived from their sample resembled the factor structure obtained in United States. It revealed factors labeled Conduct Problems, Hyperactivity-Inattention, Anxiety, Antisocial Conduct, Unpopularity, Isolation, and Emotional Problems. According to the experimenters, the results gave "no support to the view that English school-children are very different from their foreign contemporaries". They further suggest that differences in prevalence may be due to disagreements about classification of the children.

According to results from Trites et al. (1982) and Taylor and Sandberg (1984) studies, there is evidence demonstrating the stability of the factor structure that was derived from the CTRS. At least, the findings are consistent when using predominantly Anglo-Saxon samples. These studies propose that differences in prevalence of Attention-deficit/Hyperactivity between Canada, England, and United States have to do with the cutoff score used and disagreements about classification of the children. The British narrow their definitions of the term Attention-deficit/Hyperactivity to extreme overactivity and inattentiveness across many situations

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whereas in the United States the symptoms can be less prominent and symptoms like aggression and impulsiveness are also included in the definition (Sandberg et al., 1980).

Although Sandberg et al. (1980) mention that the CTRS may be unreliable when used by British teachers due to the fact that there might be different patterns of correlation between items of the scale, they conclude that in their study, "the Hyperactivity scale does not have a different meaning for British teachers". It is suggested that the behavior patterns between English, Canadian, and United States were similar.

However, it has been repeatedly pointed out that culture is another factor that seems to affect prevalence rates of Attention-deficit/Hyperactivity. The relationship between ethnicity (e.g., Hispanic, Indian, Oriental) and Attention deficit/Hyperactivity is an area that has been largely neglected in research. As a matter of fact most of the research on Attention-deficit/Hyperactivity has been on children from an Anglo-Saxon background (e.g., Taylor & Sandberg, 1984). In most instances ethnic data are not even reported, leaving the reader with the impression that Attention-deficit/ Hyperactivity is evenly distributed among the various ethnic groups (Langsdorf et al., 1979). A few studies in the United States have reported Attention-deficit Hyperactivity to be more frequent in Black-Americans (Spring, Blunden, Greenberg, & Yellin, 1977), low in Hispanics (Figueroa & Gallegos, 1978; Langsdorf, et. al., 1979; Waechter, et al., 1979), and the

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lowest in Orientals (Spring et al., 1977). None of the studies reviewed gave information regarding the generational distance from time of immigration even though this variable has been found important when assessing degree of acculturation of Hispanic immigrant groups (Buriel & Vasquez, 1982).

Langsdorf et al. (1979) offered information on the nature of the relationship between ethnicity and Attention-deficit/Hyperactivity. These researchers intended to test the assumption that Attention-deficit/Hyperactivity is evenly distributed among young school-age children regardless of ethnic status. They based the results in a sample of 1,719 Mexican-American (35%), Black-American (38%), and Anglo-American (27%) school-aged children rated by their teachers on the abbreviated CTRS (1973). Of the 1719 children and by using a score of 15 or higher as evidence of hyperactivity, 15% of the total sample met the criterion of Attention-deficit/Hyperactivity in their sample. They also found that in schools where Anglo-American children were a minority, the Black-American children were rated Attention-deficit/Hyperactive more frequently and the Mexican-American children less often. These results held for children from Title I schools, but not when the schools were in middle-class neighborhoods. The authors propose that ethnicity and social class status of the child may influence teacher ratings of Attention-deficit/Hyperactivity, reflecting differences in values originating from ethnic and social class differences between the teacher and the child, rather than genetic, neurologic, or emotional disorders in the children.

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Waechter et al. (1979) designed a study to test for differences in type and degree of Attention-deficit/Hyperactive behaviors among children from various ethnic groups. These researchers analyzed the pattern of behaviors between Mexican-American (N=43), Black-American (N=45), and Anglo-American (N=44) children who had been rated as Attention-deficit/Hyperactive on the abbreviated CTRS (1973). The results revealed differences across ethnic groups with Black-American children scoring significantly higher than the Anglo-American and the Mexican-American children. A most interesting finding was that Attention-deficit/Hyperactive children from different ethnic background exhibited different patterns of behavior, meaning that although they had all been classified as Attention-deficit/Hyperactive they were different in that they were not displaying the same behaviors. The authors interpreted the results to support a learning hypothesis regarding Attention-deficit/Hyperactivity.

Arias and O'Leary (1984) examined a group of 451 children selected from the general population in Spain. The 39-item CTRS ratings were obtained on all subjects. The abbreviated CTRS (1973) was also extracted from the CTRS (Conners, 1973). They found, by using the abbreviated CTRS (Conners, 1973), that some 17% of the children could be identified as hyperactive (22 percent of the boys and 10 percent of the girls). In this study, the first factor extracted was a Conduct Problem/Hyperactive combined factor. These researchers illustrate in their study the problems of selecting

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appropriate cutoff scores that are statistically and theoretically meaningful. They derived a 'Hyperactive scale' by selecting items emerging consistently on Hyperactivity factors across factor analytic studies. Using the traditional 2 standard deviations above the obtained mean scale scores on the Hyperactivity scale yielded 6.9% of the boys and 10.3% of the girls as hyperactive. They conclude that gender differences in hyperactivity, which were in the opposite direction previously found, can be accounted for by the highly skewed distribution of scores obtained by the girls. They further suggest that data should be analyzed separately for boys and girls because the factor structure varied as a function of gender. They also propose that differing prevalence rates across cultures might reflect the extent to which certain behaviors labeled hyperactive may reflect perceptual differences in raters.

Barling, O'Leary, and Taffinder (1983) examined the prevalence of hyperactivity in Black, White, and Indian children in South Africa by using the abbreviated CTRS (1973). They reported that Blacks had higher prevalence rates of hyperactivity that Indians and Whites. Indian girls had a lower prevalence rate of hyperactivity than Black and White girls. Most important, these researchers reported that South African children have lower prevalence rates of hyperactivity (5%) than any racial/subcultural group yet reported except for Germans. By using the full 39-item CTRS (1973), they reported that Hyperactivity and Conduct Problems emerged as

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separate factors in all samples; Hyperactivity and Inattention merged into a single factor for white boys and girls, but they were separate factors for the Indian and Black boys and girls. They conclude that the low prevalence rate for Indian children, especially for females, is the result of socialization and child-rearing practices which emphasize extreme obedience in children. They further suggest that the general low prevalence rate of hyperactivity for South African children as perceived by teachers has to do with the expectation for appropriate classroom behavior and for "decorum" from children.

O'Leary, Vivian, and Nisi (1985) examined the prevalence of hyperactivity in Italy and by using the abbreviated CTRS reported a prevalence rate of 12 percent (20 percent of the boys and 3 percent of the girls). These researchers reported that Italian children exhibited rates of hyperactive behavior similar to those of children in New Zealand, Spain, and portions of United States (e.g., Arias & O'Leary, 1984; Langsdorf et al., 1979). However, they noticed that factor structures for boys and girls were different and suggest the importance of examining separately data for boys and girls. In their study, Hyperactivity and Conduct Problems factors emerged as separate components for girls and merged into a factor for boys. Furthermore, they reported that using the traditional cutoff of 2 standard deviations above the mean score obtained in the abbreviated CTRS (1973) yielded approximately 5% of the sample of both boys and girls.

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Brito (1987) examined the prevalence of hyperactivity in 1,068 Brazilian children. By using a cutoff score of the upper 10% of the sample arrived at a prevalence rate of 17 percent for the total sample (19 percent of the boys and 15 percent of the girls), which is higher than other prevalence rates reported in cross-cultural studies. This researcher established norms for the abbreviated CTRS (1973), but apparently did not examine the factor structure of the scale. He further found that younger children had higher ratings than older children.

Salili and Hoosain (1985) obtained teacher ratings for 506 Hong Kong children on the abbreviated CTRS. These researchers also used the traditional 2 standard deviation above the mean cutoff point that has been used in most cross-cultural research and reported prevalence rates of 8.9% for hyperactivity in Hong Kong. Most interesting is the fact that not a single girl scored above the 2 standard deviation cutoff score.

The most important conclusions of this set of studies is that prevalence rates appear to vary within racial groups (e.g., Barling et al., 1983; Langsdorf et al., 1979) and between boys and girls. Results also confirm that factor structures are influenced by gender of the child and by culture. It appears that although similar patterns of behaviors have been found in studies using samples from a similar ethnic background, (e.g., Sandberg et al., 1980), the findings are inconsistent when samples include children from a

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different ethnic background (e.g., Waechter et al., 1979).

There are recent studies in Puerto Rico that have examined prevalence rates of childhood maladjusment, including Attention-deficit/Hyperactivity and Conduct/Oppositional Disorders, using other measures and methods (Bauermeister, Vargas, Colberg, Gonzalez, & Carroll, 1987; Bird et al., 1988). For obvious reasons these studies are described in detail.

Bird et al. (1988) reported estimates of the prevalence of childhood maladjustment in a community survey in Puerto Rico. The study employed a two-stage procedure for case identification and classification of Puerto Rican children aged 4 through 16. Before the field survey, a pilot study was carried out with two principal objectives, the first one was to evaluate the Child Behavior Checklist (CBCL)(Achenbach & Edelbrock, 1983) adequacy as a screening instrument for psychopathology among Puerto Rican children (Bird et al., 1987). The second was to evaluate the reliability of the clinical measures obtained after a systematic method of clinical assessment. In this study, a Spanish translation of the CBCL was used.

A total of 191 children drawn from both clinical and community population were examined during the pilot study (Bird et al., 1987). By DSM-III criteria, the sample ultimately consisted of 105 diagnosed clinical cases and 86 non-cases. Both the parents' (mostly mothers) and teachers' checklists were obtained for all of the children. Every

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child also received a thorough clinical assessment by two child psychiatrists. During the clinical assessment, the parents and children in the sample were administered a Spanish translation of the Diagnostic Interview Schedule for Children (DISC) (Costello, Edelbrock, Kalas, Kessler, & Klanic, 1982). The clinicians also provided a score on the Children's Global Assessment Scale (CGAS) (Shaffer et al., 1983), a measure of adaptive functioning. The analyses examined to what extent the CBCL distinguished the clinical cases and noncases at the cutoff points published by Achenbach and Edelbrock (1983) for both the parents' and teachers' checklists. Children scoring at or above the cutoff points were considered clinical cases on the checklist.

Bird et al. (1988) found a low overlap (8%) on the positive cases in the parents' and teachers' questionnaires. Further, interrater agreement (kappa) was found to be poor on the diagnoses of Oppositional/Defiant Disorder ($k = 0.38$) and Attention-deficit/Hyperactivity ($k = 0.45$). The researchers determined that level of severity best explained the low interrater agreement. Psychiatrists tended to agree on less impaired and on severely impaired children, whereas disagreement was greater with cases near the threshold of diagnostic definitions.

When the screened cases at the selected cutoff points were measured against clinical diagnosis as an external criterion, total behavior problem scores on neither parent nor teacher questionnaires performed well ($k = 0.35$ to 0.47).

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Similarly, scores above the cutoff points on one or more of the CBCL scales and clinical diagnoses also reflected disagreement (k = 0.34).

Based on their results, these researchers conclude that that the limitations are more related to the DSM-III categorization of childhood disorders than to limitations in the screening instrument (CBCL). In their view, the CBCL is "as good a screen as one can find" for screening purposes, and as an alternative approach to classification because it "taps categorical dimensions of child psychopathology" (Bird et al., 1987).

The sample for the community survey was based on a cluster sample (2,064 households) that had been identified from a previous study of the adult population carried out in the Spring of 1984. One child was selected at random of the 41% households with eligible children (N=777). During the first stage of the survey, a Spanish translation of the CBCL was used as a screening instrument for case identification by using the published cutoff points in the total problem score of either parents' or teachers' questionnaires. The goal during the second stage was to clinically evaluate all the children who scored over the published cutoff and who were more likely to be clinical cases as well as a random sample of approximately 20% of those who screened negative (N=168).

Prevalence rates were estimated on the basis of clinical diagnosis and other measures provided by child psychiatrists. Maladjustment was defined through the use of DSM-III criteria

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and a scale of functional impairment (CGAS) (Shaffer et al., 1983). Clinical assessment also included administration of a Spanish translation of the DISC (Costello et al., 1982).

Using Achebach & Edelbrock (1983) cutoff points, the proportion of children aged 6 through 16 who scored over the cutoff point in the parents' CBCL was higher (37.8%) than that of the same children as rated by their teachers (23.3%). Using a similar cutoff score, 45.3% of the children were rated as maladjusted. Similarly, the investigators reported that when the CBCL scores were measured against DSM-III criteria, a very high proportion of children (49.5%) met the psychiatrists criteria for DSM-III diagnoses. These are higher rates of maladjustment than one would anticipate to be found in the community.

The prevalence rates of maladjustment differed when the criteria used was based on the CGAS (a measure of severity of maladjustment), on the DSM-III, or on a combination of both measures of maladjustment. When the CGAS above 61 criterion was applied, 18.4% of the children were selected as maladjusted. The combination of both DSM-III criteria and CGAS above 61 resulted in a 17.9% prevalence of maladjustment. Using a criterion of CGAS between 61 and 70 ("possibly maladjusted"), the prevalence estimates produced an additional 16% of moderately maladjusted children (Bird et al., 1988).

The same criteria applied to the diagnostic categories of interest, Oppositional/Defiant Disorder and Attention-deficit/Hyperactivity, resulted in a 9.9% prevalence rate of

oppositional/defiant problems and in a 9.5% prevalence rate of attention difficulties as defined by DSM-III criteria and a CGAS above 61. For the children scoring between 61 and 70 on the CGAS, another 4.9% of the children were identified as having moderate behavior problems (oppositional, defiant). The same criterion applied to the Attention-deficit diagnosis yielded another 6.6% of children as moderately inattentive.

The investigators propose setting higher cutoff points in the Puerto Rican population to optimize the screening capacities of the CBCL. It is uncertain, however, whether the CBCL as derived from a Baltimore sample, as well as the other clinical scales used in these studies, could adequately map the experience, reality, and meanings of Puerto Rican children.

These studies are an instructive example of the problems one can incur when mainstream assessment inventories are applied cross-culturally and to problems in the interpretation of information derived from such assessment methods. Such conclusions are questionable because measures of disorder in this set of studies had not been standardized for the Puerto Rican population.

The results of these studies further demonstrate how prevalence estimates are directly related to the criteria and cutoff score chosen. Specifically, prevalence rates obtained when using the CBCL were inordinately high. Theoretically, any cutoff point would identify 2.3% of a normal distribution of scores. However, the criteria used in these studies

generally yielded percentages that are far beyond the 2-3% which are supposedly identified.

In contrast to Bird et al. (1987, 1988), Bauermeister, Berrios, Jimenez, Acevedo, & Gordon (1990) have attempted to remedy the problems of assessment of cultural minorities by constructing an entirely new, culture-specific measure. The School Behavior Inventory is a teacher rating inventory for the assessment of Puerto Rican children, particularly those with a behavior pattern indicative of attention difficulties, learning disabilities, or academic underachievement. The investigators developed the measure from teachers' ratings of a representative sample of 961 Puerto Rican children, aged 5 through 13. Each teacher willing to participate in the study randomly selected a male and female student from his classroom.

Prevalence estimates of attention deficits and hyperactivity symptoms were examined via the distribution of response rates for items that were equivalent to criteria of attention difficulties and hyperactivity according to DSM-III-R. The investigators reported that an inordinately high number of students qualified for a diagnosis of Attention-deficit/Hyperactivity. Twenty-seven percent or more of the students were rated as presenting never or only at times positive behaviors such as completing schoolwork, listening, organizing material, or remaining seated. On the other hand, 19% or more were rated as presenting frequent, most of the time, or almost always negative behaviors such

as acting impulsively, need of supervision, acting as if driven by a motor, and talking.

Unfortunately, although a culture-specific measure such as this one may reflect the experience of the Puerto Rican culture, it doesn't facilitate the comparison of their findings with other cultures.

Along with culture another factor influencing prevalence of Attention deficit/Hyperactivity appears to be socio-economic status (SES). Incidence of Attention-deficit/ Hyperactivity and severity of symptoms increases as one descends the scale of SES. With few exceptions (e.g., Campbell & Redfering, 1979), most findings point out that Attention-deficit/Hyperactive children are seen more often in lower-income groups (Campbell, Breaux, Ewing, & Szumowski, 1986; Langsdorf et al., 1979; Loney, Kramer, & Milich, 1981; Hechtman, Weiss, Perlman, & Amsel, 1984; Sandberg, Rutter, & Taylor, 1978; Sandberg et al., 1980).

A brief review of recent research reveals, however, that assessment of children's behavior is influenced prejudiciously because of socioeconomic or ethnic differences between the child being assessed and the rater. Stevens (1981) examined the bias in the attribution of Attention-deficit/ Hyperactive behavior as a function of ethnicity and socioeconomic status. Twenty-four school psychologists, 24 parents, and 27 elementary teachers viewed identical films of children's interaction with other children showing a Black American, a Mexican-American, and an Anglo-American eight-

year-old boy. They assessed each child for Attention-deficit/Hyperactivity using a behavioral rating scale developed for the study. Results suggested that attribution of Attention-deficit/Hyperactivity was related to the ethnic identification and socioeconomic status of the children. Lower socioeconomic children and ethnic minorities were rated as more Attention-deficit/Hyperactive by teachers, school, and parents than middle socioeconomic children or Anglo-American children.

In addition, gender of children is a further variable known to influence prevalence estimates of Attention-deficit/Hyperactivity. It has been reported as an important developmental factor in the Attention-deficit/Hyperactive Disorder. Boys are far more frequently referred for problems of hyperactivity, distractibility, and impulsivity than are girls, with ratios ranging from 2:1 to 9:1 (Holborow et al., 1984; Shekim et al., 1985). However, it has been suggested that the higher male to female ratios may be true for clinical populations only (Shekim et al., 1985). Attention-deficit/Hyperactive girls have also been found to be less impulsive and showing less conduct problems than males (deHaas & Young, 1984).

Conduct/Oppositional Disorders

Childhood behavior problems are magnified deficits or behaviors (e.g., aggression, disobedience, fear, depresssion, school refusal, shyness) common to all children. There seems to be no clear boundaries between the characteristics of those

who come to be labeled problem children and those who do not (Kauffman, 1981). Most problematic behaviors differ quantitatively from the normal ones in terms of degree and of accompanying impairment. Some of the adjustment problems these children exhibit are aggressive behaviors, antisocial (e.g., stealing) and oppositional behaviors, isolation, dependence, and affective behaviors (Blanco, 1972; Rutter, 1985).

Aggressive behavior is characterized by a disposition to attack, destructiveness, cruelty, fighting, and a self-assertiveness which is often at the expense of others. The inability to control aggressive impulses denotes social immaturity in older children and in its extreme form may be destructive and intolerable to others (Blanco, 1972; Rutter, 1985).

Antisocial behavior deals essentially with inability to establish social bonds and a pattern of conduct where the basic rights of others are violated. Oppositional behavior is characterized by stubborness, rebelliousness, and disobedience in school and home.

Rutter (1985) stresses that aggression does not exist in a vacuum. From his point of view, it involves anger and emotional arousal, often being a response to frustration or to someone else's hostile or coercive behavior. He also points out that it is a maldaptive social interaction pattern that may stem from identification with aggressive models, the experience of rewards for aggressive behavior, and a lack of

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social skills or problem-solving strategies, often in the context of fragile and insecure parental relationships.

Secondary problems of Conduct/Oppositional-disordered children are difficulties with social competence (Panella & Henggeler, 1986) and poor peer relationships. It has been proposed that aggressive, Conduct/Oppositional-disordered children are especially prone to rejection by classmates (Cantrell & Prinz, 1985; Johnston, Pelham, & Murphy, 1985; Landau & Milich, 1985; Milich, Landau, Kilby, & Whitten, 1982; Schneider, Ledingham, Byrne, Oliver, Poirier, 1985). Although it has been reported that Conduct/Oppositional Disorder and Affective Disorder may occur simultaneously (Marriage, Fine, Moretti, & Haley, 1986), depression in Conduct/Oppositional-disordered children has not always been demonstrated (Norvell & Towle, 1986). Landau and Milich (1985) have noted that aggressive children who are also withdrawn are the least popular children in their classroom.

Outcomes of Conduct-disordered Children

Current findings suggest that aggression is a highly stable attribute from early childhood into adulthood (Fergusson & Horwood, 1987; Huesmann & Eron, 1984; Milich & Loney, 1980; Rutter, 1985; Stewart & deBlois, 1985). Anti-social behavior in childhood has been associated with reduced intellectual achievement (e.g., Huesmann & Eron, 1984; Lambert, Hartsough, Sassone, & Sandoval, 1987), poor school performance (Glavin & Annesley, 1971; Hechtman & Weiss, 1984), antisocial behavior in adolescence and adulthood

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(Earls, 1987; Garfinkle & Klee, 1982; Gittelman, Mannuzza, Shenker, & Bonagura, 1985; Roff & Wirt, 1985), and with other kinds of undesirable adjustment (i.e., physical illness, social alienation) as well (O'Neal & Robins, 1968; Robins, 1966; Roff & Wirt, 1985). Roff and Wirt (1984, 1985) have noted that childhood aggression in the context of peer rejection is the strongest behavioral indicator of delinquent and young adult antisocial behavior.

Families of Conduct-disordered Children

Several researchers have emphasized the importance of familial variables such as parental pathology, family discord, lack of stable, strong parent-child relationships, poor supervision, and child-rearing practices in the etiology of aggression and their influence on the adjustment in adolescence amd adulthood (Roff & Wirt, 1985; Rutter, 1985; Shaw & Emery, 1987). Roff and Wirt (1984) have suggested that these family variables function as antecedents of aggression.

Patterson (1976) has found that the family interaction of Conduct/Oppositional-disordered children is characterized by a constant "coercive" pattern that is maintained by negative reinforcement. He describes a pattern of interaction where children engage in excessive rates of behaviors aversive to parents and parents retaliate with equally excessive rates of aversive responses. These children's conduct problems appear to be the result of the mothers being more directive and controlling (Campbell, Breaux et al., 1986) and a function of parental inconsistency (i.e., parents sometimes

respond equally to compliance and non-compliance or sometimes punish a behavior, sometimes accept it) (Dumas & Washler, 1985). Further, Tarver-Behring, Barkley, & Karlsson (1985) have suggested that the directive style of these mothers appear to be a function of their active and noncompliant child's need for structure and control. It has also been noted that Conduct/Oppositional-disordered children and their mothers spent less time in shared activities of play and conversation (Gardner, 1987) and that their negative interchanges lasted longer (Dumas & Washler, 1985).

Although Prinz, Myers, Holden, Tarnowski, and Roberts (1983) did not find a relationship between childhood aggression and marital conflict, recent studies have consistently demonstrated that a high level of parental conflict is associated with childhood conduct problems (Campbell, Breaux et al., 1986; Dadds, Sanders, Behrens, & James, 1987; Long, Forehand, Fauber, & Brody, 1987; Shaw & Emery, 1987). Moreover, males appear to be especially reactive to marital conflict (Forehand et al., 1987), although it has been noted that Conduct/Oppositional-disordered girls from conflicted families were more hostile than girls from nonconflicted families (Johnson & O'Leary, 1987). Jouriles, Barling, and O'Leary (1987) maintain that parent-child aggression is related to conduct problems, but is mainly mediated by marital conflict which then exacerbates parental aggression toward the child.

Prevalence

Although exact prevalence is unknown, Conduct Disorders have been estimated to occur in about .5% to 20% of school population, the wide range possible due to unclear definitions (Kauffman, 1981). Furthermore, the prevalence figures will depend directly on interpretations by raters. About 1 of every 10 children in each classroom is likely to need some attention because of poor social or emotional adjustment at nursery school (Chazan et al., 1983). Atkeson and Forehand (1982) cite Patterson, Reid, Jones, and Conger (1975) in estimating from one-third to one-half of all children's referrals to be related to conduct problems. LaGrera and Quay's study (1984)(cited in Hinshaw, 1987) reported that Conduct Disorder occurred in about 3% to 8% of the child population.

A factor appearing to affect the prevalence rate of Conduct Disorder is culture. Weigel (1985) examined the effects of demographic factors, including ethnicity, on various aspects of assertive, aggressive, and defensive behavior of preshool children. These researchers observed that the more assertive, aggressive, and defensive children tended to be older, nonwhite boys from single parent homes. The ethnic effects were found to be independent of social class. In contrast, Montare and Boone (1982) (cited in Weigel, 1985) reported that both social class and ethnicity were significant in explaining higher levels of aggression for Puerto Ricans from lower socioeconomic status.

Although a relationship between ethnicity and Conduct/Oppositional Disorder has been reported for some ethnic groups (e.g., Oglala Sioux adolescents, O'Donnell & Cress, 1975), very few studies have examined prevalence of Conduct/Oppositional Disorders in Hispanics.

Roberts, Hutton, and Plata (1985) have reported that teacher rated behaviors of Hispanic students were less favorable than that of Anglo-American or Black-American students. The Hispanic students were perceived to have more behavior problems than the other two groups who did not show significant differences between them.

On the contrary, other studies have suggested that Hispanic students are perceived by their teachers and parents to be less problematic than Anglo-American students. For example, Touliatos and Lindholm (1980a; 1980b) who examined the psychological adjustment between Anglo-American, Mexican-Americans, and Oriental children, claimed that there were no differences between the groups in the number or severity of behavior problems.

However, these same researchers had proposed in an earlier study (Touliatos & Lindholm, 1976) that Anglo-American children had been rated by their teachers on the Behavior Problem Checklist (Quay & Peterson, 1975) as having more behavior problems than Mexican-American children on Conduct Problems, Inadequacy-Immaturity, and Socialized Delinquency.

The literature regarding prevalence of Conduct/Oppositional Disorders in Hispanic-American children is not

only scant but also findings are unclear and contradictory. Although Hispanics are frequently described in unflattering terms, the paucity of research and the inconsistent results on the few studies available, raises serious questions to the validity of assumptions about these children (e.g., Conduct/Oppositional-disordered children are seen more often in families of immigrant parents).

There are, however, a few researchers interested in studying cultural influences in the formation of diagnostic-classification systems (e.g., Aman, Werry, Fitzpatrick, Lowe, & Waters, 1983; Mariott, Law, & Perry, 1977; O'Donnell et al., 1982). O'Donnell et al. (1982) examined the factor structure of a modified Behavior Problem Checklist (Quay & Peterson, 1975) for two groups of preschool children: a Mexican-American group (N=208) and an Anglo-American group (N=208). Both groups were from low socioeconomic levels and the children's age ranged from 3-5. Five factors were extracted for the Anglo-Americans: Anxiety-Withdrawal, Distractible-Hyperactive, Temper Tantrums, Somatic Concerns, and Conduct Problems. The five factors extracted for the Mexican-Americans were the following: Anxious-Negativism, Distractible-Hypoactive, Conduct Problems, Anxiety-Withdrawal, and Temper Tantrums.

Consistent with previous findings, for the Anglo-American children, there was a marked similarity between the factors obtained in this study and factors obtained by other investigators. These researchers found that of the five factors extracted for each group, and despite similar labels on three

factors, only the Anxiety-Withdrawal dimension exhibited strong cross-cultural similarity on the item contents of the factor. The factor-matching indexes also indicate cross-cultural similarity for the remaining factors. However, the second-order factoring also suggest the possibility of culturally specific symptom patterning. These results are comparable to the ones described by Waechter et al., 1979. Two other factors, Distractible-Hypoactive and Anxious-Negativism were interpretable within the framework of the Mexican-American culture. The authors conclude that the behavioral response to stress may have a culturally relative component. The researchers propose additional research to clarify the extent to which these findings can be verified.

Another factor influencing prevalence estimates of Conduct/Oppositional Disorders is socioeconomic status. Most findings point out that Conduct/Oppositional-disordered children are seen more often in poor, large families of immigrant parents (Achenbach, 1982). Further, children referred for conduct problems and antisocial behavior have been reported to come from low socioeconomic classes (Campbell, Ewing, Breaux, & Szumowski, 1986; Fergusson & Horwood, 1987; Gittelman et al., 1985; McGee et al., 1984a, 1984b; O'Neal & Robins, 1968; Shaw & Emery, 1987).

In addition, it appears that gender of the child is a factor affecting prevalence rates of Conduct Disorder. Taking in consideration predisposing factors (e.g., familial variables), boys and girls appear similarly predisposed to

conduct problems. However, a large gender difference exists in the prevalence of this disorder with males being more reactive than females (Earls, 1987; Forehand et al., 1987). The ratio of boys to girls among clinical populations has been reported to be 4:1 (Stewart, de Blois, Meardon, & Cummings, 1980); although same gender ratio may prevail among the general population (Rutter et al., 1970). Boys are generally reported for mental health services with conduct and anti-social problems more than girls (Roff & Wirt, 1985) and teachers are more likely to target boys as more problematic and aggressive (Walker, Bettes, & Ceci, 1984). It is believed that the lower rates for girls have to do with cultural pressures against expression of female aggression (Perry, Perry, & Rasmussen, 1986). Further, aggressivenes can often enhance attractiveness in males, while producing the opposite effect in females (Cairns & Cairns, 1984). However, it has been suggested that girl referrals for mental health services increase with age (Achenbach, 1982). It also has been noted that highly aggressive behavior in preadolescence is a particularly important antecedent of later deviance among girls (Cairns & Cairns, 1984). Furthermore, Johnson and O'Leary (1987) have noted that Conduct/Oppositional-disordered females appear to be modeling the behaviors of their parents, but particularly that of their mothers. Roff and Wirt (1984) have further noted that female aggression appears to be related to both delinquent and welfare status. Stewart (1985) views Conduct/Oppositional disordered boys as more involved in

lying, stealing, vandalism, and firesetting while girls are more often precociously interested in sex.

Zayas and Bryant (1984) rightly state that for Puerto Rican migrants, a visible source of difficulty is when a girl in the family becomes an adolescent, which may result in the girl being taken to a mental health clinic. For the Puerto Rican adolescent girl, developmental tasks coupled to her family's social rules and exposure of two cultures, make her vulnerable to dysfunction.

CHAPTER II

Method

Research Hypotheses

In sum, childhood normality and deviance are culturally defined and may differ from one context to another because of differences in the expectations of the people around the child, and of the relative tolerance for the behaviors concerned. In addition, child-rearing practices are known to play a significant role in the behavior patterns of children. It is also certainly true that gender roles and consequently gender role behaviors, are more clearly defined in some cultures. In the case of Puerto Rico, girls are expected to be more quiet, obedient, attentive, and physically more restrained in comparison with their male counterparts.

It is also well established that cultural differences may introduce errors of judgement when a person from one culture (e.g., teachers) evaluates the behavior of children from another (Triandis & Bhislin, 1984). In these situations the evaluation is likely to be more negative than when individuals come from the same culture because individuals are often not aware of norms in other cultures that require certain behaviors. In the case of Anglo American teachers, it seems that when they rate poor children and children from different ethnic backgrounds, the clusters in the rating scales take on unique forms (O'Donnell et al., 1982; Waechter et al., 1979).

Further, concepts may not have the same meanings across cultures. For example, results have demonstrated that Attention-deficit/Hyperactive and Conduct/Oppositional disordered children from different ethnic backgrounds living in United States display different patterns of behaviors even though classified as Attention-deficit/Hyperactive or Conduct/Oppositional disordered (e.g., Waechter et al., 1979). Specifically, there are differences in terms of total score and patterning of scores apparently because the content of items may be culturally sensitive (Jones & Thorne, 1987).

Moreover, factor analytic investigations of the internal structure of rating scales used to measure Hyperactivity, Conduct Problems, and Attention Problems in the United States and in countries of Anglo-Saxon heritage have indicated equivalent factor structures with samples from general population and with clinic samples; however, little consideration has been given to possible internal structural variations due to the possible influence of cultural differences.

A series of questions are raised by these findings. The main one has to do with the validity of the diagnostic dimensions under study. If different patterns of correlations among items on a scale are found for different ethnic groups, do the scores on the dimensions measured have validity when extended to a different culture? Further, is the scale valid for children from other ethnic groups? In particular, do high or low scores on the dimensions characterize children who are identified as very active, aggressive, impulsive, and

inattentive? Are the characteristics being assessed comparable to the ones found in other countries? Namely, is the factor structure of a scale similar or universal (etic) in nature or does it differ (emic) among countries (Jones & Thorpe, 1987)? Are the properties of the scale the same for both genders? For example, are Puerto Rican boys and girls with a certain score equally Attention-deficit/Hyperactive or Conduct/Oppositional disordered? How do variables such as gender, socioeconomic status, and age account for differences within and between cultures? In short, we need to ask ourselves, are the scales relevant to the culture?

Thus, there is a need to find evidence that the diagnostic classification system from which a scale is derived is applicable cross-culturally. Cross-cultural research can help to identify both universal meaning and variations of the meaning of a construct. For example, the factor analytic method may help to clarify the meaning of dimensions in different populations. Once equivalence of factor structures, backtranslation, and normative studies are carried out, conventional rating scales will be useful to different cultural groups.

Two widely used rating scales are the modified Behavior Problem Checklist (BPC) and the Revised Conners's Teacher Rating Scale (CTRS-R). However, the factorial structure of these rating scales with Puerto Rican children is not firmly established. This may reflect difficulties in defining criteria for deviance among Puerto Rican children.

1. With the previous issues in mind, it seems reasonable to hypothesize that there will be differences in the way Puerto Rican teachers perceive occurrence or nonoccurrence of behaviors on these two behavioral checklists as compared with how they have been reported to be perceived in studies done in United States and in countries of Anglo-Saxon cultural heritage. Consequently, factor analysis of the two behavioral checklists will yield different factor structures for Puerto Rican children reflecting the conceptual meanings that Puerto Rican teachers place on children's behaviors.

In addition to this hypothesis, one other issue is examined. In contrast to extensive efforts to examine prevalence of Conduct Problems, Attention Deficit, and Hyperactivity in United States and in countries of Anglo-Saxon cultural heritage, few such efforts have been devoted to research with other cultural backgrounds (e.g., Arias & O'Leary, 1984; Barling et al., 1985; Brito, 1987; O'Leary et al., 1985; Salili & Hossain, 1985). So far, Arias and O'Leary (1984) are unique in reporting prevalence rates from a factor analysis derived from a teacher rating scale of these dimensions (Attention-deficit/Hyperactivity and Conduct/Oppositional disorders) in Spain, a country of Hispanic cultural background.

Estimates of the prevalence of Attention-deficit/Hyperactivity vary greatly among countries. Using commonly accepted criteria, prevalence rates of Attention-deficit/Hyperactivity range from 5% in South Africa (Barling et al.,

1983) to 27% in United States (Ullmann, Sleator, & Sprague, 1984). For this reason it was considered desirable to determine prevalence rates from the factor analyses of the CTRS-R and the modified BPC.

2. The prediction was that consistent with Puerto Rican child-rearing practices, Puerto Rican prevalence rates of Attention-deficit/Hyperactivity and Conduct/Oppositional disorders would be lower than those reported in United States (Langsdorf et al., 1979) and New Zealand (Werry & Hawthorne, 1976) and closer to prevalence rates in Africa (Barling et al., 1983) and Germany (Sprague et al., 1977) (Table 1).

3. In addition, and also consonant with previous findings and with Puerto Rican child-rearing practices, it was expected that girls would have lower prevalence rates than boys would have. Prevalence rates of Attention-deficit/Hyperactivity and Conduct/Oppositional problems in Puerto Rican girls were expected to be closer to prevalence rates for girls in Italy, Africa, Germany, and China (Table 1, page 51).

Subjects

Recruitment of subjects was conducted through contacts with private and public schools on the island of Puerto Rico. The subjects were chosen from 10 preschools, 8 kindergartens, 8 first grades, 8 third grades, and 8 sixth grades. The schools were located in the south, east, north, west, and center of the island. The teachers were asked to rate all the children in their classrooms.

Procedure

After contacting the school, a meeting was scheduled with the preschool, kindergarten, first, third, and sixth grade classroom teachers and principal of each school. The principal and teachers were provided with copies of the proposed study, as well as copies of the modified Behavior Problem Checklist (BPC) (O'Donnell et al., 1982) and the Revised Conners's Teacher Rating Scale (CTRS-R) (Goyette et al., 1978). Any questions they had were discussed in the scheduled meeting.

Each student took home a cover letter (Appendix B), copy of the letter of informed consent (Appendix C), and a demographic information questionnaire (Appendix D). The parents were asked to provide demographic data on the child and sign the informed consent. The teachers were responsible for handing out and collecting the questionnaires from the students. In addition, each classroom teacher was then asked to complete the CTRS-R and the modified BPC for each child participating from his/her class whose parent(s) had returned the letter of informed consent signed.

Measures

All questionnaires were written in the Spanish language. To ensure correct translation (Brislin, 1980), the items were translated into Spanish by three Puerto Rican bilingual persons. Two bilingual persons translated the items back into English. The English translation was faithful to the original measure.

1. Revised Conners' Teacher Rating Scale (CTRS-R) (Appendix E).:

The CTRS-R (Goyette et al., 1978) is a 28-item scale used frequently in the identification of Attention-deficit/Hyperactive children to evaluate treatment effectiveness and in research in the area of childhood Attention-deficit Hyperactivity. It covers a wide range of behavior problems and was adapted from an earlier scale developed by Conners (1969). The revised scale has been shortened and slightly reworded in an attempt to simplify administration and interpretation. Items not loading in previous factor analyses have been dropped, highly similar and redundant items have been combined into single items, and some items have been reworded for clarity. Although the current version is not identical to the original, it has been reported (Goyette et al., 1978) that the factor structure of the revised teacher questionnaire was found to be virtually identical to previous analyses of the original questionnaire. Coefficients of congruence between Goyette's et al. (1978) factors and those obtained by Conners (1969) and Werry et al., (1975) are as follows: Conduct Problems range from .90 to .92; Hyperactivity range from .87 to .92, and Inattentive-Passive range from .82 to .86. When factor analyzed, the scale yields three factorially derived dimensions: Conduct Problems (8 items), Hyperactivity (7 items), Inattentive Passive (8 items), and 5 miscellaneous items.

Previous research has established acceptable test-retest

reliability for the earlier version of the CTRS ranging from .71 to .91 (Conners, 1969). Trites et al. (1979) provided modest interrater reliabilities for this version of the Conners's Teacher Rating Scale ranging from .35 to .57, but stronger evidence of internal consistency reliability ranging from .61 to .94. Previous research has established criterion related validity (e.g., Kendal & Brophy, 1981; Lahey, Green, & Forehand, 1980; Prinz, Connor, & Wilson, 1981) and discriminant validity (Abikoff, Gittelman & Klein, 1980). The CTRS has been successfully employed to screen subjects (Sprague, Christensen, & Werry, 1974), to monitor drug treatment of hyperactive children (Solanto & Conners, 1982; Langer, Rapoport, Brown, Ebert, & Bunney, Jr., 1982; Brown, Ebert, Hunt, & Rapoport, 1981), to discriminate between normal and Attention-deficit Hyperactive children (Jacob, O'Leary, & Rosenblaud, 1978), and to assess changes to drug and behavioral treatments (Bugental, Collins, Collins, & Chaney, 1978; Cohen, Sullivan, Minde, Novak, & Keens, 1983). It has also been used in prevalence studies cross-culturally (e.g., Arias & O'Leary, 1984; Salili & Hossain, 1985; Sandberg et al., 1980; Trites et al., 1982).

Teachers were instructed to indicate on a 4-point scale which of the response options best describe the child being rated: not at all (1), just a little (2), pretty much (3), very much (4). A total score ranging from 28 to 112 can be obtained.

An abbreviated form of the CTRS-R is also available. It has been almost exclusively used to estimate the prevalence of Attention-deficit/Hyperactivity and consists of 10 items from the original 39-item scale (Conners, 1969). Ratings of the abbreviated CTRS-R are also scored 1-4 (or 0-3). The CTRS-R can also be scored for the abbreviated CTRS. It consists of items 1, 5, 7, 8, 10, 11, 14, 15, 21, and 26 (Goyette et al., 1978)(Appendix F). A mean item score of 1.5 (i.e., based on a 0-3 scoring) or higher or a total score of 15 or greater are generally accepted as indicative of hyperactivity. However, the abbreviated CTRS is not considered to be the best measure of hyperactivity (Ullmann, Sleator, & Sprague, 1985). It is not a scale that measures hyperactivity per se. The items in the rating scale load variously on Conduct Problems, Inattention, and Hyperactivity factors. However, since Werry et al. (1975) reported satisfactory correlation (.94) between the rating scale and the Hyperactivity factor of the 39-item CTRS (1973), it has been almost exclusively used as a criterion for hyperactivity.

2. **Modified Behavior Problem Checklist (BPC) (Appendix G).:** The behavior problem checklist used in this study is a modified version of the BPC (Quay & Peterson, 1975) and has been used extensively to identify and differentiate problem behavior occurring in childhood and adolescence. The original BPC is a 4-point scale rating 55 problem behavior traits occurring in childhood and adolescence. The items of the original scale were selected from the most

commonly reported referral problems at a guidance clinic and studies of case history records of juvenile delinquency. Adequate norms for the scale are available for the 1975 version. It contains four scales derived from factor analytic studies relating to Conduct Problems (17 items), Personality Problems (14 items), Inadequacy-Immaturity (8 items), and Social Delinquency (6 items).

The original scale has been used extensively in child psychopathology research (Mariott, et al., 1977; Speer, 1971; Touliatos & Lindholm, 1980a, 1980b). It has been found useful in epidemiologic studies (e.g., Aman et al., 1983). Evans (1975) reported satisfactory evidence of test-retest reliability ranging from .74 to .93. A variety of studies (e.g., Evans, 1975; O'Donnell & Van Tuinan, 1979) have provided data on interrater reliability ranging from .31 to .71. The factorially homogeneous nature of the subscales result in high internal consistency reliability. Quay (1977) reported reliabilities of .89 for Conduct Problems, .83 for Personality Problems, and .68 for Inadequacy-Immaturity. There is extensive evidence of validity. The scale has been shown to be sensitive to change after treatment (e.g., Rogeness, Stokes, Rednar, & Gorman, 1977) and to discriminate clinic from nonclinic samples (e.g., Gayton, Thornton & Bassett, 1982; Matson, Epstein, & Cullinan, 1984; Speer, 1971). Replications of these findings in different samples have been reported (e.g., Hirshoren & Schmittjer, 1981), as have studies on construct validity (e.g., Glavin & Annesley, 1971;

Victor, Halverson, Jr., Inoff, & Buczkowski, 1973; Wolf, 1981). The method utilized to select the items provides evidence for the content validity of the BPC (Quay, 1977).

The modified version of the checklist consists of 59 items of parents' and teachers' opinions of child's behavior problems. The item content of the original scale (O'Donnell, et al., 1982) was revised as follows: five BPC items were deleted either because they seemed too vague or because they seemed inappropriate for preschool children, eleven items were added that seemed clinically important and have appeared in other published checklists, twelve BPC items were combined with items from other checklists in order to clarify the meaning of the items, and five items were written to represent clinically significant dimensions of children's fears as described by Miller, Barrett, Hampe, and Noble (1972). Teachers indicate whether each item never (1), sometimes (2), often (3), or very often (4) occurred; 236 is the maximum obtainable score. A 0-3 rating system has also been used.

O'Donnell (1982) compared the factor structure of the modified BPC for groups of Mexican American and Anglo American preschool children from low socioeconomic families.

Five factors were extracted for the Anglo-Americans: Anxious Withdrawal, Distractible Hyperactive, Temper Tantrums, Somatic Concern, and Conduct Problems. The five factors extracted for the Mexican Americans were the following: Anxious Negativism, Distractible Hypoactive, Conduct Problems, Anxiety Withdrawal, and Temper Tantrums.

Cross-cultural similarity of factors was assessed by congruence coefficients. Of the five factors extracted for each group, only the Anxiety Withdrawal dimension exhibited strong cross-cultural similarity. The factor-matching indexes indicated cross-cultural similarity for the remaining factors, however the composition of the factors (i.e., item content) was different from one group to the other suggesting culturally specific symptom patterns.

Data Analyses

Samples

To develop normative data on the scales, descriptive statistics were derived for both scales (for total scores and subscale scores) both within and across gender and age. Gender and age differences were tested using t tests. As differences between boys and girls were significant, the teacher rating scales were normed separately for boys and girls of different ages.

Scales composition

Exploratory factor analyses were undertaken as a technique to discover the underlying patterns among items. To examine the factor structure of the CTRS-R, and in keeping with previous factor-analytic studies with the CTRS-R (e.g., Goyette et al., 1978), principal component analyses with unities in the diagonals of the correlation matrices followed by the varimax criterion for rotation were used to identify clusters of correlated dimensions.

The factor structure of the modified BPC was examined by

submitting the correlation matrix to iterative principal axis factor analysis using squared multiple correlations as diagonal elements. The factors were rotated to direct quartimin criteria. The decision about the choice of factor-analytic procedure to examine the factor structure of the modified BPC bear discussion. O'Donnell et al. (1982) employed this method, therefore, it was possible to make comparisons between the present study and O'Donnell's findings.

Factor selection for both scales was approached in two ways: First, the appropriate number of factors to be retained for rotation was determined by the Scree Test (Cattell, 1966). Second, both following Cattell's (1952) recommendations and previous studies (e.g., Conners, 1969; O'Donnell et al., 1982; Werry, Sprague, & Cohen, 1975), the items were factor analyzed for three, four, five, and six factors.

Criterion for item assignment was based primarily by the size of its factor loading, that is, a factor loading of .40 and above on the major factor with low loadings on the remaining factors. In cases where an item loaded highly two factors, the item was assigned to the component on which it had the highest loading over .40. Once rotated, components were required to have at least 3 items with loadings equal or higher than .40 to be included. Although the decision whether to retain or drop an individual item was guided primarily by these guidelines, an item was also retained on the basis of conceptual significance.

I determined the internal consistency of the scales through computation of an Alpha coefficient (Cronbach, 1951) for each subscale. In addition, an item analysis was also carried out. Interitem correlation and correlation between scale items and total factors was calculated.

Once the factor structure for both scales was obtained, subscale scores were computed for the factors derived from the analyses of the total sample and for samples of boys and girls separately. Scale scores were calculated from the unweighted sums of all items selected for a factor (i.e., simple linear summations of the scores), as this is the method used in previous studies (e.g., Trites et al., 1979; Werry et al., 1975). It has also been reported that weighted and unweighted summative scores usually correlate highly (Likert, 1932 cited in Nunnally, 1978, p. 606).

Comparison of Factor Structures

The factor structures previously obtained for both scales (Goyette et al., 1978; O'Donnell et al., 1982) were compared to the factor structures obtained in the present study.

In order to statistically assess the similarity of the obtained factors for the modified HPC, the procedure used by O'Donnell et al. (1982) was adopted and both Tucker's congruence coefficient (r_c) (Harman, 1976) and Cattell's salient variable similarity index (s) (Cattell, 1978) were computed among all factors.

Similarly, in an effort to obtain an index of the

consistency of the factor loadings across Goyette's study and the present study, coefficients of congruence according to Tucker's formula were determined (Harman, 1976). Every factor in Goyette's study was compared to every factor in the present study.

Since it has been reported that the factorial structure of the scales might differ for boys and girls (e.g., O'Leary et al., 1985), the rating scales were factor analyzed separately for boys and girls. After the factor structures were obtained, to determine agreement between the boys and girls factor structures, coefficients of congruence between the factor loadings of boys and girls, boys and total, and girls and total from the different factors obtained were computed.

Prevalence

There is no consistent cutoff score to identify the Attention-deficit/Hyperactive child. Various cutoff scores have been used to select a certain percentage of any sample. For example, on the basis of Sprague et al. (1974) recommendations, their criteria on the abbreviated Conners's Teacher Scale (Conners, 1969) to identify Attention-deficit/Hyperactive children have been widely used as an indicator of Attention-deficit/Hyperactivity (e.g., Ullmann, Sleator, & Sprague, 1985). Their choice of a cutoff score for identifying Attention-deficit/Hyperactive children was based on the cutoff score using normative data in the United States and the application of a statistical method based on the assumption of a normal distribution of scores. Based on results of

their sample, Sprague et al. (1974) recommended a cutoff score of 1.96 standard deviation above the overall mean score as an acceptable cutting score ($p \leq .05$) for classifying a child as Attention deficit/Hyperactive. For their sample, a mean-item score of 1.5 or greater or a minimum score of 15 on items rated from 0-3 was required for the selection of Attention-deficit/Hyperactive children. The mean-item score of 1.5 has subsequently been adopted as a useful criterion for defining the Attention-deficit/Hyperactive child on the relevant scales of the 39 item CTRS (Conners, 1969) and for the Hyperactivity factor derived from it (Trites et al., 1979). This cutoff score was based on the notion that if a child scored 1.96 standard deviations above the mean, which corresponds to the upper 2.5% of the population, he or she would be diagnosed as deviant, in this case Attention deficit/Hyperactive.

There are problems of selecting appropriate cutoff scores that are statistically and theoretically meaningful. For example, it has been noted that the procedures may have resulted in a biased estimate (e.g., Ullmann et al., 1985). It has also been pointed out that the 1.96 standard deviation above the mean method does not necessarily classify 2.5% of any sample of children (Arias & O'Leary, 1983).

According to Barkley (1981), an application of the 1.96 standard deviations would probably be a more parsimonious approach to the selection of Attention-deficit/Hyperactive children. On the other hand, Trites et al. (1979) argue that

the less conservative criterion of 1.5 with 0-3 scoring, which is 1.11 standard deviations above the mean, may be appropriate for screening the Attention-deficit/Hyperactive child. They caution, however, that this method may result in an unacceptable number of false positives. Nevertheless, one of the advantages of using the abbreviated CTRS-R is that prevalence rates have been reported in other countries (Table 1, page 51) which permits comparisons of the present sample with those obtained by other researchers.

For this study, prevalence rates of Attention-deficit/ Hyperactivity and Conduct/Oppositional Problems in Puerto Rico were estimated by the following traditional methods:

1. For comparison purposes and in order to ascertain differences among prevalence rates of Attention-deficit/ Hyperactivity across countries (e.g., Spain, Italy, United States, South Africa, Germany), I used the abbreviated CTRS-R, which can be derived from the CTRS-R. It consists of items 1, 5, 7, 8, 10, 11, 14, 15, 21, and 26.

2. Prevalence was determined by utilizing two methods: 1) a cutoff score of 2.5 mean-item score (1.5 on items rated from 0-3) and 2) a cutoff score of 1.96 standard deviations above the mean on the teachers' scores obtained for the sample of Puerto Rican children on the abbreviated CTRS-R (Goyette et al., 1978) as indexes of Attention-deficit/ Hyperactivity.

3. I also estimated prevalence rates by the same methods on the Behavior/Overactivity Problems and Attention

Problems factors derived from the CTRS-R and of the modified BPC.

4. The prevalence rates were determined for the total sample and for boys and for girls, respectively.

Additional data analyses were conducted when appropriate.

Use of Human Subjects: Risk/Benefit Ratio

Both the CTRS-R and the modified BPC measures used in this study are widely used instruments for assessing children's behavioral problems. The teachers were asked to complete the CTRS-R and the modified BPC without the children's name on the questionnaire, consequently the potential for psychological and physical risk appeared to be minimal, if any, for the subjects. There was a possibility of identifying children by either the CTRS-R or the modified BPC as having significant behavioral problems. As current laws of confidentiality in regard to children in Puerto Rico do not allow the participants names be known to the researchers, it was not possible to give feedback in regard to such children. Besides, we have stated that norms are not currently accurate, therefore our goal was to develop norms and not make judgements in regard to specific children.

Given that the primary goal of the present study was to develop norms for Spanish-speaking children for two widely used behavior rating scales and that there are very few scales with such norms, there is a great potential for a social benefit.

Human Subjects Certification Approval

The Michigan State University committee on Research Involving Human Subjects approved the project described here under the direction of Dr. Wade Horn.

Confidentiality

Several procedures were implemented to assure the anonymity and confidentiality of the schools, teachers, and students in the present study. Each participant's questionnaires was assigned a code number when collecting data. This means that the participants names were unknown to the researchers. All raw data was then kept in a locked laboratory at all times. All subsequent written reports of the results have presented data only in aggregate form.

CHAPTER III

Results

Descriptives

A total of 638 Puerto Rican children were rated by their teachers. The children participating in this study were drawn from private and public schools. They represented the entire population of children attending regular classes whose parents did not refuse participation. Urban and rural areas were adequately represented in this sample (Appendix H). All data was gathered in the Spring of 1984 of the 1983-1984 school year. Most of the children were between ages 5 and 12 with 601 between ages 5 and 12, 15 at 4 years and 22 above 13 years. The over representation of girls (53.8%) over boys (46.2%) is not consonant with general Puerto Rican elementary school population statistics. For the 1983-1984 school year, boys constituted 52.4% of the elementary school population while girls only constituted 47.6% (Puerto Rico's Department of Education Statistic, 1985). The gender and age distribution of the children in preschool, kindergarten, first, third, and sixth grade are presented in Table 2.

Table 2

Descriptive Information of Sample by Age and Gender

Age	Boys n	Boys Percentage	Girls n	Girls Percentage	Total n	Total Percentage
4	6	2.0	9	2.6	15	2.3
5	58	19.6	76	22.2	134	21.0
6	62	21.0	54	15.7	116	18.2
7	16	5.4	24	7.0	40	6.3
8	50	17.0	68	19.8	118	18.5
9	25	8.5	27	7.9	52	8.2
10	5	1.7	7	2.0	12	1.9
11	35	11.9	40	11.7	75	11.7
12	28	9.5	26	7.6	54	8.5
13	6	2.0	9	2.6	15	2.3
14	4	1.4	3	.9	7	1.1
Total	295	100%	343	100%	638	100%

The demographic data was obtained via a demographic information questionnaire (Appendix D). The demographic characteristics of the sample are presented in Table 3.

Table 3

Demographic Characteristics of Sample

Variable	Category	n	Mean	Percentage
Gender	Boys	295		46.2
	Girls	343		53.8
Age	Mean		7.8	
	Range		4-14	
Grade	Preschool/Kindergarten	197		30.9
	First	106		16.6
	Third	178		27.9
	Sixth	148		23.2
	Not given	9		1.4
Sib group size	1	51		8.0
	2	172		27.0
	3	186		29.1
	4-5	132		20.7
	6+	32		5.0
	Not given	65		10.2
	Mean		2.6	
School	Rural	227		35.6
	Urban	410		64.3
	Not given	1		.1
Parent marital status	Married	452		70.8
	Separated	59		9.2
	Divorced	75		11.8
	Widowhood	11		1.8
	Not given	41		6.4
Have lived away from Puerto Rico	United States	117		18.3
	Never	433		67.9
	Not given	88		13.8
Length of time outside of Puerto Rico	Mean		5.4	
	Range		1-9	
Father's occupation	Professionals	60		9.4
	Semi Professionals	38		6.0
	Minor Professionals	38		6.0
	Clerical Sales	61		9.6
	Skilled	109		17.1
	Semi Skilled	67		10.5
	Unskilled/ Unemployed	148		23.2
	Not given	117		18.2
Father's education	Graduate	44		6.9
	University	78		12.2
	Partial University	56		8.8
	High School	171		26.8
	Partial High School	31		4.9
	Jr. High School	77		12.1
	Less than Jr. H. S.	81		12.7
	Not given	100		15.6

Table 3 (cont'd)

Variable	Category	n	Mean	Percentage
Mother's occupation	Professionals	13		2.0
	Semi Professionals	45		7.1
	Minor Professionals	35		5.5
	Clerical Sales	55		8.6
	Skilled	26		4.1
	Semi Skilled	15		2.4
	Unskilled/ Unemployed*	405		63.5
	Not given	44		6.9
Mother's education	Graduate	23		3.6
	University	103		16.1
	Partial University	68		10.7
	High School	199		31.2
	Partial High School	34		5.3
	Jr. High School	84		13.2
	Less than Jr. H. S.	77		12.1
	Not given	50		7.8
Family income	Below $5,000	146		22.9
	$ 5,000 to $9,999	150		23.5
	$10,000 to $14,999	69		10.8
	$15,000 to $19,999	42		6.6
	$20,000 to $24,999	27		4.2
	$25,000 to $29,999	7		1.1
	$30,000 to $35,000	11		1.7
	Over $35,000	22		3.5
	None	17		2.7
	Not given	147		23.0
Father's income	Below $5,000	90		14.1
	$ 5,000 to $9,999	167		26.2
	$10,000 to $14,999	56		8.8
	$15,000 to $19,999	16		2.5
	$20,000 to $24,999	9		1.4
	$25,000 to $29,999	3		.5
	$30,000 to $35,000	7		1.1
	Over $35,000	12		1.9
	None	56		8.8
	Not given	222		34.8
Mother's income	Below $5,000	88		13.8
	$ 5,000 to $9,999	95		14.9
	$10,000 to $14,999	29		4.5
	$15,000 to $19,999	12		1.9
	$20,000 to $24,999	4		.6
	$25,000 to $29,999	1		.2
	$30,000 to $35,000	2		.3
	None	306		48.0
	Not given	101		15.8

Note. *Unemployed includes homemakers

This sample was drawn to include adequate representation of children from lower, middle, and upper socioeconomic (SES) categories. The family socioeconomic status (SES) was based on Hollingshead (1965) two-factor index (Tables 4 and 5). This classification is based on the "status" of the education level and of the job held by the father in each household.

The classification is used here descriptively and as 23% were female-headed households, a profile of both the father and mother SES is presented separately.

Table 4

Fathers' Socioeconomic Status (SES)

Class	n	Percentage
I	68	10.7
II	48	7.5
III	75	11.8
IV	162	25.4
V	193	30.3
Not given	92	14.3

Note. *SES is based on Hollingshead (1965) two-factor index.

Table 5

Mothers' Socioeconomic Status (SES)*

Class	n	Percentage
I	15	2.4
II	46	7.2
III	76	11.9
IV	92	14.4
V	369	57.8
Not given	40	6.3

Note. *SES is based on Hollingshead (1965) two-factor index.

It is apparent that this was a predominantly working-class sample. Parental reports of family income indicated that 57.2% of the families earned less than $15,000/year. It is important to point out that the lower income families were the ones reporting large families (three or more children at home). Educational backgrounds of the parents ranged from low to high with only 28% of the fathers and 30% of the mothers progressing beyond secondary school. It also appears that a large number of married women with college degrees were unemployed. Twenty-three percent of the children lived in female-headed families, which means nearly one-fourth of Puerto Rican children live in families headed by a single female parent.

The demographic characteristics of the sample are similar to those of the Puerto Rican population as described by the 1980 U. S. Census. The distribution by region, education of parents, and family income of the sample was quite close to that of the population providing some reflection of the representativeness of the sample. Further, the percentage of female-headed families is similar to the 21% figure reported by Munoz-Vazquez and Bauzo (1988).

CTRS-R Scale, Spanish version

Factor Analyses

Item distribution

To exclude items that were too rare or too common for meaningful factor analysis, items were identified that were reported by teachers for less than 5% or more than 95% of the

children. This criterion was consistent with earlier studies (e.g., Edelbrock & Achenbach, 1984). No items were reported for either more than 95% or for less than 5%; therefore, all items were included in the factor analyses. The distribution of responses, the mean, and the standard deviation for each of the 28 items is shown in Table 6. There was some variation in the distribution of scores among the items. The least frequent behavior was "acts smart" (item 4). The most frequently noted behavior was "submissive attitude toward authority" (item 13) followed by "distractibility" (item 7) and "always up and on the go" (item 14).

Table 6

Distribution of Responses for CTRS-R, Spanish Version*

Item	Mean	S.D.	Percentage of Response Rate** Not at All	Just a Little	Pretty Much	Very Much
1	1.732	.865	49.2	33.5	12.1	5.2
2	1.492	.770	64.6	24.9	7.2	3.3
3	1.498	.766	63.9	25.2	7.8	3.0
4	1.276	.623	79.8	14.9	3.3	2.0
5	1.495	.780	64.4	25.5	6.1	3.9
6	1.567	.783	57.5	32.3	6.1	4.1
7	1.893	.986	44.5	31.5	14.1	9.9
8	1.630	.881	58.3	26.2	9.7	5.8
9	1.498	.810	65.2	24.9	4.7	5.2
10	1.597	.834	58.8	27.0	10.0	4.2
11	1.544	.783	60.0	29.3	6.9	3.8
12	1.531	.841	65.0	21.5	8.8	4.7
13	2.045	1.069	40.8	28.1	17.1	14.1
14	1.820	.938	46.4	33.4	12.1	8.2
15	1.567	.860	62.4	24.0	8.2	5.5
16	1.589	.843	59.7	26.3	9.2	4.7
17	1.431	.740	69.0	21.9	6.1	3.0
18	1.434	.727	67.4	25.1	4.2	3.3
19	1.456	.748	66.6	24.5	5.6	3.3
20	1.759	.904	48.9	33.2	11.0	6.9
21	1.730	.942	53.9	26.6	11.9	7.5
22	1.657	.861	54.5	30.7	9.2	5.5
23	1.641	.887	57.4	27.4	8.9	6.3
24	1.422	.704	67.6	25.5	4.1	2.8
25	1.476	.817	67.9	21.9	4.9	5.3
26	1.618	.836	56.3	30.7	8.0	5.0
27	1.467	.828	69.7	19.1	5.8	5.3
28	1.850	1.005	49.2	26.5	14.4	9.9

Note. * Scoring of 1-4.
** Percentages are based on raw scores.

Product-moment correlations were computed among the 28 items of the CTRS-R, Spanish version, and subjected to principal components analysis with unities in the diagonal. Eigenvalues were examined in a scree plot (Cattell, 1966) to determine the appropriate number of factors, suggesting a four-factor extraction (see Appendix I). Following Cattell's

(1952) and Gorsuch's (1983) recommendations, three, four, five, and six factors were also extracted and rotated to simple structure using an orthogonal procedure (varimax) and an oblique procedure (promax). Adding a fifth factor accounted for only an additional 3.3% of common variance; a sixth factor accounted for a 2.9% of common variance. Further, when each solution was examined with respect to the item content of each factor, they did not result in interpretable factors. The factors in the five and six-factor solutions tended to be either fragmentations of the four-factor solution or spurious factors containing few items or consisting of items whose pragmatic relationship to one another were questionable. The three and four-factor solution were somewhat comparable. However, the three-factor solution produced less interpretable factors. The factors contained items lacking conceptual significance and more items loaded highly on two and even on the three factors.

Cattell (1952) has noted that it is better to take out "one factor too many rather than one too few" as the final conclusions of a factor analysis are likely to be more distorted by underfactoring than overfactoring". Therefore, the four-factor solution representation shown in Table 7 was selected for further analyses because of some comparability to previous research (e.g., Goyette et al., 1978), for its conceptual significance, and because it appeared to be clinically useful. Further, the scree plot (Cattell, 1966) suggested a four-factor extraction.

Table 7

Conners's Teacher Rating Scale, Revised, Spanish Version (Total Sample)*
First-Order Varimax Rotated Factor Matrix, Eigenvalues, and Percentage of Variance

Item	Name**	Factors*** I BP/O	II AP/P	III SI	IV S/P****
1	Squirmy	.83	.22	.02	-.08
14	Restless	.82	.20	.08	-.03
2	Inappropriate noises	.79	.18	-.02	.06
8	Disturbs children	.78	.21	.17	-.01
15	Excitable, impulsive	.78	.20	.10	.14
12	Quarrelsome	.76	.14	.10	.15
5	Temper outbursts	.73	.08	.18	.23
3	Demands must be met	.72	.04	.00	.36
16	Excessive demands teacher	.71	.13	.14	.21
23	Denies mistakes/blames	.69	.24	.27	.05
10	Pouts and sulks	.65	.27	.04	.33
11	Mood changes	.62	.22	.22	.33
24	Does not get along	.54	.17	.44	.23
4	Acts "smart"	.53	-.09	.24	.40
19	No sense of fair play	.51	.27	.38	.12
28	Difficulty in learning	.16	.83	.04	-.07
21	Fails to finish	.32	.79	.14	-.03
7	Distractibility a problem	.39	.75	.05	-.00
22	Childish and immature	.22	.68	-.07	.16
20	Appears to lack leadership	-.08	.64	.16	.42
18	Appears to be easily led	-.10	.54	.28	.47
9	Daydreams	.17	.49	.27	.25
26	Easily frustrated	.40	.45	.32	.38
25	Uncooperative (classmates)	.41	.26	.68	.04
13	Submissive attitude	-.10	-.08	.64	.08
27	Uncooperative (teacher)	.43	.35	.61	-.01
6	Overly sensitive	.39	.12	-.00	.70
17	Appears to be unaccepted	.30	.28	.39	.41
Eigenvalue		11.85	2.73	1.56	1.13
% total variance		42.3	9.8	5.6	4.0
Number of Items in Scale		15	8	4	4

Cumulative variance accounted for by the four factors: 61.7

Note. * n=638
** In brief; see Appendix E for actual wording of items
*** Items included on a certain factor are underscored
**** BP/O = Behavior Problems/Overactivity
AP/P = Attention Problems/Passive
SI = Social Incompetence
S/P = Sensitive Passive

The four-factor, oblique promax rotation produced the best approximation to simple structure. The variables in the hyperplane (i.e., loadings of .10 and below) increased from 28 variables in the varimax rotation to 41 variables in the promax rotation for the total sample, from 27 variables in the varimax rotation to 41 in the promax rotation for boys, and from 22 variables in the varimax rotation to 39 variables in the promax rotation for girls. In this situation, Gorsuch (1983) has suggested than an oblique solution is likely to be "a better representation of the data", the assumption of orthogonal factors should be rejected and the oblique solution accepted. However, as the oblique and orthogonal solutions were similar to each other in the item content of the major factors, only the orthogonal solution is considered from here on as it will allow the results to be compared with other studies, which have used principal component factor analysis rotated to varimax solutions. The oblique solution, shown in Tables 8 (total sample), 9 (boys), and 10 (girls) is worth exploring in future research with the CTRS-R.

Table 8

Conners's Teacher Rating Scale, Revised, Spanish Version (Total Sample)*
First-Order Promax Rotated Factor Matrix and Eigenvalues

Item	Name**	Factors*** I BP/O	II AP/P	III U	IV S****
1	Squirmy	.87	.08	-.13	-.15
14	Restless	.84	.05	-.06	-.10
2	Inappropriate noises	.84	.06	-.15	.00
3	Demands must be met	.80	-.09	-.10	.27
15	Excitable, impulsive	.80	.04	-.03	.06
12	Quarrelsome	.77	-.02	.02	.06
8	Disturbs children	.76	.03	.07	-.08
5	Temper outbursts	.74	.09	.09	.12
16	Excessive demands teacher	.71	-.02	.04	.12
10	Pouts and sulks	.65	.15	-.05	.24
23	Denies mistakes/blames	.61	.05	.21	-.03
11	Mood changes	.59	.07	.12	.21
4	Acts "smart"	.55	-.20	.16	.23
24	Does not get along	.44	-.03	.40	.10
19	No sense of fair play	.40	.11	.28	.04
28	Difficulty in learning	-.04	.85	-.07	-.07
21	Fails to finish things	.11	.77	.02	-.07
7	Distractibility a problem	.24	.73	-.07	-.07
20	Appears to lack leadership	-.21	.64	.08	.34
22	Childish and immature	.12	.63	-.13	.13
18	Appears to be easily led	-.22	.52	.18	.36
9	Daydreams	.05	.39	.20	.15
26	Easily frustrated	.29	.33	.21	.27
25	Uncooperative (classmates)	.17	.00	.76	-.12
27	Uncooperative (teacher)	.20	.14	.62	-.13
13	Submissive attitude	-.13	-.08	.37	.06
17	Appears to be unaccepted	.20	.15	.33	.25
6	Overly sensitive	.45	.07	-.06	.50
Eigenvalue		10.33	6.40	5.86	1.41
Number of Items loading over .40		16	6	3	1
Total Communality Estimates:		15.51			

Note. * n=638
** In brief; see Appendix E for actual wording of items
*** Items loading over .40 are underscored
**** BP/O = Behavior Problems/Overactivity
AP/P = Attention Problems/Passive
U = Uncooperative
S = Sensitive

Table 9

Conners's Teacher Rating Scale, Revised, Spanish Version (Boys)*
First-Order Promax Rotated Factor Matrix and Eigenvalues

Item	Name**	Factors*** I BP/O	II AP/P	III U	IV S/P****
15	Excitable, impulsive	.89	.05	-.13	.04
1	Squirmy	.84	.14	-.10	-.19
14	Restless	.84	.11	-.05	-.15
2	Inappropriate noises	.83	.08	-.14	-.04
3	Demands must be met	.80	-.10	-.05	.20
5	Temper outburst	.78	-.07	.09	.07
12	Quarrelsome	.78	-.05	.09	-.03
8	Disturbs children	.76	.04	.06	-.05
16	Excessive demands teacher	.71	.02	.08	.01
10	Pouts and sulks	.70	.08	.00	.16
11	Mood changes	.68	.00	.11	.17
23	Denies mistakes/blames	.65	.00	.26	-.11
6	Overly sensitive	.55	.00	-.09	.44
4	Acts "smart"	.54	-.18	.17	.22
24	Does not get along	.47	-.08	.38	.14
19	No sense of fair play	.45	.15	.13	.15
26	Easily frustrated	.36	.26	.19	.27
28	Difficulty in learning	-.06	.83	-.07	.04
21	Fails to finish things	.13	.78	.00	-.02
7	Distractibility a problem	.18	.77	-.05	.04
22	Childish and immature	.14	.58	-.11	.21
20	Appears to lack leadership	-.19	.54	.16	.45
9	Daydreams	.00	.39	.27	.13
25	Uncooperative (classmates)	.06	.11	.82	-.07
27	Uncooperative (teacher)	.17	.15	.63	-.06
13	Submissive attitude	-.05	-.17	.39	.18
18	Appears to be easily led	-.14	.44	.03	.57
17	Appears to be unaccepted	.22	.09	.30	.34
	Eigenvalue	10.92	6.24	5.70	1.76
	Number of items loading over .40	16	6	2	3

Total Communality Estimates: 16.20

Note. * n=295
** In brief; see Appendix E for actual wording of items
*** Items loading over .40 are underscored.
**** BP/O = Behavior Problems/Overactivity
AP/P = Attention Problems/Passive
U = Uncooperative
S/P = Sensitive/Passive

Table 10

Conners's Teacher Rating Scale, Revised, Spanish Version (Girls)*
First-Order Promax Rotated Factor Matrix and Eigenvalues

Item	Name**	Factors*** I BP/O	II AP/P	III S/T	IV SI/P****
1	Squirmy	.89	.04	-.10	-.08
14	Restless	.82	.00	-.05	.02
8	Disturbs children	.80	.01	-.10	.14
2	Inappropriate noises	.76	.01	.05	-.08
15	Excitable, impulsive	.61	.04	.18	.06
3	Demands must be met	.59	-.07	.49	-.25
12	Quarrelsome	.58	.04	.30	-.11
5	Temper outbursts	.56	-.12	.26	.10
16	Excessive demands teacher	.49	-.05	.37	-.02
23	Denies mistakes/blames	.43	.19	.23	.07
4	Acts "smart"	.41	-.26	.35	.15
24	Does not get along	.30	.08	.28	.27
28	Difficulty in learning	.07	.83	-.14	-.02
21	Fails to finish things	.10	.77	-.10	.11
22	Childish and immature	.02	.67	.17	-.22
7	Distractibility a problem	.34	.67	-.09	-.05
20	Appears to lack leadership	-.28	.64	.22	.02
18	Appears to be easily led	-.27	.45	.16	.37
9	Daydreams	-.01	.36	.26	.12
6	Overly sensitive	.08	.06	.61	-.05
10	Pouts and sulks	.36	.24	.48	-.20
26	Easily frustrated	.04	.35	.40	.22
11	Mood changes	.35	.14	.36	.09
25	Uncooperative (classmates)	.27	-.02	.13	.55
27	Uncooperative (teacher)	.26	.16	.02	.51
19	No sense of fair play	.39	.01	.01	.46
13	Submissive attitude	-.12	-.06	-.12	.43
17	Appears to be unaccepted	.15	.16	.23	.35
Eigenvalue		8.68	5.95	5.88	4.84
Number of items loading over .40		11	6	4	4

Total Communality Estimates: 14.91

Note. * n=343
** In brief; see Appendix E for actual wording of items.
*** Items loading over .40 are underscored.
**** BP/O = Behavior Problems/Overactivity
AP/P = Attention Problems/Passive
S/T = Sensitive/Temperamental
SI/P = Social Incompetence/Passive

Criterion for item assignment was based mostly on a factor loading of .40 and above on the major factor, with low loadings on the remaining factors. In situations where items loaded above the cutoff on two factors, the item was generally retained in the factor with higher loading.

However, the decision regarding which factors to retain was based not only on statistical guidelines but also entailed clinical judgement. Although retention of items with correlations on more than one scale raises the correlations between scales, and possibly makes them unstable, Achenbach, Edelbrock, & Howell (1987) have argued that it is intended to reflect "the tendency of certain problems to covary with more than one syndrome, just as fever covaries with more than one type of physical illness".

I made an exception to the statistical guidelines with the following items and kept them on both factors: 1) Item 24, "does not get along with other children" showed overlap between Factor I and Factor III. 2) Item 20, "appears to lack leadership" loaded highly both Factors II and Factor IV. 3) Item 18, "appears to be easily led", also showed overlap between Factors II and IV.

The four factors accounted for 61.7% of the variance, which happens to be the same variance reported by Goyette et al. (1978). The first factor included 18 items with loadings exceeding .40 and accounted for 11.9% of the variance. This factor included 14 items which did not load on any other factor derived in the analysis. The items contained in the

first factor suggest three aspects of the behavioral problems dimension, overactivity (e.g., restlessness), affect (e.g., pouts and sulks), and aggressiveness (e.g., quarrelsome). The first factor strongly resembles the Conduct Problems and Hyperactivity factors described by Conners (1969), Goyette et al. (1978), and Werry et al. (1975),. It emerged as a single factor which is similar to the Conduct Problems/Hyperactivity factor which appeared in the Arias and O'Leary (1984) study of Spanish children and in the O'Leary et al. (1985) study of Italian children. I labeled this factor Behavior Problems/ Overactivity.

The second factor, which accounts for 9.8% of the variance, included 8 items, four of which did not load highly on any other factor. This factor contains items that relate to concentration and immaturity. It has items of the Inattentive/Passive factors described by Conners (1969), Goyette et al. (1978), and Werry et al. (1975). Therefore, I called this factor Attention Problems/Passive.

The third factor, accounting for 5.6% of the total variance, included 4 items of which 3 had high overlapping loadings with other factors. It is saturated by such items as "doesn't get along with other children" and uncooperativeness with others as well as by the item "appears to be unaccepted", which has a marginal loading (.39). The items may serve as an indicator of the social competence of children. This factor had not emerged in previous research although Goyette et al. (1978) included most of these items in the

CTRS-R as "others". This factor was labeled Social Incompetence.

The fourth factor accounts for 1.13% of the variance and contains only 2 nonoverlapping items and 2 items loading on other factors. This factor is described by items reflecting sensitivity, passivity, and lack of popularity. This factor is named Sensitive/Passive.

Most variables loaded significantly on the first two factors suggesting two major factors in the teacher's ratings of the CTRS-R Spanish version. These two factors are sufficiently stable and interpretable for scale construction. The third and fourth factor resulted in trivial factors with few items loading above the .40 criteria and many items sharing their loadings with other factors making them less stable. However, they were kept as they might be relevant clinically for the Puerto Rican children. Gorsuch (1983) has suggested that factors with a few minor loadings might be of interest when analyzing few variables (i.e., less than 30) and using a large sample. Further, the stability of these scales might improve by adding new variables that are relevant to these dimensions.

The four scales resulting from this analysis form the CTRS-R, Spanish version (see Table 11). For purposes of further analyses, subscales were created by summing all items selected to give scale scores for each child (Appendix J).

Table 11

Conners's Teacher Rating Scale, Revised, Spanish Version (Total Sample)

Factor I BP/O Item	Factor II AP/P Item	Factor III SI Item	Factor IV S/P** Item	ACTRS-R* Item
2	9	(24)	17	5
3	(18)	25	(18)	7
4	(20)	27	(20)	8
5	21			10
8	22			11
10	26			14
11	28			15
12				21
14				26
15				
16				
19				
23				
(24)				

Note.*Items loading more than one factor are in parenthesis.
**BP/O = Behavior Problems/Overactivity
AP/P = Attention Problems/Passive
SI = Social Incompetence
S/P = Sensitive/Passive
ACTRS-R = Abbreviated CTRS-R

Reliability

Internal consistency

After scale items were identified, the internal consistency of the CTRS-R, Spanish version, was examined through computation of alpha coefficients for each subscale identified (Cronbach, 1951). The results, presented in Table 12, indicate that the coefficients computed were all above .70. The alphas computed were high for the Behavior Problems/Overactivity and Attention Problems/Passive subscales and moderate for the Social Incompetence and Sensitive/Passive

subscales. It is evident that the Alpha reliabilities for the subscales are acceptable. Alpha reliabilities are dependent on scale length, alpha increasing as the scale lengthens (Cronbach, 1951). In terms of future use, an increase from 4 to more than 8 items comprising the Social Incompetence and Sensitive/Passive subscales could improve their internal consistency. Further, deleting item 13 would raise alpha to .81 for the Social Incompetence subscale.

Item analysis

Table 12 also presents the results of the item analysis of the CTRS-R, Spanish version. Presented in this table are the item means which ranged from 1.55 to 1.68 and the minimum and maximum item means. Also presented in this table are the mean inter-item correlations for each subscale which were between .36 and .55. The lowest correlations between individual items and each of the total factor scores ranged from .20 to .55. For the Social Incompetence subscale, again item 13 had the lowest item-total correlation ($r = .20$). For the Sensitive/Passive subscale, item 6 had the lowest item-total correlation of .36. An examination of the corrected item-total correlations for each of the subscales indicated that all correlations were significant ($p \leq .05$). These results showed that the subscales based on the factor analysis of the CTRS-R, Spanish version, had a moderate to high level of reliability based on internal consistency. Results for the abbreviated CTRS-R will be discussed at a later point.

Table 12

Summary of Reliability Analysis of the CTRS-R, Spanish Version (Total Sample)*

Subscales	Number of Items	Item Means**	S.D.	Minimum Item Mean	Maximum Item Mean	Mean Inter-item Correlation	Lowest Item-total Correlation	Alpha Reliability
Behavior Problems/ Overactivity	15	1.56	.82	1.28	1.82	.55	.55	.95
Attention Problems/ Passive	8	1.68	.88	1.43	1.89	.45	.52	.87
Social Incompetence	4	1.60	.86	1.42	2.05	.38	.20	.71
Sensitive/Passive	4	1.55	.79	1.43	1.76	.36	.36	.70
Abbreviated CTRS-R	10	1.66	.87	1.50	1.90	.52	.58	.92

Note. * n=638

** Means are based on raw scores of ratings from 1 to 4

Subscales Intercorrelations

Orthogonal factor analyses produce uncorrelated underlying dimensions, however, it has been noted that some correlations among the scales can be expected if for no other reason than correlated error variance (Quay & Peterson, 1983).

Table 13 shows the intercorrelations between the subscales derived in this study. The intercorrelations among the four factors were examined using scale scores as calculated. They indicate that the subscales are at least partially independent of one another.

Table 13

Subscales Intercorrelation Matrix of the CTRS-R, Spanish Version (Total Sample)*

	Subscales			
Subscales	BP/O	AP/P	SI	S/P
Behavior Problems/ Overactivity (BP/O)	1.00			
Attention Problems/ Passive (AP/P)	.54**	1.00		
Social Incompetence (SI)	.60**	.49**	1.00	
Sensitive/Passive (S/P)	.48**	.76**	.48**	1.00

Note. * n=638
** p $\leq$.001

As can be seen, the four subscales are all positively intercorrelated and the obtained correlations are generally moderate. An exception is the quite strong relationship of Attention Problems/Passive with Sensitive/Passive (r = .76)

which is likely due to the passivity dimension common to both scales. As expected Behavior Problems/Overactivity shares considerable variance with Social Incompetence ($r = .60$). It would be expected since they have one overlapping item and both share some externalizing features. The Behavior Problems/Overactivity and Attention Problems/Passive moderate correlation ($r = .54$) reflects the often found association of behavior problems, hyperactivity, and attentional problems. That Sensitive/Passive correlated to any meaningful extent with Behavior Problems ($r = .48$) and Social Incompetence ($r = .48$) suggests that both of the latter externalizing subscales have some features of the internalizing dimensions represented by this scale. Attention Problems/Passive and Social Incompetence moderate correlation is also likely due to the passivity and uncooperativeness component common to the two dimensions. All the correlations are statistically significant ($p \leq .001$). It is important to observe that the correlations are moderate. This points to the fact that orthogonality of these factors is suspect and that the use of an oblique rotation, which results in correlated factors, might be more appropriate for this set of data.

Coefficients of Congruence

Following Gorsuch's (1983) recommendations, factor stability was further evaluated through pairwise comparisons of item loadings which were derived from two random halves of the total sample and submitted to identical factor-analytic procedures (i.e., principal component with varimax rotation).

Tucker's (1951) Coefficients of Congruence were employed to generate indexes of scales stability. The statistical significance of the coefficients was determined by using tables developed by Schneewind and Cattell (1970). These Coefficients of Congruence provided additional evidence for CTRS-R factor stability. The Coefficients of Congruence for like scales ranged from .22 to .99, as shown in Table 14.

Table 14

Congruence Coefficients Between Random Samples and Between Random Samples and Total

Comparison	BP/O	AP/P	SI	S/P*
Sample 1 vs. Sample 2	.99**	.96**	.65***	.22
Sample 1 vs. Total	.99**	.99**	.98**	.94**
Sample 2 vs. Total	.99**	.98**	.62***	.35

Note. * BP/O = Behavior Problems/Overactivity
AP/P = Attention Problems/Passive
SI = Social Incompetence
S/P = Sensitive/Passive
** $p \leq .001$
*** $p \leq .01$

Only two of the interfactor coefficients for corresponding scales were not significant. The coefficients for the Behavior Problems/Overactivity and Attention Problems/Passive scales were all significant ($p \leq .001$), indicating that these two factors are highly stable, with a high likelihood of replicating in future research (Cattell & Kline, 1977). The coefficients obtained from the comparison of Sample 1 versus Sample 2 and Sample 2 versus Total for the Social Incompetence Scale

were above .60 and also significant ($p \leq .01$). The coefficients obtained from the comparison of Sample 1 versus Sample 2 and Sample 2 versus Total for the Sensitive/Passive subscale were not significant. The low to moderate coefficients obtained for the Social Incompetence and Sensitive/Passive subscales resulted from a reversed order of emergence in Sample 2, of the two factors used to form these scales. In addition, three items comprising the Social Incompetence scale in Sample 1 and the Sensitive/Passive subscale in Sample 2 had relatively high loadings, therefore, reducing the coefficients. This situation has been discussed by Cattell & Kline (1977) who suggest to calculate spuriously the coefficients by reversing such items. This was tried and, effectively, the coefficients obtained were .93 for the Social Incompetence scale and .52 for the Sensitive/Passive subscale. However, the results obtained for these two scales again suggest that they are somewhat unstable and need to be refined (e.g., adding variables regarding the dimensions) for future use.

Factor Analyses for Boys and Girls

According to previous criteria, separate factor analyses were conducted for boys and girls, as Arias and O'Leary (1984) and O'Leary et al. (1985) have reported that both the factorial structure and the patterning of items on factors may differ by gender. In addition, it was of interest to examine gender differences within the Puerto Rican children as perceived by teachers.

The rotated factor solutions for boys and girls, along with the percentage of variance accounted for by each factor, are shown in Tables 15 (boys) and 16 (girls). The amount of variance accounted for by the boys and girls' factor analyses was 63.7% and 59.9% respectively.

Table 15

Conners's Teacher Rating Scale, Revised, Spanish Version (Boys)*
First-Order Varimax Rotated Factor Matrix, Eigenvalues, and Percentage of Variance

Item	Name**	Factors*** I BP/O	II AP/P	III SI	IV S/P****
15	Excitable, impulsive	.84	.19	.02	.13
14	Restless	.83	.26	.08	-.07
1	Squirmy	.82	.27	.04	-.11
2	Inappropriate noises	.80	.22	-.01	.04
12	Quarrelsome	.79	.13	.18	.04
8	Disturbs children	.78	.21	.17	.01
5	Temper outbursts	.78	.11	.20	.14
3	Demands must be met	.75	.03	.08	.29
16	Excessive demands teacher	.74	.18	.20	.08
23	Denies mistakes/blames	.72	.19	.33	-.07
10	Pouts and sulks	.71	.22	.12	.24
11	Mood changes	.70	.15	.24	.25
24	Does not get along	.56	.10	.47	.19
4	Acts "smart"	.54	-.09	.27	.33
19	No sense of fair play	.52	.28	.23	.22
26	Easily frustrated	.46	.38	.34	.33
28	Difficulty in learning	.12	.82	.02	.06
21	Fails to finish things	.33	.79	.11	.03
7	Distractibility a problem	.35	.78	.08	.09
22	Childish and immature	.24	.62	-.04	.30
20	Appears to lack leadership	-.04	.56	.25	.52
9	Daydreams	.14	.50	.39	.13
25	Uncooperative (classmates)	.35	.33	.74	-.03
27	Uncooperative (teacher)	.39	.34	.67	-.04
13	Submissive attitude	-.03	-.18	.59	.24
18	Appears to be easily led	-.06	.43	.12	.69
6	Overly sensitive	.51	.06	.01	.60
17	Appears to be unaccepted	.31	.20	.39	.45
Eigenvalue		12.24	2.7	1.63	1.23
% total variance		43.7	9.8	5.8	4.4
Number of items above .40		17	7	4	4

Cumulative variance accounted for by the four factors: 63.7

Note. * n=295
** In brief; see Appendix E for actual wording of items
*** Items above .40 are underscored
**** BP/O = Behavior Problems/Overactivity
AP/P = Attention Problems/Passive
SI = Social Incompetence
S/P = Sensitive/Passive

Table 16

Conners's Teacher Rating Scale, Revised, Spanish Version (Girls)*
First-Order Varimax Rotated Factor Matrix, Eigenvalues, and Percentage of Variance

Item	Name**	Factors*** I BP/O	II AP/P	III T/S	IV SI/P****
1	Squirmy	.84	.15	.04	.02
14	Restless	.81	.13	.09	.12
8	Disturbs children	.80	.17	.09	.18
2	Inappropriate noises	.77	.11	.15	.00
15	Excitable, impulsive	.68	.18	.29	.15
12	Quarrelsome	.64	.16	.39	-.03
3	Demands must be met	.63	.04	.52	-.12
5	Temper outbursts	.61	.02	.40	.16
16	Excessive demands teacher	.56	.07	.47	.06
23	Denies mistakes/blames	.54	.33	.34	.14
28	Difficulty in learning	.20	.81	-.07	.07
21	Fails to finish things	.26	.79	.02	.19
22	Childish and immature	.15	.71	.16	-.16
7	Distractibility a problem	.45	.70	.01	.07
20	Appears to lack leadership	-.14	.68	.27	.10
18	Appears to be easily led	-.10	.55	.26	.45
9	Daydreams	.10	.47	.38	.18
6	Overly sensitive	.17	.14	.74	.01
10	Pouts and sulks	.47	.33	.53	-.10
26	Easily frustrated	.23	.49	.51	.30
4	Acts "smart"	.45	-.14	.50	.23
11	Mood changes	.46	.28	.49	.18
24	Does not get along	.42	.25	.44	.30
17	Appears to be unaccepted	.28	.33	.41	.39
13	Submissive attitude	-.09	-.04	-.11	.68
25	Uncooperative (classmates)	.39	.20	.33	.55
27	Uncooperative (teacher)	.39	.36	.22	.52
19	No sense of fair play	.49	.20	.21	.49
Eigenvalue		11.09	2.88	1.53	1.27
% total variance		39.6	10.3	5.5	4.5
Number of items above .40		16	8	10	5

Cumulative variance accounted for by the four factors: 59.9

Note. * n=343
** In brief, see Appendix E for actual wording of items
*** Items above .40 are underscored
**** BP/O = Behavior Problems/Overactive
AP/P = Attention Problems/Passive
T/S = Temperamental/Sensitive
SI/P = Social Incompetence/Passive

There was considerable overlap between the factor structure of the CTRS-R, Spanish version for boys and girls. However, separate factor analyses for boys and girls yielded some differences evident in the composition of some of the factors. Criteria for item assignment was based on a factor loading of .40 and above on the major factor. As the goal of these analyses was to examine the patterning of items on factors, in situations where items loaded above the cutoff on two factors, the item was retained in both.

For boys and girls, the first and second factor to emerge were similar to the first and second factors of the total sample. For boys, the first factor included 17 items with loadings above .40, 15 of which did not load any other factor. It consisted entirely of items related to overactivity (e.g., restless), aggression (e.g., quarrelsome), and affect (e.g., pouts, sulks, temper outburts), suggesting a temperamental, energetic, and oppositional boy. It is similar to the primary factor that emerged from the total sample; therefore, it was labeled Behavior Problems/Overactivity. For girls, the first factor to emerge consisted of 16 items, 8 of which also loaded on the third factor. This factor, as the first factor for boys, contained items which described an overactive, oppositional, and temperamental girl. Thus, it was called similarly-Behavior Problems/Overactivity.

There was considerable overlap on the second boys' factor and the second girls' factor. For boys, this factor included 7 items, 2 of which loaded other factors. It

contained items such as "distractibility a problem" and "fails to finish tasks" which have been markers for attention problems. Other items described a passive, immature child (e.g., daydreams). This factor reflected a distractible, passive boy and was labeled accordingly: Attention Problems/ Passive. For girls, the second factor included 8 items, three of which overlapped with other factors. The items in the second factor for girls reflected more a tendency toward passivity and childishness rather than lack of concentration. However, it was labeled Attention Problems/Passive for its close similarity to the boys' second factor and the second factor for the total sample.

The 4 items loading in the third boys' factor suggested a behavioral pattern of noncompliance and lack of social skills. It consisted of items such as "does not get along" and "uncooperative...". It bears similarity to the third factor for the total sample; therefore, this boys' factor was given the same name, Social Incompetence. The third factor for girls consisted of 10 items, 7 of which overlapped with the first factor. It included items like "pouts and sulks", "temper outbursts", "overly sensitive" , and "does not get along". Seven of the items which compose this factor suggested a temperamental and sensitive child; thus, this girls' factor was given the name of Temperamental/Sensitive. This factor was not replicated in the boys' sample and it is not found in previous research with separate analyses for boys and girls.

The boys' fourth factor consisted of 4 items, 3 which overlapped with other factors and was composed of items such as "unaccepted", "easily led", and "overly sensitive". It was similar to the fourth factor of the total sample and reflected a sensitive as well as a somewhat passive boy; therefore, it was named Sensitive/Passive. Whereas for girls, the fourth factor consisted of 5 items, 2 of which overlapped with other factors. It consisted of items such as "uncooperative...", and "no sense of fair play", which are related to social competence but with a flavor of submissiveness reflected in items such as "easily led", which was not so marked for the boys' third factor. It emerged as a third factor for boys and for the total sample. As the third boys' factor, it reflected a lack of social skills and noncompliance. It was called Social Incompetence/Passive.

A systematic pattern appeared in the factor solutions of boys and girls. The nature of the items which differentiated the generally similar item composition of the boys' and girls' factors reflected an internalizing (e.g., passivity, withdrawal, childishness, pouts) behavioral pattern for the girls' factors whereas for the boys' factors reflected a behavioral pattern characterized by an externalizing (e.g., noncompliance, uncooperativeness) pattern together with internalizing features. Four scales for both boys and girls resulted from these analyses (see Tables 17 and 18).

Table 17

Conners's Teacher Rating Scale, revised, Spanish Version (Boys)

Factor I BP/O Item	Factor II AP/P Item	Factor III SI Item	Factor IV* S/P Item
1	7	13	(6)
2	9	(24)	17
3	(18)	25	(18)
4	(20)	27	(20)
5	21		
(6)	22		
8	28		
10			
11			
12			
14			
15			
16			
19			
23			
(24)			
26			

Note. *Items loading more than one factor are in parenthesis.
**BP/O = Behavior Problems/Overactivity
AP/P = Attention Problems/Passive
SI = Social Incompetence
S/P = Sensitive/Passive

Table 18

Conners's Teacher Rating Scale, Revised, Spanish Version (Girls)

Factor I BP/O Item	Factor II AP/P Item	Factor III T/S Item	Factor IV* SI/P Item
1	(7)	(3)	13
2	9	(4)	(18)
(3)	20	(5)	(19)
(4)	21	6	25
(5)	22	(10)	27
(7)	(26)	(11)	
8	28	16	
(10)		17	
(11)		(24)	
12		(26)	
14			
15			
(16)			
(18)			
(19)			
23			
(24)			

Note. *Items loading more than one factor are in parenthesis.
**BP/O = Behavior Problems/Overactivity
AP/P = Attention Problems/Passive
T/S = Temperamental/Sensitive
SI/P = Social Incompetence/Passive

Reliability

Internal consistency

Results of internal consistency of the scales formed from the factor analyses of the CTRS-R, Spanish version, for boys and girls, are presented in Tables 19 and 20.

The alpha coefficients (Cronbach, 1951) were between .71 and .95 for boys and between .71 and .94 for girls, which seems acceptable. The coefficients computed for the Behavior Problems/Overactivity and Attention Problems/Passive of the boys' subscales were high. The ones for the Social Incompetence and Sensitive/Passive subscales were moderate. For the girls' subscales, the alpha reliabilities are high for Behavior Problems/Overactivity, Attention Problems/Passive, and Temperamental/Sensitive and moderate for the Social Incompetence/Passive subscales. The internal consistency obtained in some subscales could be raised by deleting some items. For example, deleting item 13 would result in an alpha of .82 for the boys' Social Incompetence subscale and an alpha of .76 for the girls' Social Incompetence/Passive subscale.

Item analysis

Tables 19 and 20 also show the results of the item analysis of the CTRS-R, Spanish version for boys and girls separately. The item means for the boys' subscales were between 1.58 and 1.80. The item means for each of the girls' subscales fell between 1.45 and 1.59. The minimum and maximum item means are also shown for both boys and girls. The mean inter-item correlations ranged from .38 to .54 for boys and from .33 to .48 for girls. The ranges for item to scale correlations were from .26 to .56 for boys and from .21 to .55 for girls. All results are significant ($p \leq .05$). According to these results, it can be said that the CTRS-R's, Spanish version, internal consistency is acceptable. An

examination of the item correlations for each subscale demonstrated that the internal consistency could improve by dropping item 13 ("submissive attitude")(r =.20) for both the boys' and girls' subscales. This item is considered vague and could be replaced by a more specific one. Further, as it has been noted before, adding 6 to 8 items relevant to the dimensions measured by the last two boys' and girls' factors that emerged would clarify their composition. Results of the abbreviated CTRS-R will be discussed later on.

Table 19

Summary of Reliability Analysis of the CTRS-R, Spanish Version (Boys)*

Subscales	Number of Items	Item Means**	S.D.	Minimum Item Mean	Maximum Item Mean	Mean Inter-item Correlation	Lowest Item-total Correlation	Alpha Reliability
Behavior Problems/ Overactivity	17	1.66	.88	1.31	1.97	.54	.56	.95
Attention Problems/ Passive	7	1.80	.96	1.47	2.05	.45	.49	.85
Social Incompetence	4	1.66	.91	1.50	2.05	.41	.26	.73
Sensitive/Passive	4	1.58	.82	1.44	1.81	.38	.38	.71
Abbreviated CTRS-R	10	1.80	.95	1.60	2.05	.55	.59	.93

Note. *n=295

**Means are based on raw scores of ratings from 1 to 4.

Table 20

Summary of Reliability Analysis of the CTRS-R, Spanish Version (Girls)*

Subscales	Number of Items	Item Means**	S. D.	Minimum Item Mean	Maximum Item Mean	Mean Inter-item Correlation	Lowest Item-total Correlation	Alpha Reliability
Behavior Problems/ Overactivity	16	1.48	.74	1.25	1.76	.48	.53	.94
Attention Problems/ Passive	8	1.59	.81	1.41	1.76	.45	.51	.87
Temperamental/ Sensitive	10	1.45	.70	1.25	1.55	.44	.55	.89
Social Incompetence/ Passive	5	1.53	.79	1.37	2.04	.33	.21	.71
Abbreviated CTRS-R	10	1.55	.78	1.41	1.76	.46	.52	.90

Note. * n=343
** Means are based on raw scores of ratings from 1 to 4.

Subscales Intercorrelations

Intercorrelations among subscales for boys and girls appear in Tables 21 and 22, respectively. All subscales are significantly correlated with one another. On the whole, the boys' subscales intercorrelations are moderately associated with two exceptions: 1) the moderately high association between Behavior Problems/Overactivity and Social Incompetence subscales. This would be expected since they share items indicative of behavior problems (e.g., disturbs children) and lack of sociall skills (e.g., not getting along, uncooperative). 2) The moderately high correlation between the Attention Problems/Passive and the Sensitive/Passive subscales. The association between these subscales appears to be related to items measuring passivity and immaturity.

Table 21

Subscales Intercorrelation Matrix of the CTRS-R, Spanish Version (Boys)*

	Subscales			
Subscales	BP/O	AP/P	SI	S/P
Behavior Problems/ Overactivity (BP/O)	1.00			
Attention Problems/ Passive (AP/P)	.57**	1.00		
Social Incompetence (SI)	.62**	.48**	1.00	
Sensitive/Passive (S/P)	.52**	.74**	.47**	1.00

Note. * n=295
** p ≤.001

Table 22

Subscales Intercorrelation Matrix of the CTRS-R, Spanish Version (Girls)*

Subscales	Subscales BP/O	AP/P	T/S	SI/P
Behavior Problems/ Overactivity (BP/O)	1.00			
Attention Problems/ Passive (AP/P)	.57**	1.00		
Temperamental/ Sensitive (T/S)	.91**	.59**	1.00	
Social Incompetence/ Passive (SI/P)	.56**	.58**	.58**	1.00

Note. * n=343
** p $\leq$.001

As a matter of fact, examination of the moderate correlation between the other subscales indicated that their association is also partially due to the immaturity and passivity dimensions.

Inspection of Table 22 indicated that the correlations among the subscales for girls were generally moderate with the exception of the high correlation between the Behavior Problems/Overactivity and the Temperamental/Sensitive subscales. This correlation is of special interest as this association was unique to girls. The high correlation may be accounted by double loadings or shared variance on items reflecting emotionality (e.g., mood changes) and lack of social skills (e.g., doesn't get along). The moderate association of the rest of the subscales appear to be related to items characterizing uncooperativeness, immaturity, and unacceptance.

In general, correlations among the measures of inattentiveness, behavior problems, overactivity, and emotionality for both boys and girls are at least moderately associated, which support previous findings reported for measures of child behavior problems.

Coefficients of Congruence

In order to evaluate the similarity between the boys' factors and the girls' factors, Tucker's (1951) Coefficients of Congruence were computed. The statistical significance of these coefficients was evaluated with the use of tables developed by Schneewind & Cattell (1970). The r_c values of like-named subscales had, as expected, high coefficients suggesting that their make up is similar. As can be observed in Table 23, the r_c values of the diagonal gradually decrease, which can be expected (Cattell, 1978). The values of r_c down the diagonal for the Behavior Problems/Overactivity and Attention Problems/Passive boys' and girls' factors are significant ($p \leq .001$) and larger than any other value in both the row and the column which suggests significant factor matching.

Table 23

Congruence Coefficients Between the CTRS-R, Spanish Version (Boys)[a] and CTRS-R, Spanish Version (Girls)[b]

	Puerto Rican Girls			
Puerto Rican Boys	BP/O	AP/P	SI/P	T/S[c]
Behavior Problems/Overactivity	.98*	.48***	.42	.41
Attention Problems/Passive	.53**	.97*	.42	.42
Social Incompetence	.52**	.50***	.88*	.80*
Sensitive/Passive	.29	.57**	.48***	.38

Note. a n=295
b n=343
c BP/O = Behavior Problems/Overactivity
AP/P = Attention Problems/Passive
SI/P = Social Incompetence/Passive
T/S = Temperamental/Sensitive
* $p \leq .001$
** $p \leq .025$
*** $p \leq .05$

Factorial similarity for the third and fourth factor for both boys and girls is less clear. On one hand the r_c diagonal value for the Social Incompetence boys' factor and the Social Incompetence/Passive girls' factor was significant ($r_c = .88$, $p \leq .001$). This significant diagonal r_c value is understandable as these two factors bear close item content similarity. On the other hand, there is a significant off-diagonal r_c value in the row ($r_c = .80$, $p \leq .001$) for the Temperamental/Sensitive girls' factor and the Social Incompetence boys' factor. The high magnitude of this r_c value indicates factorial similarity for these two differently named subscales. Examination of the factor composition revealed that the subscales have two overlapping items and several items which have a high loading on one of the subscales and a moderate loading on the opposite subscale.

The fourth diagonal r_c value, which has a rather low magnitude, is the factor matching index of two different-named subscales, the Temperamental/Sensitive girls' factor and the Sensitive/Passive boys' factor ($r_c = .38$, $p \leq .10$). The composition of the fourth factor for boys, Sensitive/Passive, is not comparable to the composition of the third girls' factor, Temperamental/Sensitive, hence the low off-diagonal r_c, which has a marginal significance ($p \leq .10$).

It is important to observe that although the diagonal elements are all statistically significant, there are off-diagonal r_c values of moderate or even higher values which are also statistically significant. The Social Incompetence/Passive and Temperamental/Sensitive girls' subscales share some similarity with the Social Incompetence and Sensitive/Passive boys' subscales but also reflect quite different features between them.

Examination of the r_c values down the diagonal for the boys' subscales and the total sample's subscales shows that they are all significant (Table 24). Further, the off-diagonals are all smaller which suggest factor similarity for the boys' subscales and the total sample's subscales. However, as was true for the boys' and girls' comparison, the off-diagonals are moderate in magnitude suggesting some association between the subscales.

Table 24

Congruence Coefficients Between the CTRS-R, Spanish Version (Boys) [a] **and CTRS-R, Spanish Version (Total Sample)** [b]

	Puerto Rican Children (Total)			
Puerto Rican Boys	BP/O	AP/P	SI	S/P[c]
Behavior Problems/Overactivity	.93*	.51**	.51**	.55**
Attention Problems/Passive	.54**	.99*	.50***	.40
Social Incompetence	.55**	.49***	.98*	.50***
Sensitive/Passive	.36	.55**	.47***	.94*

Note. a n=295
b n=638
c BP/O = Behavior Problems/Overactivity
AP/P = Attention Problems/Passive
SI = Social Incompetence
S/P = Sensitive/Passive
* $p \leq .001$
** $p \leq .025$
*** $p \leq .05$

The comparison of the r_c value for the girls' subscales and the total sample's subscales revealed, as shown in Table 25, that the r_c diagonals as well as most off-diagonals all reached significance. However, the factor similarity for the girls' subscales and the total sample is less stable, though clearly identifiable. The analysis suggest that for girls the emergence of the reversed order of the third and fourth factors and the high number of items loading more than one factor above .40 result in factors that are combinations of other factors; therefore, raising the r_c values of the off-diagonals.

Table 25

Congruence Coefficients Between the CTRS-R, Spanish Version (Girls)[a] and CTRS-R, Spanish Version (Total)[b]

	Puerto Rican Children (Total)			
Puerto Rican Girls	BP/O	AP/P	SI	S/P[c]
Behavior Problems/Overactivity	.99*	.50***	.49***	.42
Attention Problems/Passive	.48***	.99*	.49***	.48***
Temperamental/Sensitive	.90*	.49***	.58**	.77*
Social Incompetence/Passive	.41	.45***	.96*	.42

Note. a n=343
b n=638
c BP/O=Behavior Problems/Overactive
AP/P=Attention Problems/Passive
SI =Social Incompetence
S/P =Sensitive/Passive
* p ≤.001
** p ≤.01
*** p ≤.05

Comparison of the Factor Structures of the CTRS-R (Goyette et al., 1978) and the CTRS-R, Spanish version

In order to examine the cross-cultural similarity of the obtained factors, the subscales derived from the Puerto Rican children total sample and the subscales obtained from Goyette et al. (1978), were compared.

Table 26

Congruence Coefficients Between the CTRS-R, Spanish Version (Total Sample) [a] and CTRS-R (Goyette et al., 1978)[b]

Puerto Rican children	CTRS-R, Anglo-American children CP	H	I/P [c]
Behavior Problems/Overactivity	.87*	.93*	.49****
Attention Problems/Passive	.51***	.62**	.95*
Social Incompetence	.60**	.50****	.57***
Sensitive/Passive	.70**	.38	.55***

Note. a n=638
b n=383
c CP = Conduct Problems
H = Hyperactivity
I/P = Inattentive/Passive
* $p \leq .001$
** $p \leq .01$
*** $p \leq .025$
**** $p \leq .05$

As seen in Table 26, the magnitude of the Coefficients of Congruence for the Behavior Problems/Overactivity Puerto Rican's factor and the Conduct Problems and Hyperactivity Anglo-American's factors indicate significant factor matching. Thus, there is very close cross-cultural similarity for these subscales (Behavior Problems/Overactivity with Conduct Problems (r_c = .87, $p \leq .001$); Behavior Problems/Overactivity with Hyperactivity (r_c = .93, $p \leq .001$). Although the r_c values are high, a point to remember regarding the comparison of these factor structures is that Behavior Problem/Overactivity emerged as a combined, major factor for the Puerto Rican sample while for the Anglo-American sample emerged as two separate ones (i.e., Conduct Problems and Hyperactivity). The Attention Problems/Passive

subscale for the Puerto Rican sample is virtually identical to the Inattentive/Passive subscale for the Anglo-American sample, which is shown by the significant r_c value obtained (r_c = .95, $p \leq .001$). Examination of the composition of these subscales show that they share all but one item reflecting similar dimensions. The highly matching factors ($p \leq .001$) appear to be manifestations of the same construct.

The r_c values of most coefficients are substantially high and attain statistical significance. This pattern is similar to the one that emerged for the Puerto Rican sample where moderate and significative r_c values were obtained for almost all factor-matching indexes.

These results point once more to the usual relationship found between the distractibility, behavior problems, and restlessness dimensions measured by the CTRS-R. The moderate magnitude of these r_c values reflect some commonality between these subscales, which is not unusual at all in the Social Sciences (Cattell (1952). Nevertheless, it has also been suggested that "chance related factors can and do occur (i.e., random loading pattern)" (Gorsuch, 1983). That seems particularly true for the r_c value of the Attention Problems/ Passive Puerto Rican's factor and the Hyperactivity Anglo-American's factor (r_c = .62, $p \leq .01$).

A more important finding is that although Anglo-Americans and Puerto Rican children exhibit culture common patterns of behaviors, there are culture specific aspects of the dimensions under study. This is observable in the

differences between the two cultural groups regarding the clustering of the items correlations (e.g., overactivity and behavior problems separate vs. merged). An interesting observation is that for Puerto Rican children, particularly for girls, the sensitivity dimension was partially independent from behavior problems but for Anglo-Americans merged.

Age, Grade, and Gender Norms for the CTRS-R, Spanish Version

Normative data partitioned by age and gender, age and total sample, and grade and gender are summarized in Tables 27, 28, and 29, respectively. These data are based on a sample of 638 Puerto Rican children, as rated by their teachers. The ratings are on a 4-point scale (1-4). As is usual in clinical use, the mean item scores for each subscale are summations within each subscale which are then divided by the number of items included in the subscale.

Table 27

Normative Data on the CTRS-R, Spanish Version, presented by Age and Gender*

Age	BP/O		AP/P		SI		S/P		ACTRS-R**	
	M	SD	M	SD	M	SD	M	SD	M	SD***
Boys by Age (n=295)										
4 (6)	1.71	.52	1.52	.61	1.71	.73	1.33	.26	1.75	.54
5 (58)	1.55	.69	1.80	.70	1.54	.58	1.55	.62	1.70	.71
6 (62)	1.74	.81	1.88	.81	1.52	.71	1.58	.70	1.87	.83
7 (16)	1.71	.76	1.86	.59	1.41	.39	1.78	.75	1.82	.70
8 (50)	1.71	.61	1.81	.61	1.98	.77	1.66	.55	1.82	.69
9 (25)	1.89	.69	1.81	.53	1.99	.88	1.61	.55	2.02	.76
10 (5)	1.97	1.11	1.93	.77	1.90	.74	1.80	.84	2.06	.11
11 (35)	1.46	.56	1.46	.44	1.59	.48	1.37	.44	1.52	.58
12 (28)	1.56	.61	1.72	.75	1.50	.48	1.54	.60	1.74	.69
13 (6)	2.25	.83	2.31	1.01	1.83	.38	1.92	.52	2.40	.76
14 (4)	1.52	.44	2.34	.75	1.63	.52	1.44	.24	1.93	.61
Girls by Age (n=343)										
4 (9)	1.51	.50	1.78	.50	1.47	.40	1.70	.61	1.66	.42
5 (76)	1.42	.51	1.55	.58	1.41	.53	1.59	.65	1.47	.46
6 (54)	1.51	.64	1.67	.66	1.45	.50	1.45	.52	1.63	.67
7 (24)	1.33	.51	1.52	.54	1.30	.36	1.34	.35	1.41	.55
8 (68)	1.66	.52	1.63	.50	1.80	.74	1.70	.54	1.72	.58
9 (27)	1.55	.41	1.62	.51	1.62	.55	1.56	.51	1.60	.41
10 (7)	1.73	.52	1.77	.32	1.54	.37	1.71	.27	1.81	.51
11 (40)	1.26	.48	1.22	.34	1.59	.39	1.27	.38	1.28	.46
12 (26)	1.26	.45	1.53	.66	1.59	.32	1.34	.42	1.34	.52
13 (9)	1.68	.68	2.38	.84	1.70	.51	1.83	.67	2.01	.77
14 (3)	1.48	.47	2.13	.38	2.00	.66	1.67	.14	1.77	.45
By Gender										
Girls	1.47	.54	1.59	.58	1.55	.55	1.52	.54	1.55	.56
Boys	1.67	.70	1.79	.69	1.66	.67	1.58	.60	1.80	.73
Total	1.56	.62	1.68	.64	1.60	.61	1.55	.57	1.66	.66

Note. * Norms are based on results of factor analysis for total sample

** BP/O = Behavior Problems/Overactivity
AP/P = Attention Problems/Passive
SI = Social Incompetence
S/P = Sensitive Passive
ACTRS-R = Abbreviated Conners's Teacher Rating Scale

*** Means and standard deviations reflect 1-4 scoring of items

Table 28

Normative Data on the CTRS-R, Spanish Version, presented by Age*

Total (boys and girls) by Age (n=638)

Age	BP/O		AP/P		SI		S/P		ACTRS-R*	
	M	SD	M	SD	M	SD	M	SD	M	SD***
4 (15)	1.59	.50	1.68	.54	1.57	.55	1.55	.52	1.69	.45
5 (134)	1.48	.60	1.66	.65	1.47	.55	1.57	.63	1.57	.59
6 (116)	1.63	.74	1.78	.75	1.49	.62	1.52	.62	1.76	.76
7 (40)	1.49	.64	1.66	.58	1.34	.37	1.52	.58	1.58	.64
8 (118)	1.68	.56	1.71	.56	1.87	.76	1.68	.54	1.76	.63
9 (52)	1.71	.59	1.71	.53	1.80	.75	1.58	.52	1.80	.63
10 (12)	1.83	.78	1.83	.53	1.69	.56	1.75	.54	1.92	.79
11 (75)	1.35	.52	1.33	.41	1.59	.43	1.32	.41	1.39	.53
12 (54)	1.41	.56	1.63	.71	1.54	.41	1.44	.53	1.55	.65
13 (15)	1.91	.77	2.25	.88	1.75	.45	1.87	.60	2.17	.76
14 (7)	1.50	.41	2.35	.59	1.79	.57	1.54	.23	1.86	.51
Total (638)	1.56	.62	1.68	.64	1.60	.61	1.55	.57	1.66	.66

Note. * Norms are based on results of factor analysis for total sample

** BP/O = Behavior Problems/Overactivity
AP/P = Attention Problems/Passive
SI = Social Incompetence
S/P = Sensitive/Passive
ACTRS-R = Abbreviated Conners's Teacher Rating Scale, Revised

*** Means and standard deviations reflect 1-4 scoring of items

Table 29

Normative Data on the CTRS-R, Spanish Version presented by Grade and Gender*

Grades	BP/O		AP/P		SI		S/P		ACTRS-R***	
	M	SD	M	SD	M	SD	M	SD	M	SD****
Total (boys and girls) by Grade (n=629)**										
Preschool and Kindergarten (n=197)	1.52	.64	1.68	.69	1.49	.57	1.58	.66	1.61	.64
First (n=106)	1.63	.74	1.78	.65	1.42	.54	1.49	.54	1.76	.75
Third (n=178)	1.68	.56	1.71	.55	1.86	.75	1.65	.53	1.77	.62
Sixth (n=148)	1.45	.59	1.59	.67	1.60	.43	1.43	.49	1.56	.64
Total	1.56	.62	1.68	.64	1.60	.61	1.55	.57	1.66	.66
Boys by Grade (n=291)										
Preschool and Kindergarten (n=91)	1.60	.73	1.79	.76	1.56	.63	1.59	.69	1.72	.74
First (n=52)	1.83	.81	1.94	.68	1.48	.62	1.63	.64	1.99	.80
Third (n=78)	1.74	.64	1.79	.60	2.00	.80	1.62	.55	1.86	.71
Sixth (n=70)	1.57	.63	1.68	.69	1.57	.48	1.49	.52	1.70	.68
Girls by Grade (n=338)										
Preschool and Kindergarten (n=106)	1.44	.54	1.59	.62	1.44	.51	1.58	.64	1.51	.52
First (n=54)	1.44	.60	1.63	.57	1.36	.45	1.37	.38	1.55	.62
Third (n=100)	1.63	.49	1.64	.50	1.75	.68	1.68	.52	1.69	.53
Sixth (n=78)	1.34	.53	1.50	.65	1.62	.39	1.38	.46	1.42	.59

Note. * Norms are based on results of factor analysis for total sample

** Nine cases missing

*** BP/O = Behavior Problems/Overactivity
AP/P = Attention Problems/Passive
SI = Social Incompetence
S/P = Sensitive/Passive
ACTRS-R = Abbreviated Conners's Teacher Rating Scale

**** Means and standard deviations reflect a 1-4 scoring of items

Comparison of Norms with other Studies

One of the advantages of using the CTRS-R is that normative data have been gathered in other countries (e.g., New Zealand, New York, Canada). Although this set of results was not statistically analyzed, to further extend a comparison already made in other studies (e.g., Taylor & Sandberg, 1984, Trites et al., 1979) it can be observed in Table 30 that the mean item ratings obtained in the Attention Problems/Passive subscale of the present study for the total sample and separately for boys and girls are identical to the ones obtained by Goyette et al (1978) in data collected in the greater Pittsburgh area. Their sample was composed of 98% Anglo-Americans. A note to remember is that this subscale is virtually identical for the Anglo-American and the Puerto Rican samples.

Table 30

Comparison of Norms for Factors on the CTRS-R*

	Conduct Problems		Hyperactivity Problems		Inattentive Passive		Behavior Prbs. Overactivity		Abbreviated CTRS-R	
	M	S.D.	M	S.D.	M	S.D.	M	S.D.	M	S.D.
Cebollero, 1989										
Puerto Rico					1.79	.69	1.67	.70	1.80	.73
Boys					1.59	.58	1.47	.54	1.55	.56
Girls					1.68	.64	1.56	.62	1.66	.66
Total										
Arias & O'Leary, 1983										
Spain									1.93	.69
Boys									1.61	.60
Girls										
Goyette et al., 1978										
Midwest United States										
Boys	1.34	.53	1.56	.66	1.77	.77	1.45	.60	1.56	.60
Girls	1.27	.46	1.32	.46	1.45	.45	1.30	.46	1.34	.47
Total	1.31	.50	1.44	.56	1.61	.61	1.38	.53	1.45	.54
Taylor & Sandberg, 1984**										
South London										
Boys	1.39		1.84		1.70					
Girls	1.20		1.46		1.51					
Trites et al., 1982										
Canada										
Boys	1.25	.44	1.65	.76	1.63	.66	1.45	.60		
Girls	1.15	.31	1.30	.53	1.40	.55	1.23	.42		
Total	1.20	.38	1.46	.68	1.52	.62	1.33	.53		
Kuppietz et al., 1972										
New York										
Total	1.36	.69	1.75	.71	1.82	.75	1.57	.70		
Werry & Hawthorne, 1976										
New Zealand										
Boys	1.60	.53	2.07	.73	1.96	.60	1.84	.63		
Girls	1.42	.47	1.58	.65	1.71	.58	1.50	.56		
Total	1.51	.51	1.82	.78	1.83	.60	1.67	.65		
Werry et al., 1975***										
Midwest United States										
Boys	1.21	.39	1.56	.65	1.60	.58	1.39	.52	1.54	.58
Girls	1.08	.30	1.25	.39	1.43	.55	1.17	.35	1.32	.43
Total	1.14	.35	1.40	.35	1.51	.57	1.27	.35	1.43	.51

Note. *Reflects a 1 to 4 scoring of items

**Scores based on a different factor structure

***Their sample excluded hyperactive children in the analysis

The comparison of the other subscales got complicated by the fact that in this study items related to overactivity and behavior problems merged into a single factor (i.e., Behavior Problems/Overactivity), but they were separate for the other studies. (i.e, Hyperactivity and Conduct Problems). However, as inspection of the subscales of all studies showed that generally the factor composition characterized overactivity and behavior problems, a combined rating was computed from the mean item ratings of the other studies to form a Conduct Problem/Hyperactivity score. The mean item rating for the Behavior Problems/Overactivity subscale for the total sample of Puerto Rican children is comparable to the mean item rating obtained for the New York children (Kupietz et al., 1972). For boys, the Behavior Problems/Overactive subscale item mean rating is not comparable to any other boys' samples. However, the mean item rating for the girls' Behavior Problems/Overactivity subscale resembles the New Zealand girls' mean item rating (Werry & Hawthorne, 1976). The comparison of the obtained means on the abbreviated CTRS-R for Puerto Rican and Spanish boys and girls (Arias & O'Leary, 1983) shows that the mean item rating obtained for Puerto Rican boys is lower than the one obtained for Spanish boys, while the mean item rating obtained for Puerto Rican girls is similar to the one obtained for Spanish girls. The abbreviated CTRS-R total sample's mean item rating obtained in this study is higher than those obtained by Goyette et al. (1978) and Werry et al. (1975).

The fact that the composition of the factors is somewhat different between studies and that different samples yielded different mean scores on the four subscales makes it clear that the standard 1.5 cutoff score used to identify 'hyperactive' children is unsuitable. Examination of the means also demonstrated that boys scored higher than girls in all the studies on the subscales under study. As a consequence, the obtained mean item rating varied considerably between boys and girls. Evidently, the use of the obtained total sample's mean item rating to derive estimates for boys and girls separately could yield distorted results.

On the other hand, the standard deviations of the scales' means between studies were generally similar. This could be interpreted as reflecting homegeneity between samples.

Analyses of Variance

Two-way analyses of variance for unbalanced designs, gender and age (Gender X Age) and gender and grade (Gender X Grade), were conducted to assess the effects of these variables on behavior and attention problems and overactivity. The dependent variables were the Behavior Problems/Overactivity, Attention Problems/Passive, and abbreviated CTRS-R subscales. These data are summarized in Table 31.

Table 31

Analyses of Variance: Effects of Gender, Age, and Grade for the Behavior Problems/Overactivity, Attention Problems/ Passive, and Abbreviated CTRS-R Subscales

Subscale	df	F	p
Behavior Problems/Overactivity			
Gender	1,637	9.75	.002
Age	10,637	3.84	.001
Gender X Age	10,637	.45	ns
Behavior Problems/Overactivity			
Gender	1,637	5.57	.02
Grade	4,637	5.16	.001
Gender X Grade	4,637	.62	ns
Attention Problems			
Gender	1,637	3.85	.05
Age	10,637	4.93	.001
Gender X Age	10,637	.35	ns
Attention Problems			
Gender	1,637	7.62	.01
Grade	4,637	1.87	ns
Gender X Grade	4,637	.38	ns
Abbreviated CTRS-R			
Gender	1,637	11.43	.001
Age	10,637	3.91	.001
Gender X Age	10,637	.44	ns
Abbreviated CTRS-R			
Gender	1,637	7.40	.01
Grade	4,637	3.48	.01
Gender X Grade	4,637	.79	ns

For the Behavior Problems/Overactivity subscale, main effects were found for gender and age and for gender and grade. The two-way interactions were not significant. When post hoc gender comparisons were made, the boys (M=30.9) consistently were rated significantly higher than girls (M=26.8) ($p \leq .05$) on all subscales. Post hoc age comparisons showed that eight (M=30.6), nine (M=31.1), and thirteen-year-old (M=34.7) children received significantly higher scores than eleven-year-old (M=24) children. Post hoc grade comparisons

resulted in third graders (M=30.6) receiving significantly higher scores than preschoolers (M=27) and sixth graders (M=25.8). First graders were scored significantly higher (M=28.6) than sixth graders (M=25.8). Boys in first grade (M=31.7) were scored significantly higher than boys in sixth grade (M=27.7)($p \leq .001$). Boys in third grade (M=31.8) were scored significantly higher than preschoolers (M=28.5) and sixth graders (M=27)($p \leq .001$). Girls in third grade (M=29.4) were scored significantly higher than girls in preschool (M=25.6), first grade (M=25.4), and sixth grade (M=24) ($p \leq .001$).

For the Attention Problems/Passive subscale main effects were found for gender and age. The analysis of variance for gender and grade indicated that there were no significant differences for grade or interaction. The post hoc gender comparisons indicated that boys (M=14.9) received significantly higher scores than girls (M=13.7). Tukey analyses resulted in significant mean differences ($p \leq .05$) between age thirteen (M=18.8) and five (M=13.4), six (M=14.2), seven (13.5), eight (13.7), nine (13.7), and twelve (13), with thirteen-year-old children getting significantly higher scores, and between age eleven (M=10.7) and five (M=13.4), six (M=14.2), eight (13.7), nine (13.7), and fourteen (M=17.9), with eleven-year-old children receiving significantly lower scores. No significant differences were found between grade means for attention problems. However, boys in first grade (M=15.5) scored significantly higher than boys in

sixth grade (M=13.4) and significantly higher than girls in all grades ($p \leq .001$).

The analyses of variance for the abbreviated CTRS-R demonstrated significant main effects for gender, age, and grade. No significant interactions were found. Post hoc gender analyses for the abbreviated CTRS-R indicated that boys (M=18.8) consistently were scored significantly higher than girls (M=16.1) ($p \leq .05$). Additionally, thirteen-year-old children (M=22.1) scored significantly higher than five (M=15.8), eleven (14), and twelve-year-old children (M=15.4); and six (M=17.5), eight (M=17.7), and nine-year-old children (M=18.1) scored significantly higher than eleven-year-old children (M=14). Significant grade mean differences resulted between third (M=18.8) and sixth grade (M=15.6), with third graders scoring significantly higher than sixth graders. Boys in first grade (M=19.9) scored significantly higher than boys in preschool (M=17.2) and sixth grade (M=17)($p \leq .001$). Girls in third grade (M=16.9) scored significantly higher than girls in preschool (M=15) and sixth grade (M=14.2) ($p \leq .001$).

Although this set of results are tangential to the main goal of this project, the effects of socioeconomic status (SES) of the parent and school location (rural versus urban) were evaluated by two-way analyses of variance for unbalanced designs followed by Tukey's HSD comparisons. The Behavior Problems/Overactivity, Attention Problems/Passive, and

abbreviated CTRS-R subscales scores were entered as dependent variables.

Table 32

Analyses of Variance: Effects of Socioeconomic Status and School Location for the Behavior Problems/Overactivity, Attention Problems, and Abbreviated CTRS-R Subscales

Subscales	df	F	p
Behavior Problems/Overactivity			
Fathers' SES	6,637	1.39	ns
School	2,637	.66	ns
Fathers' SES X School	5,637	.25	ns
Behavior Problems/Overactivity			
Mothers' SES	6,637	.32	ns
School	2,637	.85	ns
Mothers' SES X School	5,637	.98	ns
Attention Problems/Passive			
Fathers' SES	6,637	3.50	.002
School	2,637	1.26	ns
Fathers' SES X School	5,637	.15	ns
Attention Problems/Passive			
Mothers' SES	6,637	1.12	ns
School	2,637	.19	ns
Mothers' SES X School	5,637	.54	ns
Abbreviated CTRS-R			
Fathers' SES	6,637	2.34	.03
School	2,637	.61	ns
Fathers' SES X School	5,637	.31	ns
Abbreviated CTRS-R			
Mothers' SES	6,637	.50	ns
School	2,637	.72	ns
Mothers' SES X School	5,637	.59	ns

As indicated in Table 32, for the fathers' SES and school, on the Behavior Problems/Overactivity subscale, there were no significant main effects or interactions. Significant main effects were found for fathers' SES on the Attention Problems/Passive subscale and on the abbreviated CTRS-R. Children from lower SES scored significantly higher than the children from higher SES on these subscales. There were no

significant school main effects or interactions on these subscales.

Although there were no statistically significant differences associated with school location (rural versus urban), Least Squares Means analyses indicated that poor children attending rural schools received higher scores than did their poor peers attending urban schools.

There were no significant main effects or interactions for the mothers' SES and school location on the Behavior Problems/Overactivity, Attention Problems, and the abbreviated CTRS-R subscales. However, inspection of means corresponding to this set of analyses also indicated that children from lower SES attending rural schools received higher scores than did children from lower SES attending urban schools.

Abbreviated Conners's Teacher Rating Scale-R, Spanish Version

The abbreviated Conners's Teacher Rating Scale (ACTRS) is a 10-item subset of the 39-item Conners's Teacher Rating Scale (Conners, 1969) and has been used extensively as an index of behavior problems and hyperactivity. The validity of the ACTRS has been examined by Goyette et al. (1978) and by Werry et al. (1975), who reported correlations between the ACTRS and the total scale of .90 and .94 respectively. It is important to point out, though, that in Goyette's et al. version of the ACTRS, the item "cries easily and often" have been changed to "pouts and sulks". The ACTRS has been used with a global rating even though some researchers have reported that it measures different dimensions (Brown, 1985; Furlong & Fortman, 1984).

To be consistent with commonly accepted criteria, the ACTRS was used in this study to assess prevalence of hyperactivity and conduct problems in Puerto Rico. For this purpose, the 10-item ACTRS-R was examined by subjecting it to principal axis factor analysis with iterates (squared multiple correlations in the diagonal) and the solution rotated using an oblique procedure (Promax). Once rotated, items were required to have loadings of .40 or above to be included in a scale. The factor analyses were carried for the total sample and separately for boys and girls. The item composition for the ACTRS-R was presented earlier (see Appendix F).

The factor analysis for the total sample resulted in

three factors; the communality estimate is 6.5%. The factor matrix for these three factors is presented in Table 33.

Table 33

Abbreviated Conners's Teacher Rating Scale, Revised, Spanish Version (Total Sample)*
First-Order Promax Rotated Factor Matrix and Eigenvalues

Item	Name**	Factors I BP/O	II T	III AP***
14	Restless	.88		
1	Squirmy	.83		
8	Disturbs children	.64		
15	Excitable, impulsive	.59		
5	Temper outbursts	.53		
11	Mood changes		.74	
10	Pouts and sulks		.57	
26	Easily frustrated		.50	
21	Fails to finish things			.88
7	Distractibility a problem			.69
Eigenvalue		4.70	4.03	3.20
Number of Items loading over .40		5	3	2

Total Communality Estimates: 6.52

Note. * n=638
** In brief, see Appendix E for actual wording of items
*** BP/O = Behavior Problems/Overactivity
T = Temperamental
AP = Attention Problems

The first factor, which accounted for 4.7% of the variance, consisted of 5 items (1, 5, 8, 14, 15) reflecting overactivity and behavior problems. These items loaded in the first factor of the 28-item CTRS-R under study; therefore, this factor was named similarly, Behavior Problems/ Overactivity. Four of these items had high loadings in

Goyette's et al. (1978) second factor (Hyperactivity) and one item ("temper tantrums") loaded in the first factor (Conduct Problems) identified by these researchers.

The second factor to emerge contained 3 items (10, 11, and 26) and accounted for 5% of the variance. It appeared to be a very clear factor of emotionality (e.g., "pouts", "mood changes") for which it was labeled Temperamental. Two of these items (10 and 11) loaded the first factor of the 28-item CTRS-R which is being studied while item 26 ("easily frustrated"), loaded both the first and second factors, but had a higher loading on the second factor (Attention Problems/ Passive), where it was retained. These three items loaded the Conduct Problem subscale of Goyette's et al. (1978) study.

Factor three, which accounted for 3.2% of the total variance, was composed of items 7 and 21 and is characterized by lack of concentration and inattentiveness. These items were included in the Attention Problems/Passive subscale of the measure that is under study and in the Inattentive/ Passive subscale of Goyette et al. (1978); therefore, it was named Attention Problems.

Reliability

Internal consistency and item analysis

Table 12 (page 117), which was presented earlier, shows the alpha coefficients for the ACTRS-R indicating that there is excellent internal consistency (.92). Table 12 also presents the results of the item analysis of the Spanish version

of the ACTRS-R. The average item mean is 1.66, ranging from 1.50 to 1.90. The mean inter-item correlation was .52. The lowest item to scale correlation was .58. All results are significant ($p \leq .05$).

Subscales Intercorrelations

The intercorrelation among the subscales of the ACTRS-R are presented in Table 34. All correlations were significant ($p \leq .001$), but clearly the strongest relationship is between the Behavior Problems/Overactivity and the Temperamental subscales. The Behavior Problems/Overactivity and Attention Problem subscales and the Attention Problems and Temperamental subscales were moderately correlated suggesting some independence between these dimensions.

Table 34

Subscales Intercorrelation Matrix of the Abbreviated CTRS-R, Spanish Version (Total Sample)*

	Subscales		
	BP/O	T	AP**
Behavior Problems/Overactivity (BP/O)	1.00		
Temperamental (T)	.67**	1.00	
Attention Problems (AP)	.52**	.53**	1.00

Note. * n=638
** $p \leq .001$

Table 35 shows the intercorrelations between the ACTRS-R and the subscales of the 28-item CTRS-R that is being studied. The ACTRS-R correlation is excellent with the Behavior Problems/Overactivity subscale and quite high with the Attention

Problems/Passive subscale. The correlation for the Social Incompetence and Sensitive/Passive subscales were found to be moderate. All correlations reached the .001 level of significance (two-tailed probability).

Table 35

Subscales Intercorrelation Matrix of the CTRS-R and the Abbreviated CTRS-R, Spanish Version (Total Sample)*

	Subscales				
Subscales	BP/O	AP/P	SI	S/P	ACTRS-R
Abbreviated Conners's Teacher Rating Scale (ACTRS-R)	.94**	.72**	.59**	.55**	1.00

Note. * n=638
** p $\leq$.001

Factor Analysis for Boys

The factor analysis for boys resulted in three factors; communality estimate is 6.84%. The order of emergence of the second and third factors was reversed in the boys' sample. That is, for the boys, the second factor loaded most highly for items relating to distractability while the third factor had high loadings for mood changes and emotionality. The results shown in Table 36 indicate that, nevertheless, the item composition of the individual factors remained the same. In keeping with the results of the previous analyses, the three factors have been labeled Behavior Problems/Overactivity, Attention Problems, and Temperamental.

Table 36

Abbreviated Conners's Teacher Rating Scale, Revised, Spanish Version (Boys)*
First-Order Promax Rotated Factor Matrix and Eigenvalues

Item	Name**	Factors I BP/O	II AP	III T***
14	Restless	.89		
1	Squirmy	.81		
15	Excitable, impulsive	.72		
5	Temper outbursts	.67		
8	Disturbs children	.66		
21	Fails to finish things		.82	
7	Distractibility a problem		.79	
11	Mood changes			.70
26	Easily frustrated			.58
10	Pouts and sulks			.45
Eigenvalue		5.18	3.29	3.99
Number of Items loading over .40		5	2	3

Total Communality Estimates: 6.84

Note. * n=295
** In brief; see Appendix E for actual wording of items
*** BP/O = Behavior Problems/Overactivity
AP = Attention Problems
T = Temperamental

Reliability

Internal consistency and item analysis

The values of the alpha coefficient presented back in Table 19 (page 132) indicated an excellent level of internal consistency ($r = .93$). Table 19 also shows the item mean (1.80), which ranged from 1.60 to 2.05. The mean inter-item correlation was .55 and the lowest item-total correlation was .59. As was the case with the total sample, all correlations were significant ($p \leq .05$).

Subscales Intercorrelations

Intercorrelation of the subscales derived from the factor analysis appear in Table 37. As for the total sample, the three subscales are moderately correlated with one another. Indeed, the correlation between the Behavior Problems/Overactivity and the Temperamental subscales is identical to that obtained for the total sample and quite similar for the Behavior Problems/Overactivity and Attention Problems subscales and for the Attention Problems and Temperamental subscales. All correlations were significant ($p \leq .001$; two-tailed probability).

Table 37

Subscales Intercorrelation Matrix of the Abbreviated CTRS-R, Spanish Version (Boys)*

	Subscales		
Subscales	BP/O	AP	T
Behavior Problems/Overactivity (BP/O)	1.00		
Attention Problems (AP)	.54**	1.00	
Temperamental (T)	.67**	.49**	1.00

Note. * n=295
** $p \leq .001$

The intercorrelations between the boys' ACTRS-R and the scale under study are presented in Table 38.

Table 38

Subscales Intercorrelation Matrix of the CTRS-R and the Abbreviated CTRS-R, Spanish Version (Boys)*

Subscales	Subscales BP/O	AP/P	SI	S/P	ACTRS-R
Abbreviated Conners's Teacher Rating Scale (ACTRS-R)	.95**	.71**	.59**	.53**	1.00

Note. * n=295
** p ≤.001

The correlations revealed a high association with the Behavior Problems/Overactivity subscale and a moderately high association with the Attention Problems subscale. The correlations with the Social Incompetence and Sensitive/Passive subcales were moderate. All correlations were highly significant ($p \leq .001$; two-tailed probability).

Factor Analysis for Girls

The three girls' factors identified were very similar in terms of item composition to those based on the total sample and the boys' sample. The main difference between the girls, the boys, and the total sample factor structure was first, that in the girls', item 5 ("temper outbursts") and item 26 ("easily frustrated") double loaded. Second, that Temperamental and Attention Problems emerged in a reversed order for the total sample.

The three factors accounted for a communality estimate of 5.7%. They emerged in the same order as for the boys (i.e., Behavior Problems/Overactivity, Attention Problems,

and Temperamental). Table 39 presents the rotated factor matrix and the percentage of variance accounted for by each factor. Owing to the fact that there were only 2 items with double factor loading of .40 or greater, it was decided to include these items in both of the respective factors.

For the girls, the first factor (Behavior Problems/ Overactivity) accounted for 4% of the total variance. It is identical to the factor one for the total sample and for the boys. It contained one overlapping item ("temper tantrums") with the third factor.

The second factor (Attention Problems), which accounted for 3% of the total variance, consisted of three items (7, 21, and 26), two of which assess attentional difficulties (7 and 21). Item 26 ("easily frustrated") overlapped with the third factor. The third subscale (Temperamental) accounted for 3.5% of the variance and showed highest loadings for 4 items (5, 10, 11, and 26), relating to emotionality and mood changes. Two of these items ("temper outbursts" and "easily frustrated") also loaded on other factors.

Table 39

Abbreviated Conners's Teacher Rating Scale, Revised, Spanish Version (Girls)*
First Order Promax Rotated Factor Matrix and Eigenvalues

Item	Name**	Factors I BP/O	II AP	III T***
1	Squirmy	.84		
14	Restless	.80		
8	Disturbs children	.68		
15	Excitable, impulsive	.52		
5	Temper outbursts	.43	.42	
21	Fails to finish things		.76	
7	Distractibility a problem		.65	
26	Easily frustrated		.40	.42
11	Mood changes			.58
10	Pouts and sulks			.54
Eigenvalue		4.03	2.95	3.45
Number of Items loading over .40		5	3	4

Total Communality Estimates: 5.70

Note. * n=343
** In brief; see Appendix E for actual wording of items
*** BP/O = Behavior Problems/Overactivity
AP = Attention Problems
T = Temperamental

Reliability

Internal consistency and item analysis

Presented in Table 20 (page 133) are the alpha coefficient for the girls' ACTRS-R which also indicated that there is an excellent level of internal consistency (r = .90). Table 20 also shows the mean rating for each item. The item mean is 1.55, ranging from 1.41 to 1.76. The mean inter-item correlation was .46, while the lowest item-total correlation was .52. All correlations were significant ($p \leq .05$).

Subscales Intercorrelations

As can be seen in Table 40, the intercorrelations between each of the derived subscales are of moderate strength. For boys and girls, the correlations between the Behavior Problems/Overactivity and Attention Problems subscales and between the Behavior Problems/Overactivity and Temperamental subscales were similar. However, the correlation between Attention Problems and Temperamental was higher for girls, probably due to an overlapping item. All correlations were significant ($p \leq .001$; two-tailed probability).

Table 40

Subscales Intercorrelation Matrix of the Abbreviated CTRS-R, Spanish Version (Girls)*

Subscales	Subscales BP/O	AP	T
Behavior Problems/Overactivity (BP/O)	1.00		
Attention Problems (AP)	.51**	1.00	
Temperamental (T)	.63**	.58**	1.00

Note. * n=343
** $p \leq .001$

The intercorrelations between the girls' ACTRS-R and the 28-item CTRS-R are presented in Table 41.

Table 41

Subscales Intercorrelation Matrix of the CTRS-R and the abbreviated CTRS-R, Spanish Version (Girls)*

Subscales	Subscales BP/O	AP/P	T/S	SI/P	ACTRS-R
Abbreviated Conners's Teacher Rating Scale (ACTRS-R)	.96**	.71**	.87**	.60**	1.00

Note. * n=343
** p ≤.001

Again, the ACTRS-R was more strongly correlated to the Behavior Problems/Overactivity subscale than to the Attention Problems/Passive and the Social Incompetence/Passive subscales. It also showed a strong correlation between the ACTRS-R and the Temperamental/Sensitive subscale. All correlations were highly significant ($p \leq .001$; two-tailed probability).

Of particular interest are: 1) the appearance of a separate emotional dimension which points to the fact that teachers are perceiving a feature which has frequently been ignored. This result corroborates similar findings reported by Brown (1985) and Furlong and Fortman (1984). 2) The presence of items relating to emotionality for all of the girls' factors. This relationship is of special interest when for boys the items relating to emotionality were subsumed under the Behavior Problems/Overactivity subscale or emerged separately in the Temperamental subscale.

Perusal of the correlational tables support the relative independence of the Behavior Problems/Overactivity subscale from the Attention Problems subscale. The correlations among the measures suggest a stronger association between the Behavior Problems/Overactivity and Temperamental subscales than between the Attention Problems subscale with the Behavior Problems/Overactivity and Temperamental subscales.

The results indicate that teacher ratings as measured by the ACTRS-R assess four dimensions: attention/concentration, emotionality, overactivity, and behavior problems. Examination of the results also indicate that a global interpretation of the ACTRS-R (i.e., reduction to a single score) may be improper.

Modified BPC, Spanish Version

Factor Analyses

Item distribution

To exclude items that were too rare or too common for meaningful factor analysis the same criterion used for the CTRS-R was used. With a lower cutoff of 5% and an upper cutoff of 95%, no items were reported for more than 95% but item 59 ("steals things") was reported for less than 5%. The item was retained to insure that this low frequency but clinically relevant behavior would be included in the analyses. Subsequently it showed insignificant communalities in the analyses for the total sample and for the boys' sample; however, loaded significantly on the fourth factor for the

girls' sample. The distribution of responses, the mean, and the standard deviation for each of the 59 items is shown in Table 42. As can be seen, the distribution of scores among the items showed variations. The least frequent behavior was "steals things" (item 59) followed by truancy from school (item 15). The most frequently noted behaviors were "distractible" (item 39), "restless" (item 1), and "hypersensitive" (item 26).

Table 42

Distribution of Responses for the modified BPC, Spanish Version*

			Percentage of Response Rate**			
Item	Mean	S.D.	Never	Sometimes	Often	Very Often
1	1.759	.916	49.7	32.0	11.1	7.2
2	1.433	.771	70.7	18.8	7.1	3.4
3	1.389	.753	74.0	16.8	5.6	3.6
4	1.393	.709	70.8	21.9	4.2	3.0
5	1.655	.795	50.6	37.3	8.0	4.1
6	1.535	.843	63.9	25.2	5.2	6.0
7	1.599	.892	61.9	22.3	9.9	6.0
8	1.353	.684	74.6	17.6	5.8	2.0
9	1.497	.778	63.6	27.4	4.5	4.4
10	1.440	.776	69.4	21.3	5.0	4.2
11	1.433	.744	69.3	21.0	6.9	2.8
12	1.461	.775	67.9	21.8	6.7	3.6
13	1.658	.844	53.3	32.8	8.8	5.2
14	1.340	.694	76.0	16.8	4.4	2.8
15	1.246	.622	82.8	12.5	2.0	2.7
16	1.379	.651	69.4	25.2	3.3	2.0
17	1.611	.794	54.4	34.2	7.4	4.1
18	1.768	.985	53.4	25.5	11.8	9.2
19	1.550	.823	62.1	25.2	8.3	4.4
20	1.571	.833	60.5	26.8	7.8	4.9
21	1.723	.893	50.9	32.4	10.0	6.6
22	1.419	.763	70.8	20.7	4.2	4.2
23	1.494	.745	62.4	29.3	4.9	3.4
24	1.368	.731	75.2	15.7	6.1	3.0
25	1.481	.804	67.1	22.3	6.1	4.5
26	1.671	.787	49.1	38.6	8.6	3.8
27	1.666	.924	57.7	25.2	9.9	7.2
28	1.652	.874	56.0	28.5	9.9	5.6
29	1.525	.853	66.1	20.4	8.3	5.2
30	1.535	.847	64.1	24.1	6.0	5.8
31	1.473	.759	65.4	25.5	5.5	3.6
32	1.503	.831	66.1	22.9	5.5	5.5
33	1.520	.780	62.4	26.6	7.5	3.4
34	1.481	.815	67.7	21.3	6.1	4.9
35	1.527	.809	63.2	25.4	7.1	4.4
36	1.546	.824	61.8	27.1	6.0	5.2
37	1.439	.780	70.2	19.6	6.3	3.9
38	1.716	.917	53.4	28.2	11.6	6.7
39	1.804	.934	47.7	31.7	13.0	7.5
40	1.256	.608	81.7	12.9	3.8	1.7
41	1.393	.731	72.3	19.3	5.3	3.1
42	1.337	.691	76.0	17.2	3.8	3.0
43	1.417	.763	71.8	18.2	6.6	3.4
44	1.489	.741	63.2	27.6	6.4	2.8

Table 42, (cont'd)

Item	Mean	S.D.	Percentage of Response Rate Never	Sometimes	Often	Very Often
45	1.287	.649	80.1	13.2	4.7	2.0
46	1.530	.734	58.5	33.1	5.5	3.0
47	1.444	.734	67.2	24.1	5.6	3.0
48	1.553	.806	60.3	28.4	6.9	4.4
49	1.539	.807	62.2	25.5	8.3	3.9
50	1.597	.817	56.9	31.2	7.2	4.7
51	1.455	.741	66.5	24.8	5.6	3.1
52	1.437	.823	72.4	16.8	5.5	5.3
53	1.417	.759	71.6	18.3	6.7	3.3
54	1.572	.879	63.2	22.4	8.5	6.0
55	1.445	.764	68.7	21.8	6.0	3.6
56	1.459	.740	65.5	26.5	4.5	3.4
57	1.486	.800	66.8	21.9	7.2	4.1
58	1.665	.833	52.2	34.0	8.9	4.9
59	1.072	.369	95.3	3.1	.7	.9

Note. * Based on a scoring of 1-4
** Percentages are based on raw scores

To examine the factor structure of the teacher ratings for the modified BPC, factor analyses were carried out separately for the boys, the girls, and the total population. Several separate analyses were performed. First, the intercorrelation matrix was submited to both iterative principal-axis factor analyses, using squared multiple correlations as diagonal elements and to principal component analyses with unity in the main diagonal. Second, and even though the scree test (Cattell, 1966) indicated that four factors should be extracted (see Appendix K), following previous recommendations (e.g., Cattell, 1952; Gorsuch, 1983) the data on each population was factor analyzed for four, five, and six-factor solutions. Each solution was subsequently rotated

independently to simple structure using both orthogonal (varimax) and oblique solutions (direct quartimin and promax) and examined with respect to the item content of each factor.

The orthogonal rotations resulted in factors somewhat similar to those yielded by oblique rotations although the order of emergence of the factors differed. Also, in the orthogonal rotations many more items had high loadings (above the .40 cutoff) on two factors. Further, the oblique rotations produced the best approximation to simple structure (i.e., more variables in the hyperplane with loadings of .10 and below). As the oblique rotations produced more homogeneous factors, Gorsuch's (1983) recommendations were followed and the oblique solutions were chosen instead of the orthogonal ones. As the Promax oblique solution was practically identical to the direct quartimin oblique solution for all populations, the latter was selected for further analyses as it will allow my results to be compared with O'Donnell et al.'s (1982) study, which used a similar solution.

The five factor oblique solution was selected above the four and six-factor solutions. The six-factor solution was tried but it produced a five-factor solution. The four-factor solution resulted in some factors that represented combination of the factors that were distinct in the five-factor solution.

The decision for retaining or dropping an item was based mostly by the size of its factor loading although some exceptions were made on the basis of conceptual significance. If

an item loaded above .40 on two factors, the item was assigned either to the factor with the highest loading or to both scales if the item helped to clarify the meaning of the scales.

Exceptions to the statistical guidelines were made for item 53, "moody", which loaded highly Factor 1 (.38) and Factor 5 (.40) and was kept on both factors, item 37, "clumsy", which was kept on Factor 4, even though it loaded below the .40 criteria (.36), and item 26, "hypersensitive", which was kept on Factor 2 (.36). These items loaded on the respective factors on all the other rotations, both oblique and orthogonal.

For the total sample, however, only the first four of the five factors were sufficiently stable for scale construction. The fifth factor was a spurious factor containing only two positive salient (above .40) loadings, one with high loading on another factor also.

The modified BPC, Spanish version is comprised of 51 items, as eight items were eliminated because the size of the loadings for all factors were small. The items and their loadings for each scale are presented in Table 43.

Table 43

Modified BPC, Spanish Version (Total Sample)*
First-Order Direct Quartimin Rotated Factor Matrix and Eigenvalues

Item	Name**	Factors*** Factor*** I BP/O	II AW	III SC/F	IV AP	V CP****
1	Restless, fidgety	.77	-.11	.01	.21	-.18
2	Shows off	.77	-.12	-.07	.09	-.01
7	Disruptive	.84	-.04	-.12	.15	-.08
10	Rowdy	.87	-.00	-.06	.03	-.17
16	Jealous	.42	.10	.32	-.12	-.06
22	Fights	.69	.07	-.04	-.02	.14
24	Temper tantrums	.51	.13	.12	-.11	.15
25	Teases; bullies	.75	-.03	-.05	.09	.07
32	Disobedient	.73	.04	-.07	.12	.13
38	Overactive	.76	-.07	.01	.14	-.15
40	Destructive	.44	-.06	.01	.26	.26
41	Negativistic	.49	.19	-.05	.13	.28
42	Defiant, rude	.56	.17	-.04	.02	.26
44	Resentful; sulky	.53	.11	.11	-.01	.26
47	Irritable	.62	.09	.04	-.05	.19
48	Blames others	.59	-.05	.10	.16	.11
51	Is easily excited	.59	.01	.14	.05	.10
53	Moody	.38	.25	.11	-.02	.40
54	Overtalkative	.70	.03	.12	-.05	-.04
55	Quarrelsome	.75	-.06	-.02	.00	.16
56	Unpredictable	.46	.25	.23	-.07	.12
57	Impulsive	.59	-.02	.18	.07	.15
4	Takes self seriously	.10	.49	.11	.02	.13
5	Self-conscious	-.10	.57	.14	.14	-.23
6	Lacks emotional reaction	.08	.56	-.01	.07	.04
13	Shy	-.15	.59	.13	.13	-.12
14	Withdrawn	.00	.77	-.15	-.01	.04
26	Hypersensitive	.17	.36	.23	-.00	-.14
31	Is tense	.29	.52	.05	.08	.09
33	Unhappy	-.03	.49	.14	.14	.10
34	Uncooperative	.24	.43	.06	.04	.14
35	Aloof	-.15	.70	-.04	.12	.14
36	Suggestible	-.19	.54	-.04	.33	.08
46	Nervous; jittery	.03	.44	.17	.18	-.10
9	Afraid of getting lost	.09	.32	.44	.06	-.27
28	Afraid of germs	-.05	-.07	.77	.08	-.01
49	Physical complaints	.03	.07	.58	.01	.13
50	Afraid lightening/ghosts	.09	-.14	.82	.08	.01
52	Nightmares	.12	.08	.55	-.08	.07
58	Afraid of animals	-.12	-.01	.82	.01	.04

Table 43 (cont'd)

Item	Name	BP/O	AW	SC/F	AP	CP
18	Poor concentration	.17	.09	-.01	<u>.72</u>	.01
19	Lacks self-confidence	.04	.25	.23	<u>.40</u>	-.06
20	Inattentive	.28	.11	.07	<u>.49</u>	.06
21	Easily flustered	.14	.23	.11	<u>.51</u>	-.00
27	Lazy	.16	.06	-.01	<u>.63</u>	.08
29	Irresponsible	.25	.11	.03	<u>.52</u>	.19
30	Daydreams	-.03	.29	.21	<u>.44</u>	.06
37	Clumsy	.17	.21	.08	<u>.36</u>	.06
39	Distractible	.24	.07	.04	<u>.66</u>	-.10
43	Inactive	.00	.25	.03	<u>.46</u>	.28
45	Swear	.28	.02	.16	.13	<u>.45</u>
3	Incoherent speech	.27	.05	.20	.18	.29
8	Feelings of inferiority	.08	.30	.18	.28	-.04
11	Cries easily	.16	.23	.31	-.01	-.11
12	Is preoccupied	-.07	.39	.13	.37	-.02
15	Truancy from school	.07	.08	.20	.27	.30
17	Worries	.27	.32	.25	-.20	-.18
23	Fears being teased	.23	.32	.28	.05	-.07
59	Steals	.15	-.04	.06	.13	.27
Eigenvalue		10.07	4.90	3.77	3.74	1.63
Number of Items loading over .40		22	12	6	10	2

Total Communality Estimates: 20.57

Note. * n=638
** In brief; see Appendix E for actual wording of items
*** Items included in a subscale are underscored.
**** BP/O = Behavior Problems/Overactivity
AW = Anxiety Withdrawal
SC/F = Somatic Concerns/Fears
AP = Attention Problems
CP = Conduct Problems

For the total population, the first factor accounted for 20.6% of the total variance prior to rotation. It contained 22 items, 21 which did not load highly any other factor. One item with a marginal (.38) loading, also loaded the fifth factor. This component included items such as restless, disruptive, bullies, and sulks. It clearly

describes a pattern of behavioral problems, overactivity, and affectivity. This factor replicates the Hyperactivity/ Conduct Problems factor isolated by O'Leary et al. (1985) in Italian children and by Arias and O'Leary (1984) in Spanish children. It is the Conduct Problems and Hyperactivity factors combined that has been obtained in other studies (e.g., Edelbrock & Achenbach, 1984; Quay & Peterson, 1983) and closely resembles the most robust factor of the CTRS-R, identified in Puerto Rican children; thus, it has been named Behavior Problems/Overactivity.

The second factor accounted for 5.3% of the variance before rotation. It consisted of 11 items with loadings above .40 and one item with a marginal loading of .36. This factor is composed of items that describe a shy, aloof, withdrawn, and hypersensitive child. It is much like the overinhibited disposition which has been frequently identified in other studies (e.g., Gajar & Hale, 1982; O'Brien Towle & Schwarz, 1987; Quay & Peterson, 1983) and has been called similarly, Anxiety Withdrawal.

The third factor accounted for 2.4% of the variance before rotation and included 6 items not loading any other factor. This factor contained items relating to children's fears of germs, animals, and lightning, and items such as nightmares and physical complaints. It is similar to factors describing fears of physical injury and natural and supernatural dangers that have appeared in earlier studies of children's fears (e.g., Miller, Barrett, Hampe, & Noble, 1972;

Stanley & O'Donnell, 1984). This factor was labeled Somatic Concerns/Fears.

The variance prior to rotation for the fourth factor was only a 1%. It consisted of 9 items not loading any other factor and one item with a marginal loading (.36). The items included in this factor reflect children's problems with concentration and attention (e.g., "inattentiveness", "clumsy", "easily flustered"). These items have commonly appeared as part of the attentional difficulties dimension (e.g., Conners, 1969; Edelbrock & Achenbach, 1984).

For purposes of further analyses, individual items were assigned to four clinical subscales which correspond to the four factors based on their primary factor loadings. The four scales resulting from this analysis form the modified BPC, Spanish version (See Table 44).

Table 44

Modified BPC, Spanish Version (Total Sample)*

Factor I BP/O Item	Factor II AW Item	Factor III SC/F Item	Factor IV AP** Item
1	4	9	18
2	5	28	19
7	6	49	20
10	13	50	21
16	14	52	27
22	26	58	29
24	31		30
25	33		37
32	34		39
38	35		43
40	36		
41	46		
42			
44			
47			
48			
51			
53			
54			
55			
56			
57			

Note. * Items 3, 8, 11, 12, 15, 17, 23, and 59 did not load significantly any factor

** BP/O = Behavior Problems/Overactivity
AW = Anxiety Withdrawal
SC/F = Somatic Concerns/Fears
AP = Attention Problems

A child's score on a particular subscale was comprised of the arithmetic sum of the raw scores for each item on the subscale (see Appendix L).

Reliability

Internal consistency

Once subscale items were identified, the internal consistency of the modified BPC, Spanish version, was examined

through computation of an alpha coefficient (Cronbach, 1951). The results, which are presented in Table 45, indicate that the magnitude of the coefficients were all above .85, demonstrating very good internal coherence.

Item analysis

The results of the item analysis are also presented in Table 45. The item means ranged between 1.47 and 1.60. The minimum and maximum item means and the mean inter-item correlations for each subscale, which were between .41 and .54, are also shown in this table. The lowest correlation between individual items and each of the total factors ranged from .49 to .61. The results showed that the measures had a high level of reliability based in internal consistency. All values reported are significant.

Table 45

Summary of Reliability Analysis of the modified BPC, Spanish Version (Total Sample)*

Subscales	Number of Items	Item Means**	S.D.	Minimum Item Mean	Maximum Item Mean	Mean Inter-item Correlation	Lowest Item-total Correlation	Alpha Reliability
Behavior Problems/ Overactivity	22	1.47	.57	1.26	1.76	.51	.49	.96
Anxiety Withdrawal	12	1.53	.53	1.34	1.67	.41	.49	.89
Somatic Concerns/ Fears	6	1.57	.62	1.44	1.67	.48	.57	.85
Attention Problems	10	1.60	.67	1.42	1.80	.54	.61	.92

Note. * n=638

** Means are based on raw scores of ratings from 1 to 4.

Subscales Intercorrelations

The intercorrelations between the subscales derived from the modified BPC are presented in Table 46.

Table 46

Subscales Intercorrelation Matrix of the modified BPC, Spanish Version (Total Sample)*

Subscales	Subscales				
	BP/O	AW	SC/F	AP	F5
Behavior Problems/ Overactivity	1.00				
Anxiety Withdrawal	.29**	1.00			
Somatic Concerns/Fears	.36**	.52**	1.00		
Attention Problems	.38**	.46**	.27**	1.00	
Factor 5	.34**	.12**	.06**	.26**	1.00

Note. * n=638
** p $\leq$.001

As for the CTRS-R, it can be observed that the four subscales are all positively intercorrelated and that the obtained correlations are generally moderate suggesting some relationship between the dimensions. The magnitude of the correlation of Behavior Problems/Overactivity with Attention Problems and with Somatic Concerns/Fears suggests that the Behavior Problems/Overactivity subscale has some properties of the dimensions represented by the Attention Problems and Somatic Concerns/Fears subscales. Anxiety Withdrawal was more closely associated with Somatic Concerns/Fears and Attention Problems than to Behavior Problems/Overactivity. This would be expected since the former subscales share some

internalizing features (e.g., "daydreaming", "suggestibility", "hypersensitivity"). The Somatic Concerns/Fears correlation with Attention Problems was relatively weak, which suggest that these are two different dimensions. All the correlations are statistically significant ($p \leq .001$).

Coefficients of Congruence

As recommended by Gorsuch (1983), factor stability was also evaluated by Coefficients of Congruence calculated from two random halves of the total sample which had been submitted to similar factor-analytic procedures (i.e., direct quartimin rotation). The results, which can be seen in Table 47, provided further evidence for the modified BPC factor stability. The Coefficients of Congruence for like subscales ranged between .71 and .99 ($p \leq .01$ or higher) indicating that the factors are highly stable, with a high likelihood of replicating in future research (Cattell & Kline, 1977).

Table 47

Congruence Coefficients between Random Samples and Between Random Samples and Total

Comparison	BP/O	AW	AP	SC/F*
Sample 1 vs. Sample 2	.79***	.97**	.71***	.99**
Sample 1 vs. Total	.82**	.95**	.75***	.99**
Sample 2 vs. Total	.81**	.97**	.73***	.99**

Note. * BP/O = Behavior Problems/Overactivity
AW = Anxiety Withdrawal
AP = Attention Problems
SC/F = Somatic Concerns/Fears
** $p \leq .001$
*** $p \leq .01$

Factor Analyses for Boys and Girls

Results of the analyses for boys and girls are presented in Tables 48 and 49. Separate factor analyses for boys and girls yielded some differences.

Table 48

Modified BPC, Spanish Version (Boys)*
First-Order Direct Quartimin Rotated Factor Matrix and Eigenvalues

Item	Name**	Factors*** I BP/O	II AW	III AP	IV SC/F	V CP****
1	Fidgety	.70	-.18	.27	.07	-.10
2	Shows Off	.72	-.16	.10	.06	.01
7	Disruptive	.82	-.10	.15	-.03	-.08
10	Rowdy	.87	-.07	.07	.13	-.22
16	Jealous	.44	.06	-.16	.39	.06
22	Fight	.63	.08	-.04	.03	.24
24	Temper Tantrums	.45	.09	-.09	.17	.23
25	Tease	.71	.03	.11	-.04	.08
32	Disobedient	.72	-.07	.20	-.04	.17
38	Overactive	.75	-.02	.16	-.03	-.08
41	Negative	.49	.18	.17	-.11	.30
42	Defiant	.49	.16	.03	-.00	.30
44	Sulky	.54	.05	.10	.02	.26
47	Irritable	.74	.14	-.08	-.05	.08
48	Blame	.69	-.11	.15	.06	.05
51	Excited	.61	.05	.10	.07	.09
53	Moody	.48	.28	-.06	.00	.35
54	Overtalkative	.69	.10	-.07	.08	.01
55	Quarrelsome	.78	.00	-.03	-.03	.14
56	Unpredictable	.43	.29	-.01	.20	.16
57	Impulsive	.65	.04	.06	.06	.12
4	Serious	.14	.49	.02	.04	.15
5	Conscious	-.10	.56	.15	.21	-.21
6	Emotional	.14	.57	.04	.02	.01
13	Shy	-.14	.58	.16	.16	-.09
14	Withdrawn	-.04	.76	.02	-.15	.04
31	Tense	.40	.51	.14	-.04	.02
33	Unhappy	-.01	.51	.18	.19	-.03
34	Uncooperative	.30	.44	.12	.01	.14
35	Aloof	-.18	.67	.08	.03	.19
36	Suggestible	-.27	.47	.32	.02	.16
46	Nervous	-.01	.42	.14	.20	.03
12	Preoccupied	-.09	.35	.41	.17	-.05
18	Poor concentration	.10	.05	.72	.03	.09
19	Confident	.05	.23	.40	.26	-.09
20	Inattention	.22	.05	.46	.13	.19
21	Fluster	.14	.24	.57	-.02	.03
27	Lazy	.24	.01	.70	-.11	-.02
29	Irresponsible	.29	.09	.55	-.08	.14
30	Daydreams	-.04	.26	.45	.23	.04

Table 48 (cont'd)

Item	Name	BP/O	AW	AP	SC/F	CP
37	Clumsy	.06	.09	.45	.20	.16
39	Distractible	.22	.08	.72	-.03	-.08
43	Inactive	-.02	.20	.43	.07	.34
9	Fear Lost	.04	.29	.09	.53	-.23
16	Jealous	.43	.06	-.16	.39	.06
28	Fear of Germs	.00	-.04	.09	.62	-.02
49	Physical Complaints	.17	.11	-.14	.56	.14
50	Fear of Monsters	-.08	-.19	.08	.85	.08
52	Nightmares	.26	.13	-.09	.40	.10
58	Fear of animals	-.13	.06	-.04	.80	.11
40	Destructive	.23	-.21	.31	.22	.46
15	Truancy	.01	.10	.20	.18	.41
45	Swear	.31	.07	.06	.09	.52
3	Incoherent speech	.26	.02	.24	.16	.34
8	Inferior	.06	.30	.30	.23	.00
11	Cries	.20	.14	.02	.35	-.05
17	Worries	.25	.32	-.15	.24	-.20
23	Fear Teasing	.19	.37	.07	.25	.01
26	Sensitive	.19	.24	.11	.29	-.08
59	Steal	.18	-.01	-.03	.11	.28
Eigenvalue		10.11	4.71	4.22	3.69	2.05
Number of Items loading over .40						

Total Communality Estimates: 20.92

Note. * n=295
** In brief; see Appendix G for actual wording of items
*** Items included in a subscale are underscored.
**** BP/O = Behavior Problems/Overactivity
AW = Anxiety Withdrawal
AP = Attention Problems
SC/F = Somatic Concerns/Fears
CP = Conduct Problems

Table 49

Modified BPC, Spanish Version (Girls)*
First-Order Direct Quartimin Rotated Factor Matrix and Eigenvalues

Item	Name**	Factors*** I BP/O	II AW/AP	III SC/F	IV CP	V S****
10	Rowdy	.79	.01	-.15	-.13	.12
7	Disruptive	.78	.03	-.14	.11	.10
25	Tease	.75	-.16	.03	.15	.03
1	Fidgety	.74	.08	.19	-.13	-.20
32	Disobedient	.72	.21	-.11	.01	-.00
55	Quarrelsome	.71	-.14	.02	.20	-.02
2	Shows Off	.70	-.17	-.14	.14	.15
22	Fights	.70	-.03	-.04	.04	.07
38	Overactive	.69	-.05	.22	-.08	-.14
42	Defiant	.68	.20	-.08	.06	-.06
54	Overtalkative	.67	-.08	.26	-.08	-.01
40	Destructive	.65	.19	-.18	.10	-.14
24	Temper Tantrums	.60	.10	.07	-.10	.04
51	Excited	.56	-.06	.19	.11	.08
57	Impulsive	.56	-.03	.29	.18	-.05
44	Sulky	.56	.03	.10	.15	.18
41	Negative	.54	.29	-.00	.11	-.10
47	Irritable	.51	-.04	.04	.29	.20
56	Unprofec	.50	.11	.27	-.07	.09
48	Blame	.49	.08	.00	.29	.20
53	Moody	.41	.24	.12	.23	-.04
35	Aloof	-.12	.72	.01	.11	-.01
36	Suggestible	-.17	.69	-.11	.20	.17
14	Withdrawn	.10	.64	-.13	-.08	.19
13	Shy	-.17	.62	.15	-.14	.11
6	Emotional	.04	.60	.12	-.05	-.09
5	Conscious	-.12	.60	.11	-.14	.21
43	Inactive	.06	.58	-.02	.33	-.11
31	Tense	.29	.58	.07	-.03	.07
12	Preoccupied	-.04	.56	.11	.18	.07
30	Daydream	.02	.54	.11	.30	.10
18	Poor concentration	.22	.54	.04	.30	-.15
37	Clumsy	.28	.54	.03	-.04	-.14
46	Nervous	.00	.52	.17	-.04	.13
33	Unhappy	.02	.47	.07	.18	.09
4	Serious	.06	.44	.16	.07	.17
21	Fluster	.13	.45	.29	.22	-.07
20	Inattention	.27	.47	.11	.25	-.11
19	Confident	.02	.46	.13	.23	.16
34	Uncooperative	.20	.39	.18	-.05	-.06
28	Fear of germs	-.05	.03	.78	.05	.06
58	Fear of animals	-.07	.04	.71	.09	.09

Table 49 (cont'd)

Item	Name	BP/O	AW/AP	SC/F	CP	S
52	Nightmares	.09	.12	.66	-.11	-.07
50	Fear of monsters	-.10	-.00	.65	.11	.14
49	Physical complaints	-.04	.11	.40	.29	.23
9	Fear lost	.08	.35	.44	-.20	.13
27	Lazy	.06	.38	.03	.53	.06
45	Swear	.22	.04	.21	.44	-.05
29	Irresponsible	.23	.39	.06	.44	-.03
11	Cries easily	.05	.21	.08	-.04	.51
26	Sensitiv	.04	.30	.10	-.10	.47
16	Jealous	.28	-.04	.16	.02	.47
59	Steal	.16	.07	-.05	.40	-.08
3	Incoherent	.26	.10	.21	.27	.04
39	Distractible	.21	.38	.18	.27	-.08
8	Inferior	.06	.36	.09	.14	.22
17	Worrier	.27	.11	.32	-.27	.23
23	Fear of tease	.21	.18	.31	-.00	.25
15	Truancy	.11	.13	.15	.45	.11
Eigenvalue		9.62	7.17	3.51	2.53	1.59
Number of Items loading over .40		21	21	6	5	3

Total Communality Estimates: 20.01

Note. * n=343
** In brief; see Appendix G for actual wording of items
*** Items included in a subscale are underscored.
**** BP/O = Behavior Problems/Overactivity
AW/AP = Attention Problems/Anxiety Withdrawal
SC/F = Somatic Concerns/Fears
CP = Conduct Problems
S = Sensitive

For boys, the five rotated factors closely resembled four of the dimensions that were identified for the total sample (Behavior Problems/Overactivity, Anxiety Withdrawal, Attention Problems, and Somatic Concerns/Fears) although the last two factors emerged for the boys in a reversed order. The fifth factor, which has been called Conduct Problems, more resembles antisocial behavior (e.g., "truancy from

school", "swear", and "destructiveness"). The girls' analysis yielded three factors (Behavior Problems/Overactivity, Somatic Concerns/Fears, and Conduct Problems) that are similar to the respective factor for the boys and the total sample. However, the Attention Problems and Anxiety Withdrawal dimensions emerged as a combined factor for the girls. A fifth factor, which has been labeled Sensitive, was unique for the girls' analysis.

The first factor for boys accounted for 20.9% of the variance before rotation. It contained 21 items, 19 which did not load any other factor. One item had a higher loading on the second factor, where it was assigned. A second item was assigned to two factors, factor one and factor four, where it had a marginal loading (.39). This factor had 21 items that also loaded the first factor for the total population; therefore, has an almost identical composition (e.g., behavior problems, overactivity, and temperament). It has been called similarly, Behavior Problems/Overactivity. For girls, the first factor accounted for 20% of the variance prior to rotation. As for boys, it included 21 items not loading any other component and it includes 20 of the items on the first factor for the total population, thus, its content is almost identical. The boys' and girls' first factor shared 20 items. It has also been named Behavior Problems/ Overactivity.

The second boys' factor accounted for 5.3% of the variance before rotation. This factor showed highest loadings

for 11 items describing a serious, shy, self-conscious, withdrawn, unhappy, and tense child. It shared 11 items with the second factor for the total population. It has been called Anxiety Withdrawal. The girls' second factor accounted for 5.4% of the variance. It is composed of 21 items, three of them with marginal loadings between .38 and .39. This factor included items such as "aloof", "shy", and "stares into space" and also items such as "poor concentration", "short attention span", "clumsy", and "easily flustered". It shared 11 items with the Anxiety Withdrawal's factor for the boys and the total sample and 9 items with the Attention Problems' factor for both the boys and the total sample. These two sets of items have commonly appeared separately in factors describing Attention Problems and Anxiety Withdrawal dimensions; therefore, it has been labeled Anxiety Withdrawal/ Attention Problems.

The boys' third factor accounted for 2.43% of the variance prior to rotation. It contained 11 items relating to short attention span, inattentiveness, and distractibility, 10 which loaded the Attention Problems factor for the total sample. These items have loaded the Attention Problems factors in other studies (e.g., Aman, Werry, Fitzpatrick, Lowe & Waters, 1983) and has been named Attention Problems. For girls, the third factor to emerge consisted of 6 items and accounted for 2.4% of the variance. It is defined by items characterizing a fearful child (e.g., "fear of germs, animals, and monsters", "nightmares"). It replicates the

Somatic Concerns/Fears factor identified for the boys and for the total population and has been called similarly.

The fourth factor for boys accounted for only 1.3% of the variance prior to rotation. It consisted of 7 items, 6 of which did not load any other factor. Only one item, which obtained a marginal loading (.39), overlapped with the first factor and was assigned to both factors. These items describe a fearful boy, concerned about germs, nightmares, and also with physical complaints. Six of these items were included in the similarly labeled factor for girls and for the total sample. The fourth factor for girls accounted for 1.2% of the variance prior to rotation. It consisted of 5 items characterized by "truancy from school", "stealing", "use of profane language", and "lazyness". These items appear to describe an antisocial behavior dimension; therefore, it has been labeled Conduct Problems.

The boys' fifth factor accounted for only 1% of the variance. It contained 3 items relating to truancy from school, destructiveness, and use of profane language, which describe an apparent disregard for social norms. It resembles the girls' fourth factor in that it describes an antisocial pattern and was also named Conduct Problems. The girls' fifth factor, which was unique for girls, accounted for 1% of the variance prior to rotation. It contained three items such as "sensitive", "cries easily" and "feelings easily hurt"; thus, it was named Sensitive.

For the boys, 7 items did not load highly any factor; for the girls, 4 items did not load highly any factor. Five subscales resulted from the analyses of the modified BPC for boys and girls. As was the case for the CTRS-R, the composition of some of the factors was different for boys and girls. The most clear example is that in this study, Attention Problems and Anxiety Withdrawal emerged as a separate component for boys and merged into a single factor for girls. A finding of interest is the identification of a factor solely associated with sensitivity for girls, while for boys these items are subsumed in different categories. Although the last components for boys and girls were rather unstable, it is considered that this finding which replicates the results of the CTRS-R, also under study, is of importance and deserves exploration in future research.

To perform other analyses, each boys' or girl's total score on each subscale was obtained by summing the unweighted raw scores for all items selected for the scales (see Tables 50 and 51).

Table 50

Modified BPC, Spanish Version (Boys)*

Factor I BP/O Item	Factor II AW Item	Factor III AP Item	Factor IV SC/F Item	Factor V CP Item
1	4	12	9	15
2	5	18	(16)**	40
7	6	19	28	45
10	13	20	49	
(16)**	14	21	50	
22	31	27	52	
24	33	29	58	
25	34	30		
32	35	37		
38	36	39		
41	46	43		
42				
44				
47				
48				
51				
53				
54				
55				
56				
57				

Note. * Items 3, 8, 11, 17, 23, 26, and 59 did not load significantly any factor

** Items loading more than one factor are in parenthesis

*** BP/O = Behavior Problems/Overactivity
AW = Anxiety Withdrawal
AP = Attention Problems
SC/F = Somatic Concerns/Fears
CP = Conduct Problems

Table 51

Modified Behavior Problems Checklist, Spanish Version (Girls)*

Factor I BP/O Item	Factor II AW/AP Item	Factor III SC/F Item	Factor IV CP Item	Factor V S** Item
1	4	9	15	11
2	5	28	27	16
7	6	49	(29)***	26
10	12	50	45	
22	13	52	59	
24	14	58		
25	18			
32	19			
38	20			
40	21			
41	(29)***			
42	30			
44	31			
47	33			
48	34			
51	35			
53	36			
54	37			
55	39			
56	43			
57	46			

Note. * Items 3, 8, 17, and 23 did not load significantly any factor.

** BP/O = Behavior Problems/Overactivity
AW/AP = Anxiety Withdrawal/Attention Problems
SC/F = Somatic Concerns/Fears
CP = Condct Problems
S = Sensitive

*** Items loading more than one factor are in parenthesis.

Reliabilities

Internal consistency

Results of the internal consistency of the subscales formed from the factor analyses of the modified BPC, Spanish version, for boys and girls, are shown in Tables 52 and 53.

Table 52

Summary of Reliability Analysis of the modified BPC, Spanish Version (Boys)*

Subscales	Number of Items	Item Means**	S.D.	Minimum Item Means	Maximum Item Means	Mean Inter-item Correlation	Lowest Item-total Correlation	Alpha Reliability
Behavior Problems/ Overactivity	21	1.59	.66	1.40	1.91	.54	.56	.96
Anxiety Withdrawal	11	1.56	.57	1.38	1.67	.42	.55	.89
Attention Problems	11	1.70	.70	1.51	1.96	.51	.57	.92
Somatic Concerns/ Fears	7	1.47	.55	1.38	1.59	.44	.49	.85
Conduct Problems	3	1.34	.60	1.28	1.36	.51	.54	.76

Note. * n=294

** Means are based on raw scores of ratings from 1 to 4.

Table 53

Summary of Reliability Analysis of the modified BPC, Spanish Version (Girls)*

Subscales	Number of Items	Item Means**	S.D.	Minimum Item Means	Maximum Item Means	Mean Inter-item Correlation	Lowest Item-total Correlation	Alpha Reliability
Behavior Problems/ Overactivity	21	1.37	.47	1.17	1.63	.47	.50	.95
Anxious Withdrawal/ Attention Problems	21	1.48	.51	1.31	1.68	.44	.51	.94
Somatic Concerns/ Fears	6	1.63	.65	1.49	1.79	.49	.53	.85
Conduct Problems	5	1.29	.46	1.06	1.52	.43	.37	.79
Sensitive	3	1.50	.54	1.37	1.67	.40	.42	.67

Note. * n=343

** Means are based on raw scores of ratings from 1 to 4.

For boys, reliabilities were between .76 and .96. The internal consistency is excellent for the Behavior Problems/ Overactivity and Attention Problems and very good for the Anxiety Withdrawal and Somatic Concerns/Fears subscales. The Conduct Problems subscale moderately high alpha (.76) indicates that this scale is somewhat unstable, possibly related to its few items, as alpha's magnitude is dependent on scale length (Cronbach, 1951).

Likewise, for girls, the reliabilities for the Behavior Problems/Overactivity and Anxiety Withdrawal/Attention Problems subscales is excellent and acceptable for the Somatic Concerns/Fears dimension. The Conduct Problems subscale for girls also shows a moderately high correlation (.79). The coefficient computed for the Sensitive subscale is moderate (.67). Both of these subscales indicate a certain degree of unstability, most possibly related to scale length, too.

Item analyses

Tables 52 and 53 also present the results of the item analyses of the modified BPC for boys and girls, separately. The item means for the boys' subscales were between 1.34 and 1.70. The item means for the girls' subscales fell between 1.29 and 1.63. The minimum and maximum item means are also shown for both boys and girls. Also presented in these tables are the mean inter-item correlations which ranged from .42 to .54 for boys and from .40 to .49 for girls. For boys, the correlations between individual items and each of the total factors scores ranged from .49 to .57. For the

Somatic Concerns/Fears subscale, item 16 ("jealous") had the lowest item-total correlation ($r = .49$); however, deleting it would not result in raising alpha significantly. For girls, the item-to-total correlations ranged from .37 to .53. For the Conduct Problems subscale, item 59 ("steals") had the lowest item-total correlation, which was a low frequency behavior. Deleting this item would raise this subscale's alpha coefficient to .81. As for boys, item 16 ("jealous") had the lowest item-total correlation for the Sensitive subscale. Deleting it would not result in a higher alpha either. All results for boys were significant. Except for the Conduct and the Sensitive girls' subscales, it can be said that the internal consistency for the Spanish version of the modified BPC, for boys and girls, is acceptable.

Subscales Intercorrelations

Intercorrelations among subscales for boys and girls separately appear in Tables 54 and 55.

Table 54

Subscales Intercorrelation Matrix of the modified BPC, Spanish Version (Boys)*

Subscales	Subscales				
	BP/O	AW	AP	SC/F	CP
Behavior Problems/ Overactivity (BP/O)	1.00				
Anxiety Withdrawal (AW)	.23**	1.00			
Attention Problems (AP)	.35**	.41**	1.00		
Somatic Concerns/Fears (SC/F)	.37**	.45**	.27**	1.00	
Conduct Problems (CP)	.39**	.18**	.25**	.16**	1.00

Note. * n=295
** $p \leq .001$

All subscales were significantly correlated with one another; however, some were weak associations. For boys, as for the total sample, the Behavior Problems/Overactivity was more closely associated with the Attention Problems, Fears, and Conduct Problems dimensions than to the Anxiety Withdrawal dimension, which is likely due to the fact that while Behavior Problems and Anxiety Withdrawal measure conceptually very different domains, the rest of the scales share some features. As can be expected, the Anxiety Withdrawal also associated poorly with Conduct Problems. The moderate magnitude of the correlations between the Anxiety Withdrawal subscale with the Attention Problems and Somatic Concerns/Fears dimensions is most likely due to some internalizing features

shared by these subscales (e.g., "daydreaming", "suggestibility"). The Attention Problems correlation was relatively weak with Somatic Concerns/Fears and with Conduct Problems; Somatic Concerns/Fears was poorly associated with Conduct Problems, which appears to indicate that these subscales are relatively independent of one another.

Table 55

Subscales Intercorrelation Matrix of the modified BPC, Spanish Version (Girls)*

Subscales	Subscales BP/O	AW/AP	SC/F	CP	S
Behavior Problems/ Overactivity (BP/O)	1.00				
Anxiety Withdrawal/ Attention Problems (AW/AP)	.32**	1.00			
Somatic Concerns/Fears (SC/F)	.31**	.45**	1.00		
Conduct Problems (CP)	.36**	.31**	.12**	1.00	
Sensitive (S)	.12**	.28**	.32**	.06**	1.00

Note. * n=343
** p $\leq$.001

Inspection of Table 55 indicated that the correlations among the girls' subscales were also generally low to moderate. As for boys, most correlations were significant, although many indicated relatively weak associations. Exceptions were, as can be expected, the low correlations of the externalizing subscales (e.g., Behavior Problems/Overactivity, Conduct Problems) with the internalizing subscales (e.g., Sensitive, Somatic Concerns/Fears). It is important to point out that the association between Anxiety Withdrawal/Attention

Problems with Somatic Concerns/Fears was higher than either the association of Behavior Problems/Overactivity with all but the Sensitive subscale, or that of Anxiety Withdrawal with Conduct Problems and Sensitive. The correlation between Somatic Concerns/Fears and Sensitive was also low to moderate low. All correlations are significant ($p \leq .001$).

The results of the intercorrelations between the subscales of the two measures under study have shown two replicating patterns: first, the moderate association found between some of the subscales for both boys and girls and for the total population. This finding replicates previous findings which have been reported for measures of child psychopathology. Generally, the subscales measuring externalizing dimensions or internalizing dimensions were found to have higher associations within themselves.

Coefficients of Congruence

Boys and girls comparison

The previously described method was applied to statistically assess factor similarity between the boys' factors and the girls' factors (see Table 56).

Table 56

Congruence Coefficients Between the modified BPC, Spanish Version (Boys) [a] **and the modified BPC, Spanish Version (Girls)** [b]

Puerto Rican Girls	Puerto Rican Boys BP/O	AW	SC/F	CP	AP [c]
Behavior Problems/ Overactivity	.86*	.10	.13	.42***	.30
Anxiety Withdrawal/ Attention Problems	.12	.84*	.30	.26	.35
Somatic Concerns/Fears	.22	.31	.38***	.14	.19
Conduct Problems	.30	.12	.14	.61**	.62**
Sensitive	.21	.39***	.49***	-.10	-.02

Note. a n=295
b n=295
c BP/O = Behavior Problems/Overactivity
AW = Anxiety Withdrawal
SC/F = Somatic Concerns/Fears
CP = Conduct Problems
AP = Attention Problems
* $p \leq .001$
** $p \leq .01$
*** $p \leq .05$

Most of the Coefficients of Congruence for like factors exhibited significant factor similarity, indicating they are manifestations of the same constructs. Whereas, as expected, the comparison of factors whose make up was conceptually different, obtained nonsignificant r_c values (e.g., Anxiety Withdrawal/Attention Problems and Behavior Problems/Overactivity, Behavior Problems/Overactivity and Fears). Low to moderate congruence was found between factors containing items which reflected either an internalizing or an externalizing dimension indicating some commonality within the domains. Again, factors characterized by attentional difficulties, behavior problems, and overactivity, obtained

significant low to moderate coefficients between one another, most likely due to the usual cooperativeness found between these dimensions.

However, the comparison of the boys and girls similarly named Somatic Concerns/Fears components obtained an unexpected and substantially low r_c value (.38). This r_c value is hard to explain. It appears that it is a chance r_c value. Examination of the composition of the factors showed, for boys, random loadings over the hyperplane (+/- .10) for other factors. Cattell & Kline (1977) have noted, precisely, that this index is highly influenced by all loadings of the variables included in the factors that are being compared, which may result in unexpected r_c values by chance. Second, an off-diagonal r_c value, which happens to be the comparison of Somatic Concerns/Fears for boys and Sensitive for girls is of a higher magniture (.49) than the diagonal value. Inspection of the make up of these factors indicated that Sensitive did not emerge as a factor for boys and that the items loading this factor for girls, had obtained moderate lodings (less than .40) on the Somatic Concerns/Fears for boys. In addition, item 16 ("jealous"), loaded the Somatic Concerns/Fears component for the boys and the Sensitive component for the girls.

Following Cattell's (1978) recommendations, the Coefficients of Congruence were supplemented by Cattell's salient variable similarity index (s), a nonparametric measure of factorial similarity. Supposedly, a significant s,

confirming an r_c value, is sufficient evidence of factorial matching.

Table 57

S index between the modified BPC, Spanish Version (Girls)[a] and the modified BPC (Boys)[b]

Puerto Rican Girls	Puerto Rican Boys BP/O	AW	AP	SC/F	CP
Behavior Problems/ Overactivity (BP/O)	.86*	.05	.36**	.25***	.46*
Anxiety Withdrawal/ Attention Problems (AW/AP)	.36**	.76*	.58*	.47*	.35**
Somatic Concerns/Fears (SC/F)	.34**	.42*	.23***	.52*	.18
Conduct Problems (CP)	.37**	.17	.45*	.09	.57*
Sensitive	.16	.41*	-.03	.37**	-.10

Note. a n=343
b n=295
* p ≤.001
** p ≤.01
*** p ≤.05

The results of this analysis, presented in Table 57 helped to clarify the picture that had emerged from the r_c analysis. The r_c values that were significant were confirmed by significant s values for similar components, indicating substantive factor matching. The s values for the comparison of Behavior Problems/Overactivity and Conduct Problems and for Attention Problems and Anxiety Withdrawal/ Attention Problems were significant ($p \leq .001$) and higher than the r_c values, thus verifying these components similarity. The s value for the comparison of Conduct Problems and Attention Problems was significant but lower than the r_c value (.45). These results suggest that these two components

have a certain degree of similarity, which replicates the previously found moderate association between attentional problems and behavior problems.

Boys and total sample comparison

Coefficients of Congruence calculated for factors derived from the modified BPC between boys and the total sample are shown in Table 58.

Table 58

Congruence Coefficients Between the modified BPC, Spanish Version (Boys)[a] and the modified BPC, Spanish Version (Total Sample)[b]

	Puerto Rican Children (Total Sample)			
Puerto Rican Boys	BP/O	AW	AP	SC/F[c]
Behavior Problems/Overactivity	.99*	.12	.22	.15
Anxiety Withdrawal	.19	.98*	.30	.26
Attention Problems	.29	.39**	.98*	.15
Somatic Concerns/Fears	.14	.24	.18	.95*
Conduct Problems	.36**	.17	.29	.18

Note. a n=295
b n=638
c BP/O = Behavior Problems/Overactivity
AW = Anxiety Withdrawal
AP = Attention Problems
SC/F = Somatic Concerns/Fears
* $p \leq .001$
** $p \leq .05$

Generally, a pattern similar to the comparison of the boys' and girls' factors was identified. For boys, the diagonal congruence coefficents between similarly named factors were significant ($p \leq .001$) suggesting significant factor matching. Further, the off-diagonal r_c values were lower than the diagonal elements, which demonstrated that there was "not

much" factor similarity elsewhere (Cattell, 1978). That is, as can be expected, the comparison of conceptually different domains (e.g., Behavior Problems/Overactivity with Somatic Concerns/Fears) did not reach significance. However, some of the off-diagonal r_c values were significant enough to suggest relative commonality between some of the components. Examination of the loading pattern indicated that first, the internalizing dimensions (e.g., Fears, Anxiety Withdrawal) obtained moderate coefficients between one another, which suggests that these dimensions have some properties in common. Second, as has been previously found, the factors relating to attentional problems, behavior problems, and overactivity exhibited moderate factorial similarity.

Table 59

S index between the modified BPC, Spanish Version (boys)[a] and the modified BPC, Spanish Version (Total sample)[b]

	Puerto Rican Children (Total Sample)			
Puerto Rican Boys	BP/O	AW	AP	SC/F
Behavior Problems/ Overactivity (BP/O)	.93*	.31**	.24***	.39*
Anxiety Withdrawal (AW)	.23***	.85*	.27***	.51**
Attention Problems (AP)	.40**	.48*	.86*	.24***
Somatic Concers/Fears (SC/F)	.27***	.43*	.29***	.75*
Conduct Problems (CP)	.42**	.35**	.39*	.26***

Note. a n=295
b n=638
* p ≤.001
** p ≤.01
*** p ≤.05

The results of the s index confirmed most of the r_c comparisons (see Table 59). Of interest, however, is the

fact that for boys, the s index was significant and higher than the r_c values for comparisons on the Anxiety Withdrawal and Fears components with the Behavior Problems/Overactivity and Conduct Problems components. This finding is of interest, as a similar result was obtained on the CTRS-R measure; an anxious or passive trait seems to underline the behavioral problems of Puerto Rican boys.

Girls and total sample comparisons

The results of the comparisons between the girls' factors and the total sample were comparable to the ones obtained for boys (see Table 60).

Table 60

Congruence Coefficients Between the modified BPC, Spanish Version (Girls)[a] and the modified BPC, Spanish Version (Total Sample)[b]

Puerto Rican Girls	Puerto Rican Children (Total Sample) BP/O[c]	AW	SC/F	AP
Behaviors Problems/Overactivity	.99*	.13	.10	.27
Anxiety Withdrawal/Attention Problems	.13	.89*	.27	.71*
Somatic Concerns/Fears	.18	.26	.93*	.20
Conduct Problems	.28	.12	.20	.70*
Sensitive	.17	.42**	.45**	-.07

Note. a n=343
b n=638
c BP/O = Behavior Problems/Overactivity
AW = Anxiety Withdrawal
SC/F = Somatic Concerns/Fears
AP = Attention Problems
* p ≤.001
** p ≤.05

High congruence was also found between like-named factors, whereas differently named factors were minimally

congruent. The r_c values obtained indicate substantial factor matching between similarly named components but just chance similarity between differently named components.

For girls, however, the off-diagonal r_c value between the Anxiety Withdrawal/Attention Problems component and Attention Problems was significant (.71, $p \leq .001$), which obviously reflects similar items for these two factors resulting from the emergence of a combined Anxiety Withdrawal/Attention Problems factor for girls.

The s values, which are shown in Table 61, confirmed the results of the r_c analysis, but appeared also to reflect real influences from the factor loadings. For example, the comparison of Attention Problems and Behavior Problems/Overactive resulted in a moderate but significant value, although lower than the r_c value. A similar finding was obtained between Attention Problems and Anxiety Withdrawal/Attention Problems.

Table 61

S Index Between the modified BPC, Spanish Version (Girls)[a] and the modified BPS (Total Sample)[b]

Puerto Rican Girls	Puerto Rican Children (Total Sample) BP/O	AW	SC/F	AP
Behavior Problems/Overactivity (BP/O)	.92*	.22***	.30**	.28***
Anxiety Withdrawal/Attention Problems (AW/AP)	.34**	.81*	.52*	.58*
Somatic Concerns/Fears (SC/F)	.27***	.36**	.76*	.23***
Conduct Problems (CP)	.37**	.25***	.25***	.54**
Sensitive (S)	.06	.25***	.48*	-.07

Note. a n=343
b n=638
* p ≤.001
** p ≤.01
*** p ≤.05

Comparison of the Factor Structures of the modified BPC (O'Donnell et al., 1982) for Anglo-American children and the modified BPC, Spanish version

Finally, factor similarity was assessed cross-culturally by comparing the results obtained by O'Donnell et al. (1982) for Anglo-American and Mexican-American children with the results of this study (see Table 62).

Table 62

Congruence Coefficients Between the modified BPC, Spanish Version (Total Sample)[a] and the modified BPC, Anglo-American Sample (O'Donnell et al., 1982)[b]

	modified BPC, Anglo-American children				
Puerto Rican Children	AW	D/H	TT	SC	CP[c]
Behavior Problems/ Overactivity	-.06	.75*	.64**	.39****	.63**
Anxiety Withdrawal	.84*	.17	.31	.06	.08
Somatic Concerns/Fears	.40****	.06	.21	.60**	.11
Attention Problems	.40****	.58***	.07	-.08	.25

Note. a n=383
b n=208
c AW = Anxiety Withdrawal
D/H = Distractible Hyperactive
TT = Temper Tantrums
SC = Somatic Concerns
CP = Conduct Problems
* p $\leq$.001
** p $\leq$.01
*** p $\leq$.025
**** p $\leq$.05

Generally, it can be inferred that factors whose item composition reflected conceptual similarity obtained significant r_c values, confirming factor matching. The factor similarity of these components was further confirmed by the similarity (s) index, which was also significant (e.g., Anxiety Withdrawal with Anxiety Withdrawal, Conduct Problems with Behavior Problems/Overactivity) (see Table 63).

Table 63

S Index Between the modified BPC, Spanish Version (Total Sample)[a] and the modified BPC with Anglo-American children (O'Donnell et al., 1982)[b]

Puerto Rican children	Anglo-American children TT	CP	AW	SC	DH[c]
Behavior Problems/ Overactivity	.61*	.49*	.00	.32**	.66*
Anxiety Withdrawal	.34**	.16	.68*	-.06	.27***
Somatic Concerns/Fears	.32**	.07	.46*	.34**	.14
Attention Problems	.15	.27***	.35**	-.23***	.34***

Note. a n=638
b n=208
c TT = Temper Tantrums
CP = Conduct Problems
AW = Anxious Withdrawal
SC = Somatic Concerns
DH = Distractible Hyperactive
* p $\leq$.001
** p $\leq$.01
*** p $\leq$.05

As can be expected, factors measuring different domains (e.g., Anxiety Withdrawal with Behavior Problems/Overactivity obtained insignificant Coefficients of Congruence values. These results were also confirmed by the s index.

The comparison of the Behavior Problems/Overactivity factor for Puerto Rican children resulted in significant Coefficients of Congruence and s index values with three factors for Anglo-American children: Distractible/Hyperactive, Temper Tantrums, and Conduct Problems. A significant r_c value (.75) was found between the Behavior Problems/Overactivity and the Distractible/Hyperactive factor. This finding was supported by a significant s index (.66), suggesting a high degree of factorial similarity between these two

factors. Inspection of the loading pattern revealed that the factor matching reflected overactivity and impulsivity features common to both factors, but not the distractible dimension that is also present in the Distractible/Hyperactive factor. A similar finding was obtained for the comparison between Behavior Problems/Overactivity and Conduct Problems. The Coefficients of Congruence attained statistical significance suggesting factor matching for these differently named factors. These factors resemblance was associated with the disruptive behavior items present in both components, but not to the more severe unsocialized behaviors such as truancy, swear, and steals, which loaded the Conduct Problems factor for Anglo-American children. Besides, the Conduct Problems factor for Anglo-American children included items such as "lazy" and "irresponsible" which were contained in the Attention Problems factor for Puerto Rican children. The factorial matching comparison was also significant between the Behavior Problems/Overactivity factor and the Temper Tantrum factor, which is understandable as they shared all but one item and both factors described tantrum behavior and an affective dimension.

The Anxiety Withdrawal factors for Anglo-American and Puerto Rican children appeared to be alike (r_c = .84). This finding was supported by a significant s index (.68). However, some items that were contained in the Anxiety Withdrawal factor for Anglo-American children had loaded different factors for Puerto Rican children (e.g., "lack of self-

confidence", "daydreams"). Conversely, some items that were found in the Anxiety Withdrawal factor for Puerto Rican children had loaded different factors for Anglo-American children (e.g., "'uncooperative").

For the Anglo-American children, attentional difficulties did not emerge as an independent factor, but combined with overactivity and impulsivity. As the significant moderate magnitude between the Attention Problems factor for Puerto Rican children and the Distractible/Hyperactive Anglo-American factor suggests, there is a certain degree of factor similarity between these two factors. The resemblance is derived from participating items associated to inattentiveness but not to items characterizing overactivity and impulsivity which combined for the Anglo-American children.

The Somatic Concerns/Fears factor for Puerto Rican children and the Somatic Concerns factor for Anglo-American children even though similarly named shared only three items describing physical complaints, fear of germs, and nightmares. For Puerto Rican children, the Somatic Concerns/Fears component was also loaded with items describing children's fears, whereas the Somatic Concerns factor for Anglo-American children consisted of items reflecting overtalkative and impulsive behavior.

The magnitude of the Coefficients of Congruence for some subscales were moderate and attained statistical significance indicating a certain degree of relationship between the dimensions. For example, the Temper Tantrum factor for Anglo-

American children contained items such as "irritable", "quarrelsome", and "moody" which were shared with the Anxiety Withdrawal and Somatic Concerns/Fears components for Puerto Rican children, resulting in moderate factorial similarity between these factors. The Attention Problems factor for Puerto Rican children and the Anxiety Withdrawal factor for Anglo-American children shared two highly loaded items ("lack of self-confidence" and "preoccupied") consequently showing moderate factor similarity.

The Somatic Concerns factor for Anglo-American children and the Behavior Problems/Overactive factor for Puerto Rican children had items such as "overtalkative" in common, which also resulted in cross-cultural factor matching.

The findings obtained for the comparison of the modified BPC factors between Anglo-American and Puerto Rican children replicates the findings on the comparison derived from the CTRS-R. For Anglo-American and Puerto Rican children measures of inattentiveness, behavior problems, and overactivity revealed commonalities between both cultural groups but also cultural differences. Anglo-American and Puerto Rican children exhibited different patterns of behavior. A most important finding was that for Puerto Rican and Anglo-American children, the clusters in the rating scales took on unique forms; reflecting different item compositions for Puerto Rican children and for Anglo-American children.

For Anglo-American and Puerto Rican children, the measures of attentional difficulties, behavior problems, and

overactivity and the internalizing dimensions (e.g., Fears with Anxiety Withdrawal) within themselves obtained low to moderate coefficients, suggesting that there are common features shared by them.

Comparison of the Factor Structures of the modified BPC (O'Donnell et al., 1982) for Mexican-American children and the modified BPC, Spanish version

The results obtained for the factor comparison between Puerto Rican and Mexican-American children are presented in Table 64.

Table 64

Congruence Coefficients Between the modified BPC, Spanish Version (Total Sample)[a] and the modified BPC, Mexican-American Sample (O'Donnell et al., 1982)[b]

	modified BPC, Mexican American children				
Puerto Rican Children	A/N	D/H	C/P	A/W	TT[c]
Behavior Problems/ Overactivity	.58**	.21	.83*	-.05	.54***
Anxiety Withdrawal	.36***	.39***	-.02	.77*	.27
Somatic Concerns/Fears	.39***	.24	.06	.25	.16
Attention Problems	.21	.85*	.32	.17	.10

Note. a n=638
b n=383
c A/N = Anxious Negativism
D/H = Distractible Hypoactive
C/P = Conduct Problems
AW = Anxiety Withdrawal
TT = Temper Tantrums
* p ≤.001
** p ≤.025
*** p ≤.05

Significant Coefficients of Congruence were obtained for factors measuring similar constructs (e.g., Anxiety Withdrawal and Anxiety Withdrawal; Behavior Problems/

Overactivity and Conduct Problems) indicating substantial factorial matching across studies. The results were confirmed by significant s values (see Table 65).

Table 65

S index Between the modified BPC, Spanish Version (Total Sample)[a] and the modified BPC with Mexican-American children (O'Donnell et al., 1982)[b]

Puerto Rican children	Mexican-American children CP	TT	AW	AN	DH[c]
Behavior Problems/Overactivity	.76*	.48*	-.11	.57*	.29***
Anxious Withdrawal	.06	.36**	.52*	.32**	.35**
Somatic Concers/Fears	.06	.09	.29***	.44*	.21
Attention Problems	.19	.25***	.16	.31**	.58*

Note. a n=638
b n=208
c CP = Conduct Problems
TT = Temper Tantrums
AW = Anxious Withdrawal
AN = Anxious Negativisim
DH = Distractible Hypoactive
* p ≤.001
** p ≤.01
*** p ≤.05

Further, comparisons of factors reflecting different dimensions were not significant (e.g., Anxiety Withdrawal and Conduct Problems). These results were also verified by the s index, which were not significant.

As for the comparison between the Behavior Problems/Overactivity factor for Puerto Rican children with the factors for Anglo-American children, three factors for Mexican-American children exhibited significant cross-cultural resemblance with the Behavior Problems/Overactivity factor for

Puerto Rican children. These factors were Conduct Problems, Anxious/Negativism, and Temper Tantrums. The comparison between the Behavior Problems/Overactivity factor and the Conduct Problems factor indicated a high degree of similarity for the two factors. Inspection of the item pattern suggests, however, that they share items describing the overactive and disruptive domains, but not the defiant, negativistic, and impulsive dimensions which emerged separately for Mexican-American children (Anxious/Negativism). It is important to note that the Coefficients of Congruence between the Behavior Problems/Overactivity and the Anxious/Negativisim factors also reached significance ($p \leq .001$), indicating close resemblance between these two dimensions. Additional evidence of this finding was obtained by a significant s index. The similarity between both components results from common items which serve as indicators of the domain (e.g., "negativistic", "impulsive"), but not to the anxious dimension. The moderate Coefficient of Congruence between Behavior Problems/Overactivity and Temper Tantrums results from items which describe Temper Tantrums and the affective domain, but not to "uncooperativeness" which loaded the Anxiety Withdrawal factor for Puerto Rican children or to more severe behavior problems (e.g., "swears, curses", which were true for Mexican-American children but not for Puerto Rican children.

Significant cross-cultural similarity was also obtained between the Anxiety Withdrawal factors for Puerto Rican and Mexican-American children. Characteristics such as serious,

shy, withdrawn, unhappy, aloof, and inferior which have been markers of anxious withdrawn behavior describe children in both cultures. However, some of the items which loaded on the Anxiety Withdrawal factor for Puerto Rican children were found either in the Distractible/Hypoactive factor (e.g., "preoccupied", "passive") or in the Anxious/Negativism factor for Mexican-American children (e.g., "tense", "nervous"). Further, "uncooperative", which was not included in the factor derived scales for Mexican-American children although it highly loaded two Mexican-American factors (Distractible/ Hypoactive and Temper Tantrums), saturated the Anxiety Withdrawal factor for Puerto Rican children. The item "sullen" was found in the Anxiety Withdrawal factor for Mexican-American children, but in the Behavior Problems/Overactivity factor for Puerto Rican children.

For Mexican-American children, for whom a Somatic Concerns factor was not identified, "physical complaints" emerged combined with Anxious/Negativism, and items reflecting children's fears, which load the Somatic Concerns/Fear factor for Puerto Rican children, did not load any factor. This pattern consequently showed significant moderate Coefficients of Congruence values.

The comparison of the Attention Problems factor for Puerto Rican children with the Distractible/Hypoactive factor for Mexican-American children exhibited substantial cross-cultural factorial matching, which can be explained by their sharing six items relating to attentional difficulties and

associated features ("irresponsibible", "daydreams", "lazy"). Examination of the item composition revealed some minor differences. For example, "suggestible" which was part of the Distractible/Hypoactive factor, was found in the Anxiety Withdrawal factor for Puerto Rican children. The item "repetitive, incoherent speech" combined with items describing attentional difficulties for Mexican-American children, but not for Puerto Rican children. I have to wonder, however, if this has more to do with language differences between these very young Mexican-American children and their Anglo-American teachers.

Although these analyses suggest a high degree of factor similarity between both studies for Mexican-American and Puerto Rican children, there is, however, a certain degree of difference in the composition of the clusters between Mexican-American and Puerto Rican children. The most important finding was that for Puerto Rican as well as for Mexican-American children, distractibility is identified as separate from overactivity, and overactivity and behavior problems merged, while for Anglo-American children inattentiveness emerged combined with overactivity. On the other hand, items characterizing a temperamental child were distinct for Mexican-American children (Anxious Negativism) but merged into one factor (Behavior Problems/Overactivity) for Puerto Rican children.

Second-Order Factor Analysis

Finally, the interfactor correlation matrix generated from the five-factor oblique solution was subjected to second-order factor analysis. It was examined by also subjecting it to iterative principal-axis factoring and the solution rotated using an oblique direct quartimin procedure. Once rotated items were required to have loadings of .30 or above to be included in a scale. The results of the rotations for boys, girls, and the total sample were almost identical; therefore, only the results of the total sample are presented (see Table 66).

Table 66

Second-Order Analysis for the modified BPC, Spanish Version (Total Sample*)

Item	Name	I BP/O	II AW/AP/P	III SC/F
1	Fidgety	.75	-.05	-.03
2	Shows Off	.83	-.15	-.10
3	Incoherent	.38	.04	.16
4	Serious	.08	.50	.01
5	Conscious	-.27	.71	.04
6	Emotional	.02	.61	-.12
7	Disruptive	.87	-.03	-.17
8	Inferior	.03	.41	.11
9	Fear Lost	-.07	.41	.37
10	Rowdy	.86	-.02	-.12
11	Cries	.08	.25	.25
12	Preoccupied	-.14	.55	.05
13	Shy	-.29	.71	.03
14	Withdraw	-.08	.81	-.29
15	Truancy	.17	.11	.16
16	Jealous	.40	.05	.27
17	Worrier	.17	.29	.17
18	Poor Concentration	.18	.33	-.05
19	Confident	-.02	.41	.17

Table 66 (cont'd)

Item	Name	BP/O	AW/AP/P	SC/F
20	Inattention	.31	.25	.02
21	Fluster	.12	.41	.04
22	Fight	.78	-.01	-.10
23	Fear Tease	.16	.36	.19
24	Temper Tantrums	.57	.04	.06
25	Tease	.83	-.06	-.11
26	Sensitive	.07	.40	.15
27	Lazy	.19	.25	-.05
28	Fear Germs	-.08	-.05	.77
29	Irresponsible	.32	.23	-.03
30	Daydreams	-.05	.44	.15
31	Tense	.27	.54	-.07
32	Disobedient	.82	.01	-.13
33	Unhappy	-.07	.55	.04
34	Uncooperative	.25	.42	-.04
35	Aloof	-.20	.77	-.15
36	Suggestible	-.25	.69	-.14
37	Clumsy	.17	.32	.02
38	Overactive	.76	-.05	-.04
39	Distractible	.21	.30	-.01
40	Destructive	.58	-.07	-.02
41	Negative	.60	.16	-.13
42	Defiant	.67	.10	-.12
43	Inactive	.08	.36	-.03
44	Sulky	.64	.03	.04
45	Swear	.46	-.03	.13
46	Nervous	-.08	.55	.08
47	Irritable	.72	.00	-.03
48	Blame	.67	-.06	.06
49	Physical Complaints	.05	.05	.56
50	Fear Monsters	-.11	-.13	.84
51	Excited	.66	-.04	.09
52	Nightmares	.12	.03	.52
53	Moody	.51	.15	.03
54	Overtalkative	.72	-.03	.06
55	Quarrelsome	.87	-.14	-.06
56	Unprofec	.49	.19	.14
57	Impulsive	.68	-.07	.13
58	Fear Animals	-.15	-.02	.82
59	Steal	.27	-.07	.05

Note. * In brief; see Appendix G for actual wording of items

The three-factor solution, which was selected above the two-factor solution, produced a first factor that loaded on

both the behavioral and overactive dimensions. This overlap of behavior problems and overactivity onto the second-order factors is consistent with the information generated in the first-order analyses.

The second factor contained items from the Anxiety Withdrawal and Attention Problems subscales, relating to concentration, childishness, and withdrawal, which is consonant with the results obtained for the girls' factor analysis and with the moderate correlations obtained between these subscales. The third factor contained the Somatic Concerns/ Fear subscale.

The results indicated two broad-based groupings (i.e., externalizing and internalizing) like those found in previous analyses (e.g., Edelbrock & Achenbach, 1984), and an additional grouping consisting of items related to children's fears. The correlations between subscales ranged from .12 for Behavior Problems/Overactivity with Somatic Concerns/Fears to .19 for Behavior Problems/Overactive with Anxiety Withdrawal/ Attention Problems and Anxiety Withdrawal/Attention Problems with Somatic Concerns/Fears. The results of the second-order analysis are consistent with O'Donnell's findings for Mexican American children, who reported a similar results for the Anxiety Withdrawal and Distractible/Hypoactive factors.

Age, Grade, and Gender Norms for the modified BPC, Spanish Version

In Tables 67, 68, and 69 normative data are presented on the subscales of the modified BPC controlling for age, gender, and grade.

Table 67

Normative Data on the modified BPC, Spanish Version presented by Age and Gender*

Age	BP/O		AW		SC/F		AP**	
	M	SD	M	SD	M	SD	M	SD***
				Boys by Age				
4 (6)	1.55	.41	1.29	.33	1.42	.47	1.43	.49
5 (58)	1.50	.67	1.48	.55	1.40	.55	1.69	.75
6 (62)	1.66	.75	1.63	.62	1.52	.61	1.84	.81
7 (16)	1.58	.66	1.89	.57	1.68	.69	1.84	.69
8 (50)	1.61	.61	1.64	.55	1.68	.63	1.77	.66
9 (25)	1.71	.54	1.75	.57	1.73	.67	1.78	.69
10 (5)	1.94	1.14	1.57	.36	1.60	.38	1.88	.80
11 (35)	1.36	.43	1.35	.49	1.23	.37	1.36	.42
12 (28)	1.55	.64	1.48	.49	1.29	.37	1.65	.71
13 (6)	2.08	.77	1.49	.40	1.25	.39	2.03	.98
14 (4)	1.44	.39	1.65	.52	1.25	.32	2.48	1.00
				Girls by Age				
4 (9)	1.36	.37	1.61	.65	1.69	.31	1.59	.56
5 (76)	1.30	.39	1.47	.56	1.52	.68	1.42	.61
6 (54)	1.45	.60	1.52	.50	1.58	.55	1.65	.70
7 (24)	1.31	.51	1.41	.30	1.56	.36	1.40	.53
8 (68)	1.50	.45	1.64	.53	2.07	.79	1.54	.53
9 (27)	1.43	.32	1.51	.38	1.82	.64	1.57	.46
10 (7)	1.65	.37	1.54	.28	1.69	.15	1.77	.15
11 (40)	1.24	.50	1.23	.24	1.26	.34	1.15	.29
12 (26)	1.24	.42	1.39	.51	1.41	.53	1.47	.74
13 (9)	1.61	.69	1.82	.80	1.69	.63	2.14	.84
14 (3)	1.39	.46	1.58	.42	1.17	.17	1.87	.12
				By Gender				
Girls	1.38	.47	1.49	.50	1.63	.65	1.50	.60
Boys	1.58	.65	1.57	.56	1.48	.57	1.72	.72
Total	1.47	.57	1.53	.53	1.57	.62	1.60	.67

Note. * Norms are based on results of factor analysis for total sample

** BP/O = Behavior Problems/Overactivity
AW = Anxiety Withdrawal
SC/F = Somatic Concerns/Fears
AP = Attention Problems

*** Means and standard deviations reflect 1-4 scoring of items

Table 68

Normative Data on the modified BPC, Spanish Version presented by Age*

Total (boys and girls) by age (n=638)

Age	BP/O		AW		SC/F		AP**	
	M	SD	M	SD	M	SD	M	SD***
4 (15)	1.44	.38	1.48	.55	1.58	.39	1.53	.52
5 (134)	1.38	.54	1.48	.55	1.46	.63	1.53	.68
6 (116)	1.57	.69	1.58	.57	1.55	.58	1.75	.76
7 (40)	1.42	.58	1.60	.49	1.61	.51	1.58	.63
8 (118)	1.54	.52	1.64	.54	1.90	.75	1.64	.60
9 (52)	1.56	.46	1.63	.49	1.78	.65	1.67	.59
10 (12)	1.77	.75	1.55	.30	1.65	.26	1.82	.50
11 (75)	1.30	.46	1.29	.38	1.25	.35	1.25	.37
12 (54)	1.40	.56	1.44	.50	1.35	.45	1.56	.73
13 (7)	1.79	.74	1.68	.67	1.51	.57	2.10	.86
14 (15)	1.42	.38	1.62	.44	1.21	.25	2.21	.78
Total (638)	1.47	.56	1.53	.53	1.57	.62	1.60	.67

Note. * Norms are based on results of factor analysis for total sample

** BP/O = Behavior Problems/Overactivity
AW = Anxiety Withdrawal
SC/F = Somatic Concerns/Fears
AP = Attention Problems

*** Means and standard deviations reflect 1-4 scoring

Table 69

Normative Data on the modified BPC, Spanish Version presented by Grade and Gender*

Total (boys and girls) by grade (n=629)**

Grades	BP/O		AW		SC/F		AP***	
	M	SD	M	SD	M	SD	M	SD****
Preschool and Kindergarten (n=197)	1.41	.56	1.48	.54	1.45	.59	1.55	.69
First (n=106)	1.58	.70	1.65	.56	1.66	.58	1.79	.72
Third (n=178)	1.55	.51	1.63	.52	1.85	.70	1.65	.59
Sixth (n=148)	1.39	.54	1.40	.48	1.31	.42	1.49	.66
Total	1.47	.57	1.53	.53	1.57	.62	1.60	.67
Boys by grade (n=291)								
Preschool and Kindergarten (n=91)	1.51	.65	1.46	.51	1.36	.50	1.65	.72
First (n=52)	1.77	.79	1.81	.64	1.72	.69	1.99	.79
Third (n=78)	1.64	.60	1.66	.56	1.68	.62	1.76	.68
Sixth (n=70)	1.48	.56	1.43	.49	1.25	.36	1.58	.68
Girls by Grade (n=338)								
Preschool and Kindergarten (n=106)	1.33	.45	1.49	.56	1.53	.64	1.46	.65
First (n=54)	1.40	.56	1.49	.40	1.60	.44	1.59	.59
Third (n=100)	1.49	.41	1.60	.48	1.98	.74	1.57	.50
Sixth (n=78)	1.31	.51	1.37	.47	1.36	.46	1.41	.63

Note. * Norms are based on results of factor analysis for total sample

** Nine cases are missing.

*** P/O = Behavior Problems/Overactivity
AW = Anxiety Withdrawal
SC/F = Somatic Concerns/Fears
AP = Attention Problems

**** Means and standard deviations reflect a 1-4 scoring of items

Analyses of Variance

Two-way analyses of variance for unbalanced designs were carried out for gender and age (Gender X Age) and gender and grade (Gender X Grade) with Behavior Problems/Overactivity and Attention Problems subscales as dependent variables. The results are presented in Table 70.

Table 70

Analyses of Variance: Effects of Gender, Age, and Grade for the Behavior Problems/Overactivity and Attention Problems Subscales

Subscale	df	F	p
Behavior Problems/Overactivity			
Gender	1,636	10.60	.001
Age	10,636	2.76	.002
Gender X Age	10,636	.31	ns
Behavior Problems/Overactivity			
Gender	1,636	4.74	.03
Grade	4,636	3.71	.005
Gender X Grade	4,636	.83	ns
Attention Problems			
Gender	1,636	6.11	.01
Age	10,636	4.58	.001
Gender X Age	10,636	.43	ns
Attention Problems			
Gender	1,636	6.72	.01
Grade	4,636	4.21	.002
Gender X Grade	4,636	.62	ns

The results for the Behavior Problems/Overactivity subscale show significant main effects for gender, age, and grade. No significant interactions were found. A post hoc comparison of the means on the Behavior Problems/Overactivity subscale showed that boys (M=36) were scored consistently significantly higher than girls (M=31). Six (M=34.3) and thirteen-

year-old children (M=40.5) received significantly higher scores than did eleven-year-old children (M=28.6)($p \leq .001$). First graders (34.9) scored significantly higher than sixth graders (M=30.7). Teachers rated boys in first grade (M=39) significantly higher than boys in preschool (M=33.3) and in sixth grade (M=21.6)($p \leq .001$). Girls in third grade were scored significantly higher (M=32.8) than girls in preschool (M=29.2) and in sixth grade (M=28.7)($p \leq .001$).

For the Attention Problems subscale, significant main effects were also found for gender, age, and grade. There were no significant interactions. Post hoc gender comparisons for the Attention Problems subscales indicated that teachers rated boys (M=18) significantly higher than girls (M=16). Additionally, thirteen (M=20.9) and fourteen-year-old children (M=21.7) scored significantly higher than eleven-year-old ones (M=12.5) ($p \leq .001$). Thirteen-year-old children (M=20.9) were rated also significantly higher than children of four (M=15.1) and five (M=15.5) years of age. Six (M=17.5), eight (M=16.6), and nine-year-old children (M=16.8) scored significantly higher than eleven-year-old children (M=12.5). Teachers scored first graders (M=17.9) significantly higher than they did preschoolers (M=15.6) or sixth graders (M=14.9). Third graders (M=16.6) were scored significantly higher than sixth graders (M=14.9) ($p \leq .001$). Boys in first grade (M=19.9) were perceived as having significantly more attention problems than boys in preschool (M=16.5), third grade (M=17.6), or sixth grade (M=15.8) ($p \leq .001$).

Although these set of results are tangential to the main purposes of this study, the Behavior Problems/Overactivity and Attention Problems subscales developed from the modified BPC were also analyzed with two-way ANOVAS for unbalanced designed with socioeconomic status (SES) and school as the main effects, followed by Tukey-HSD tests. Results are presented in Table 71.

Table 71

Analyses of Variance: Effects of socioeconomic status and school location for the Behavior Problems/Overactivity and Attention Problems Subscales

Subscale	df	F	p
Behavior Problems/Overactivity			
Fathers' SES	6,637	2.33	.03
School	2,637	2.25	.10
Fathers' SES X School	5,637	.39	ns
Behavior Problems/Overactivity			
Mothers' SES	6,637	.60	ns
School	2,637	2.10	.10
Mothers' SES X School	5,637	.89	ns
Attention Problems			
Fathers' SES	6,636	3.18	.004
School	2,636	.32	ns
Fathers' SES X School	5,636	.45	ns
Attention Problems			
Mothers' SES	6,636	1.12	ns
School	2,636	1.02	ns
Mothers' SES X School	5,636	.42	ns

The analyses of variance for behavior and attentional difficulties revealed a significant main effect for fathers' SES, such that children from lower (fathers') SES scored significantly higher than children from higher (fathers') SES. The analysis of variance performed on the Behavior

Problems and Attention Problems subscales yielded nonsignificant main effects for mothers' SES and school location. However, there was a trend toward significance ($p \leq .10$) for behavior problems by school location (rural or urban), such that children who attended rural schools had higher scores than did children in urban schools. Although school location main effects were nonsignificant, inspection of means (Least Squares Means analyses) indicated mean differences between urban and rural schools, with children in rural schools scoring higher than children in urban schools. In addition, it appears that children in rural schools from higher SES had higher scores than children in urban schools from similar SES. Thus, area of living appears to make a difference in children from higher SES, with rural children getting higher scores in relation to behavior and attentional difficulties, but children in lower SES receiving significantly higher scores regardless of school location.

The ANOVAS of the Behavior Problems/Overactivity and Attention Problems subscales and of SES and school location yielded no statistically significant interactions.

Additional Results

Concurrent validity

To examine the concurrent validity of the obtained subscales, Pearson correlations were calculated to determine agreement between the CTRS-R, ACTRS-R, and the modified BPC subscales. Table 72 presents the intercorrelations of the five subscales of the CTRS-R, including the ACTRS-R, and the four subscales of the modified BPC. The magnitude of the associations was relatively strong for similar components. On the other hand, components measuring conceptually different dimensions showed very weak associations. The consistently found moderate correlation was obtained between the overactivity, behavior problems, and attention problems subscales. The Anxiety Withdrawal component correlated relatively strong with Attention Problems/Passive and Social Incompetence, which is understandable due to the emergence of the Anxiety Withdrawal/Attention Problems second-order factor. The ACTRS-R correlated highly with Behavior Problems/Overactivity and with Attention Problems which can be expected since they have items in common. That the ACTRS-R was moderately associated with Anxiety Withdrawal and Somatic Concerns/Fears reflects that the ACTRS-R components share some features of the latter internalizing characteristics.

Table 72

Intercorrelation among the CTRS-R and the modified BPC subscales (Total Sample)*

Subscales	Subscales				
	BP/O	AP/P	SI	S/P	ACTRS-R
Behavior Problems/ Overactivity	.82**	.33**	.20**	.12**	.89**
Anxiety Withdrawal	.14**	.58**	.42**	.29**	.51**
Somatic Concerns/Fears	.21**	.29**	.32**	.29**	.41**
Attention Problems/ Passive	.36**	.79**	.20**	.04**	.71**

Note. * n=638
** p $\leq$.001

Comparison of the CTRS-R and the modified BPC, Spanish version to DSM-III-R

A comparison of the Attention-deficit/Hyperactivity and Oppositional Defiant classifications of the DSM-III-R to like dimensions of the CTRS-R and the modified BPC seemed appropriate. The construct similarity between the DSM-III-R categories of Attention-deficit and Oppositional Defiant Disorders and the Behavior Problems/Overactivity and Attention Problems subscales was assessed by examination of the behavioral characteristics on both diagnostic classifications.

DSM-III-R criteria for Attention-deficit Disorder was represented on two-different dimensions, Behavior Problems/ Overactivity and Attention Problems. The DMS-III-R criteria for Oppositional Defiant Disorder was characterized by items on the Behavior Problems/Overactivity subscale. Based on this data, it appears that a key difference between the

empirically derived dimensions in this study and the Attention-deficit/Hyperactivity and Oppositional Defiant DSM-III-R categories is that for Puerto Rican children, behavior problems, overactivity, and impulsivity merged and is a separate dimension from attentional difficulties in both measures, the CTRS-R and the modified BPC.

Although it can be claimed that the behavior problems, overactivity, and inattentiveness constructs are reasonably represented on the Attention-deficit/Hyperactivity and Oppositional Defiant DSM-III-R diagnostic criteria, it is important to point out that an introductory note to Disruptive Behavior Disorders (DSM-III-R) stipulates that for a child to have an Attention-deficit/Hyperactivity Disorder diagnosis, it needs to be "considered separately from disturbances of conduct" such as Conduct Disorder and Oppositional Defiant Disorder.

I would therefore argue that the Attention-deficit/Hyperactivity and Oppositional Defiant DSM-III-R diagnostic criteria cannot adequately identify Puerto Rican children. This interpretation is supported by the fact that for Puerto Rican children, inattentiveness was more correlated with anxiety withdrawal and passivity than with behavior problems and overactivity. Further, the merge of behavior problems and overactivity has been identified in Puerto Rico, Spain, and Italy, three Latin countries, while the merge of attention problems and overactivity has been identified in Anglo-Saxon cultures. Furthermore, the determination of prevalence

rates by means of a categorical approach showed that there is a significant number of children that were classified as having either behavior and overactivity problems or attention problems, but not both diagnosis. The present findings alert clinicians and researchers to the potential danger in using the Attention-deficit/Hyperactivity and Oppositional Defiant (DSM-III-R) diagnostic criteria for Puerto Rican children.

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FACTOR ANALYSIS OF THE REVISED CONNERS'S TEACHER RATING SCALE AND THE MODIFIED BEHAVIOR PROBLEM CHECKLIST ON A NORMATIVE SAMPLE OF PUERTO RICAN CHILDREN

Volume II

By

Ana Margarita Cebollero

A DISSERTATION

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CHAPTER IV

Prevalence

Conners's Teacher Rating Scale, Revised

This set of results concerns with the major goal of this study, which is to estimate the prevalence of overactivity, behavior problems, and distractibility in Puerto Rican children based upon teachers reports and to compare them cross-culturally. Also of interest is to look at the distribution of this prevalence across gender, age groups, and grades. For this purpose, only the Behavior Problems/Overactivity and Attention Problems/Passive subscales, and the abbreviated Conners's Teacher Rating Scale (ACTRS-R) will be used. Thus, the Social Incompetence and Sensitive/Passive subscales are omitted on this and all subsequent discussions, although they may be presented. For general interest, some results for these minor subscales are shown in Appendix M.

Using the scoring system of 1-4 for each item, the means and standard deviations for the total sample on the four factors of the CTRS-R, Spanish version and on the ACTRS-R are presented in Table 73. Mean scale scores were also computed for boys and girls on these measures.

Table 73

Means and Standard Deviations of Puerto Rican Children on the CTRS-R, Spanish Version

Subscales	Boys M	Boys SD	Girls M	Girls SD	Total M	Total SD*
Behavior Problems/ Overactivity	1.67	.70	1.47	.54	1.56	.62
Attention Problems/ Passive	1.79	.69	1.59	.58	1.68	.64
Social Incompetence	1.66	.67	1.55	.55	1.60	.61
Sensitive/Passive	1.58	.66	1.52	.54	1.55	.57
Abbreviated CTRS-R	1.80	.73	1.55	.56	1.66	.66

Note. * Means and standard deviations reflect 1-4 scoring

Prevalence Distribution

Figure 1 shows the percentages obtained by the total sample and by gender, grade, and age for the Puerto Rican children who were rated at or above the traditional cutoff score of 25 (15 on a 0-3 scoring) on the ACTRS-R. Note that, as predicted, a higher percentage of boys were rated above the cutoff point, but there was little difference between the grades. There was instability by age which is different from findings reported in the literature which claim that the hyperactive symptoms (e.g., attention span, overactivity) wane or even disappear with age.

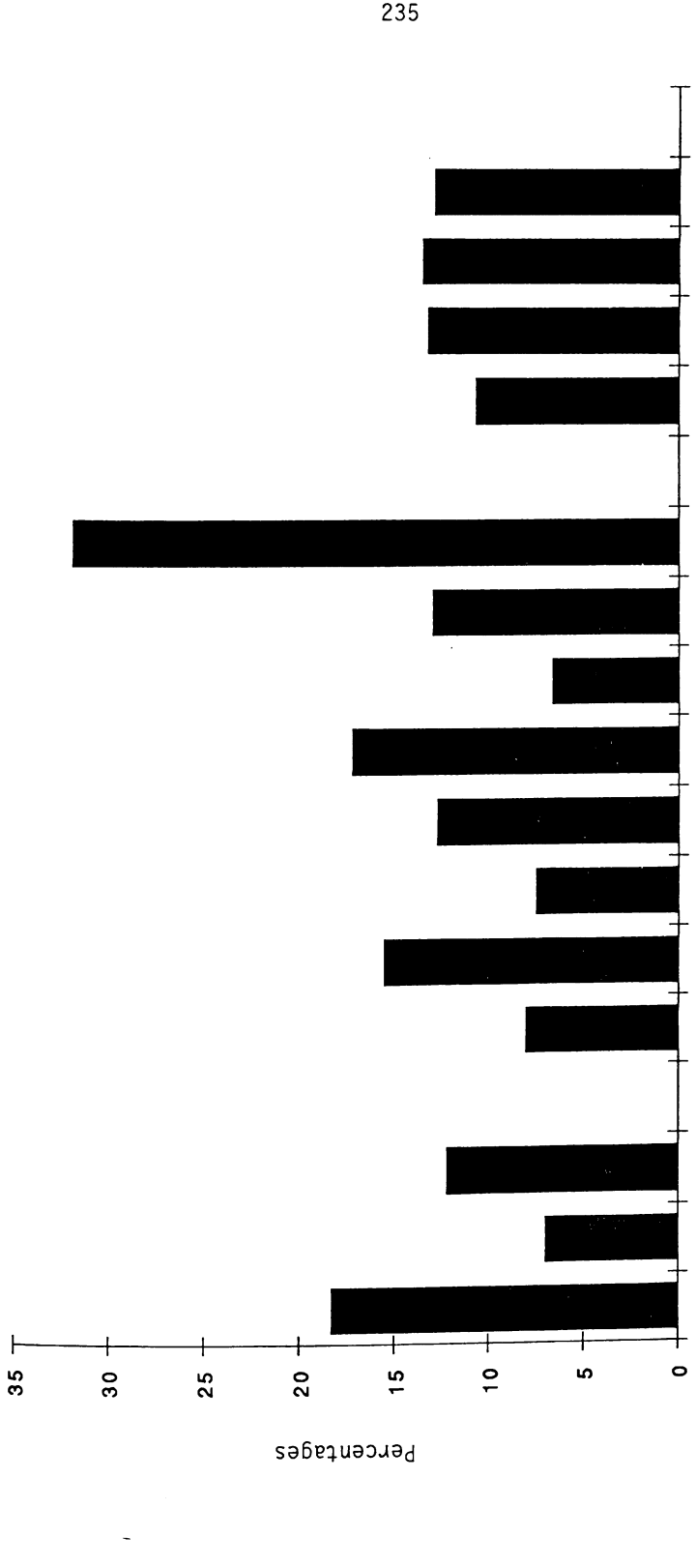


Figure 1 Percentages of Children Scoring at or above the 15 cutoff for Gender, Age, and Grade on the Abbreviated CTRS-R (Spanish Version)

It can be seen in Figure 2 that when the criterion was two standard deviations above the obtained total mean score, it also resulted in more boys generally being rated above the cutoff point. There was instability not only by age but also by grade, which differed from the previous set of results. Figure 3 shows how using the two standard deviations criterion above the obtained mean for boys and girls reflect a different picture. Although the instability by grade and age is again noticeable, the gender differences fluctuate: at certain points there are only trivial or no differences; at others, vast ones.

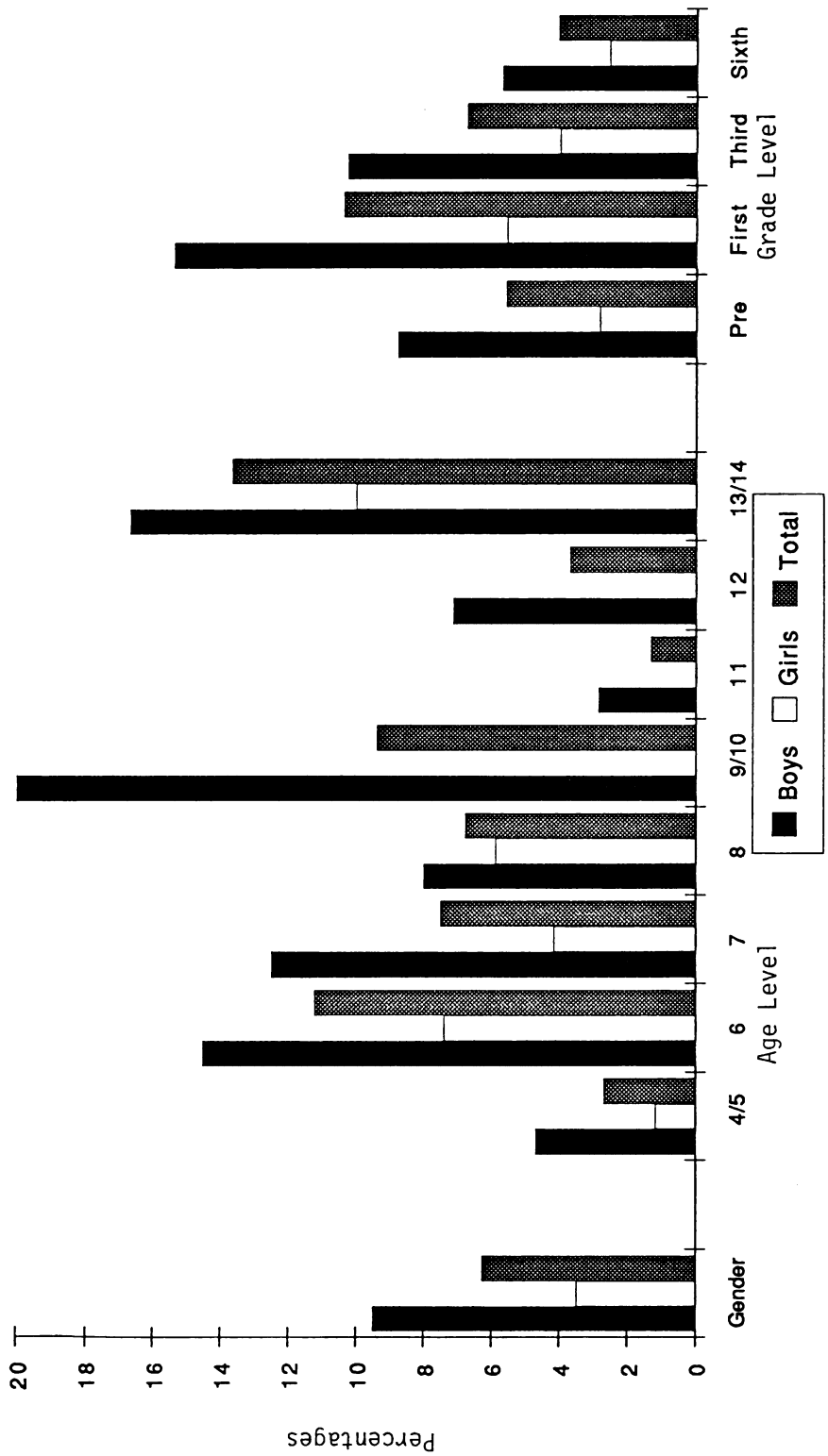


Figure 2 Percentages of Children Scoring at or above 2 s.d. (total sample's mean) for Gender, Age, and Grade on the Abbreviated CTRS-R (Spanish Version)

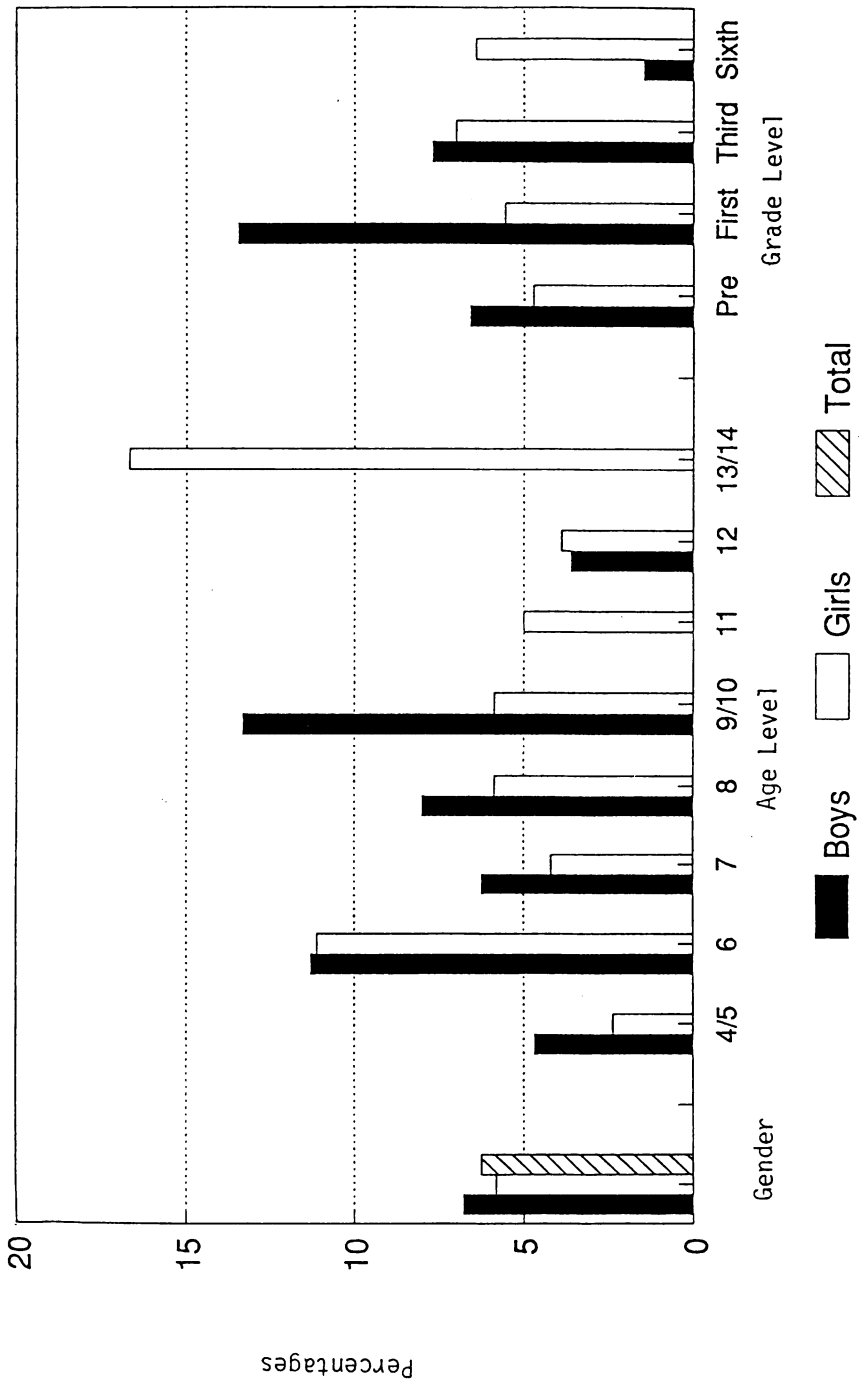


Figure 3 Percentages of Children Scoring at or above 2 s.d. (Boys', girls' means) for Gender, Age, and Grade on the Abbreviated CTRS-R (Spanish Version)

Figures 4 and 5 present the percentages obtained by the total sample and by gender, grade, and age when the criterion of two standard deviations to the obtained total mean score was used on the Behavior Problems/Overactivity subscale. The picture that emerged resembles the one obtained for the ACTRS-R. More boys were rated as having behavior problems than girls at all ages and through elementary school. It also appeared that behavior difficulties fluctuate through childhood (Figure 4). A closer look at gender differences using boys and girls own means also show fluctuation in the development of behavior problems during childhood. However, gender differences are less clear. At certain ages girls were rated as having more behavior problems than boys (Figure 5).

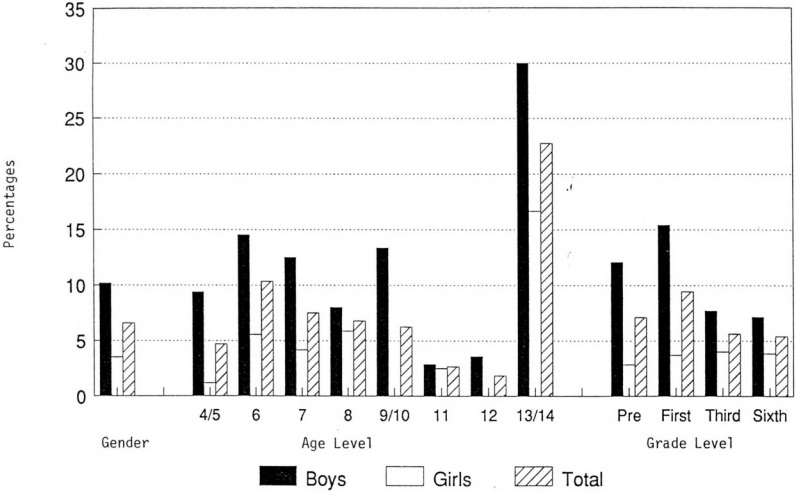


Figure 4 Percentages of Children Scoring at or above 2 s.d. (total sample's mean) for Gender, Age, and Grade on the Behavior Problems/Overactivity Subscale (CTRS-R, Spanish Version)

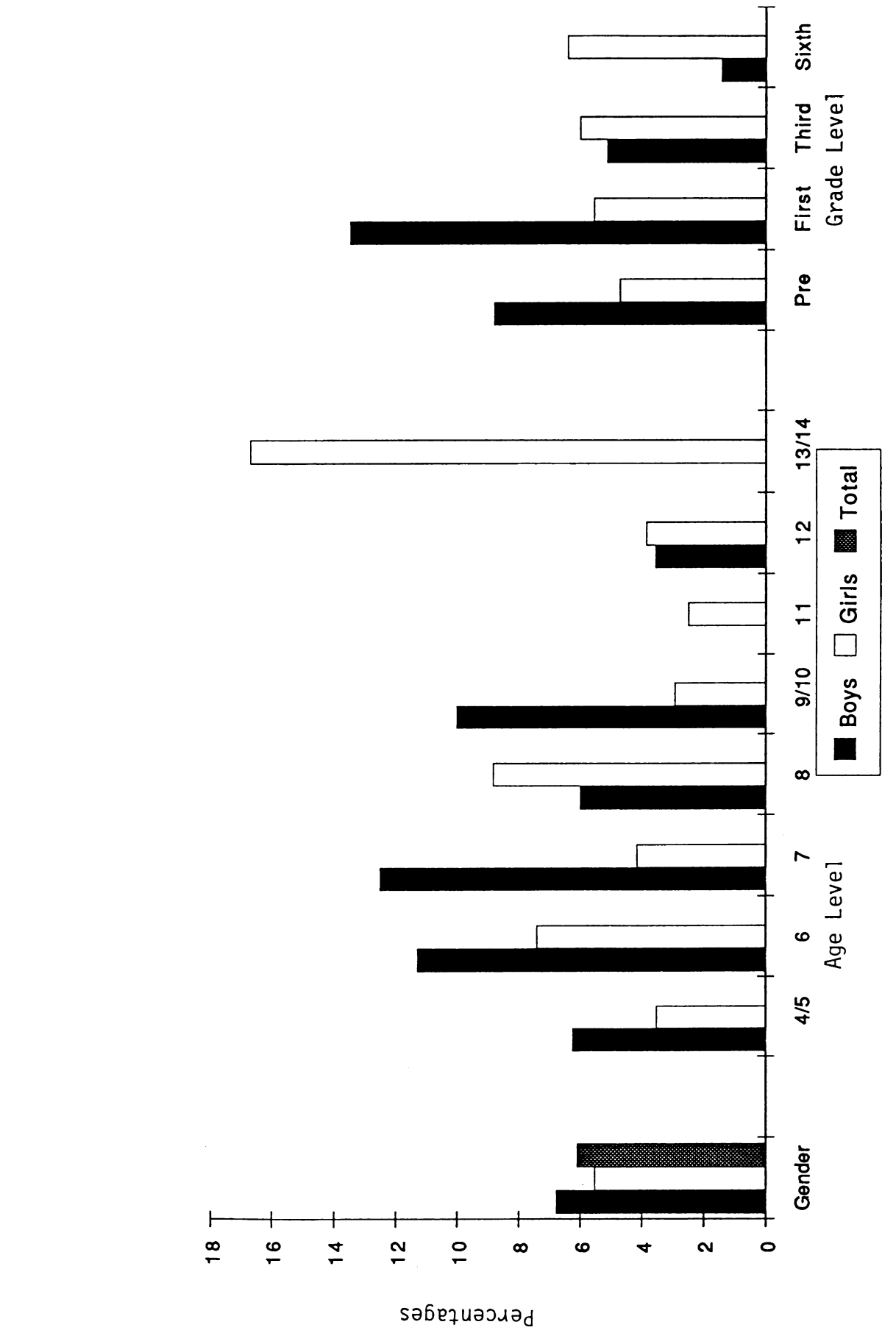


Figure 5 Percentages of Children Scoring at or above 2 s.d. (Boys', girls' means) for Gender, Age, and Grade on the Behavior Problems/Overactivity Subscale (CTRS-R, Spanish Version)

The mean ratings for the total sample and for boys and girls by grade and age for the Attention Problems/Passive subscale are presented in Figure 6. It can be seen that as for the ACTRS R and the Behavior Problems/Overactivity subscales, boys exhibited more attentional difficulties than girls during childhood and through elementary school, even though there is instability by age and grade. However, when the percentages are based on the obtained means for boys and girls the gender differences fluctuate, with periods of large differences between boys and girls and periods of almost no differences between them or periods when girls showed more attention problems than boys (Figure 7).

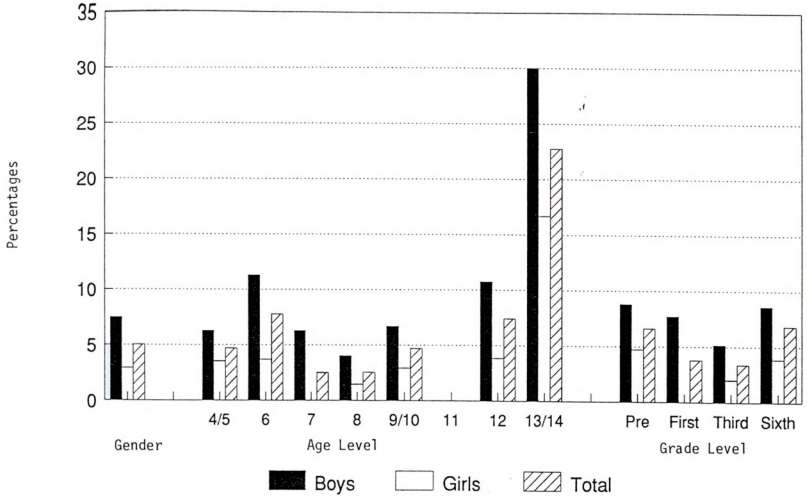


Figure 6 Percentages of Children Scoring at or above 2 s.d. (total sample's mean) for Gender, Age, and Grade on the Attention Problems/Passive Subscale (CTRS-R, Spanish Version)

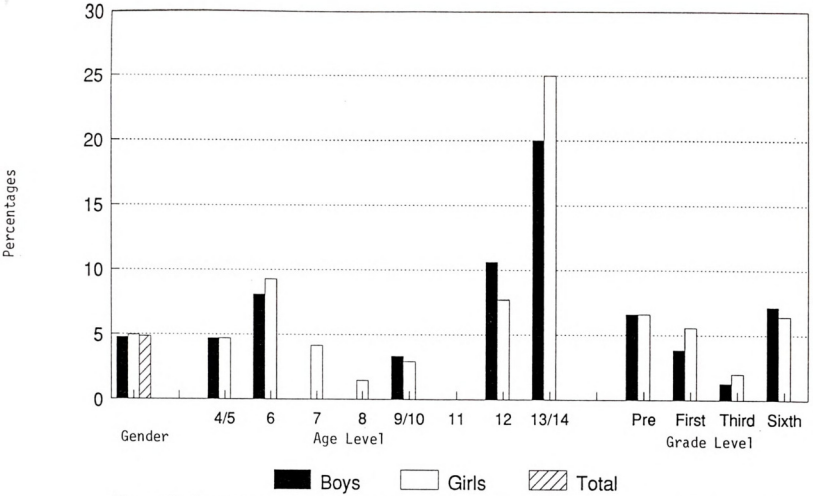


Figure 7 Percentages of Children Scoring at or above 2 s.d. (Boys', girls' means) for Gender, Age, and Grade on the Attention Problems/Passive Subscale (CTRS-R, Spanish Version)

It is of importance to note that the overall graphical representation shows, that for Puerto Rican children, behavior, overactivity, and attention problems appear to be unstable attributes throughout childhood. The results do confirm previous findings of boys generally exhibiting more of these behaviors than girls, especially among younger children, when using the obtained total mean score. Gender differences are less clear when using the obtained mean for boys and girls.

It was particularly striking to see a high degree of inconsistency in the results obtained from the mean ratings by gender and age groups on all four factors and the ACTRS-R, regardless of the criteria used to define the cutoff point.* The mean factor scores that were computed in all age and grade groups were used to clarify the picture that emerged between boys and girls and to show trends in the developmental aspect of some behavior problems for Puerto Rican children during childhood.

For example, it can be seen in Figure 8 that for the ACTRS-R subscale there is a slight increase on the scores for both genders at age 6 followed by a drop at age 7, more markedly so for girls than for boys. Soon afterwards there is a peak for both genders at ages 9 and 10, but which for girls starts slightly earlier (8) and is more abrupt. Soon afterwards the scores for both genders drop markedly at 11,

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Note. *Significant differences have been presented in the ANOVA results section.

to be followed by another upswing at ages 13 and 14. Figures 9 and 10 show that a similar trend is observed for the Behavior Problems/Overactivity and the Attention Problems/Passive subscales. No interactions are observed in any of the graphs.

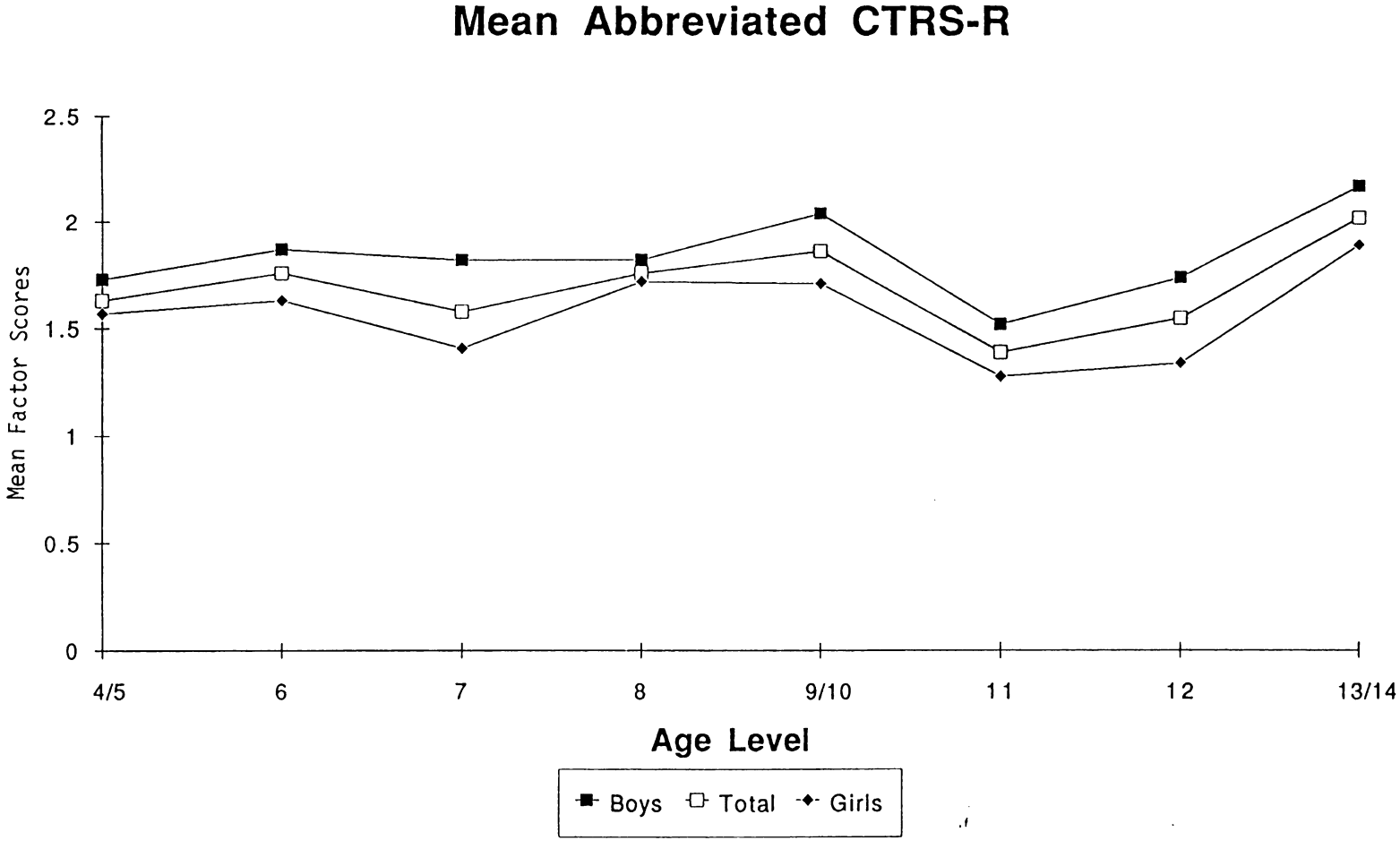


Figure 8 Mean Abbreviated Conners's Teacher Rating Scale Scores

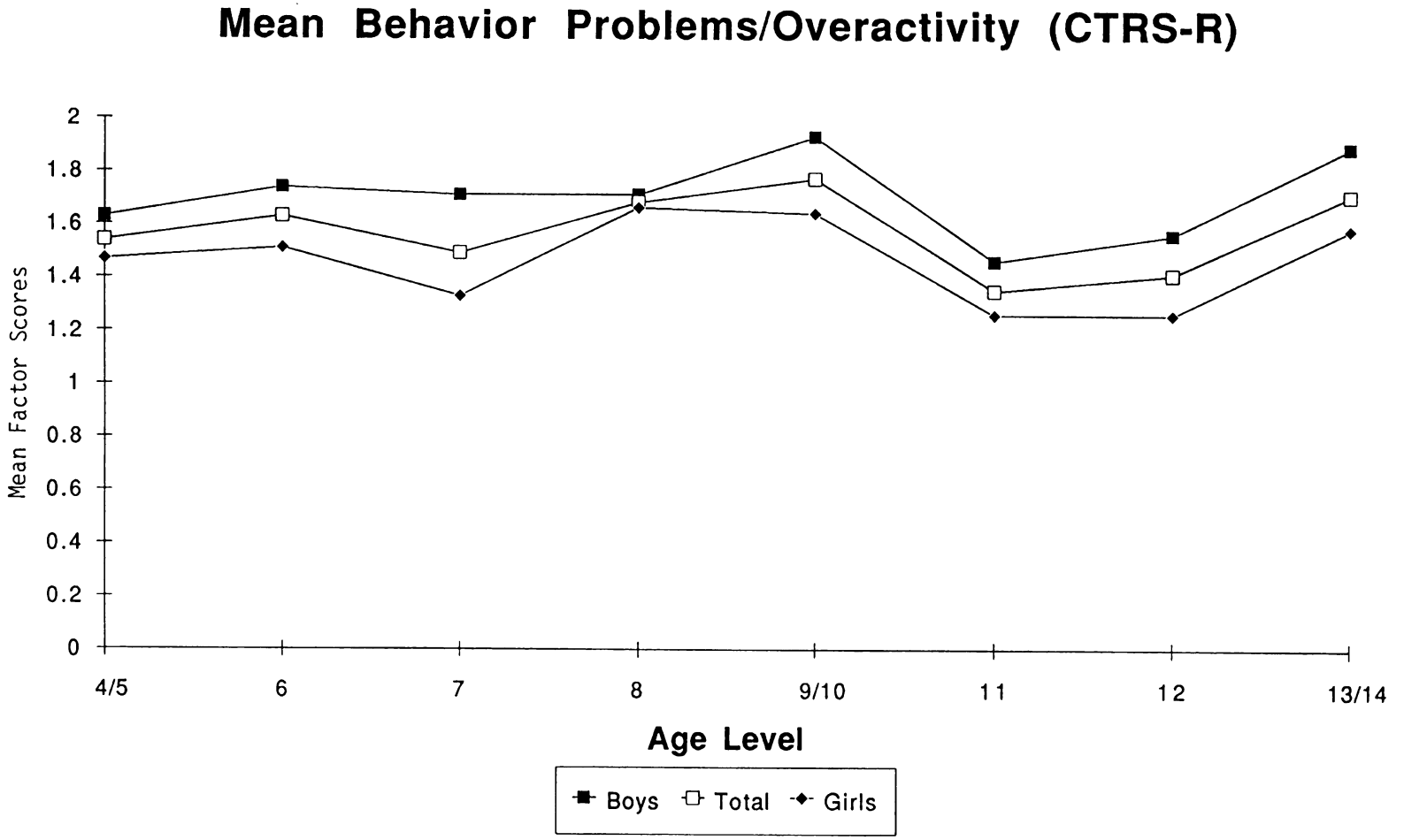


Figure 9 Mean Behavior Problems/Overactivity Subscale (CTRS-R, Spanish Version)

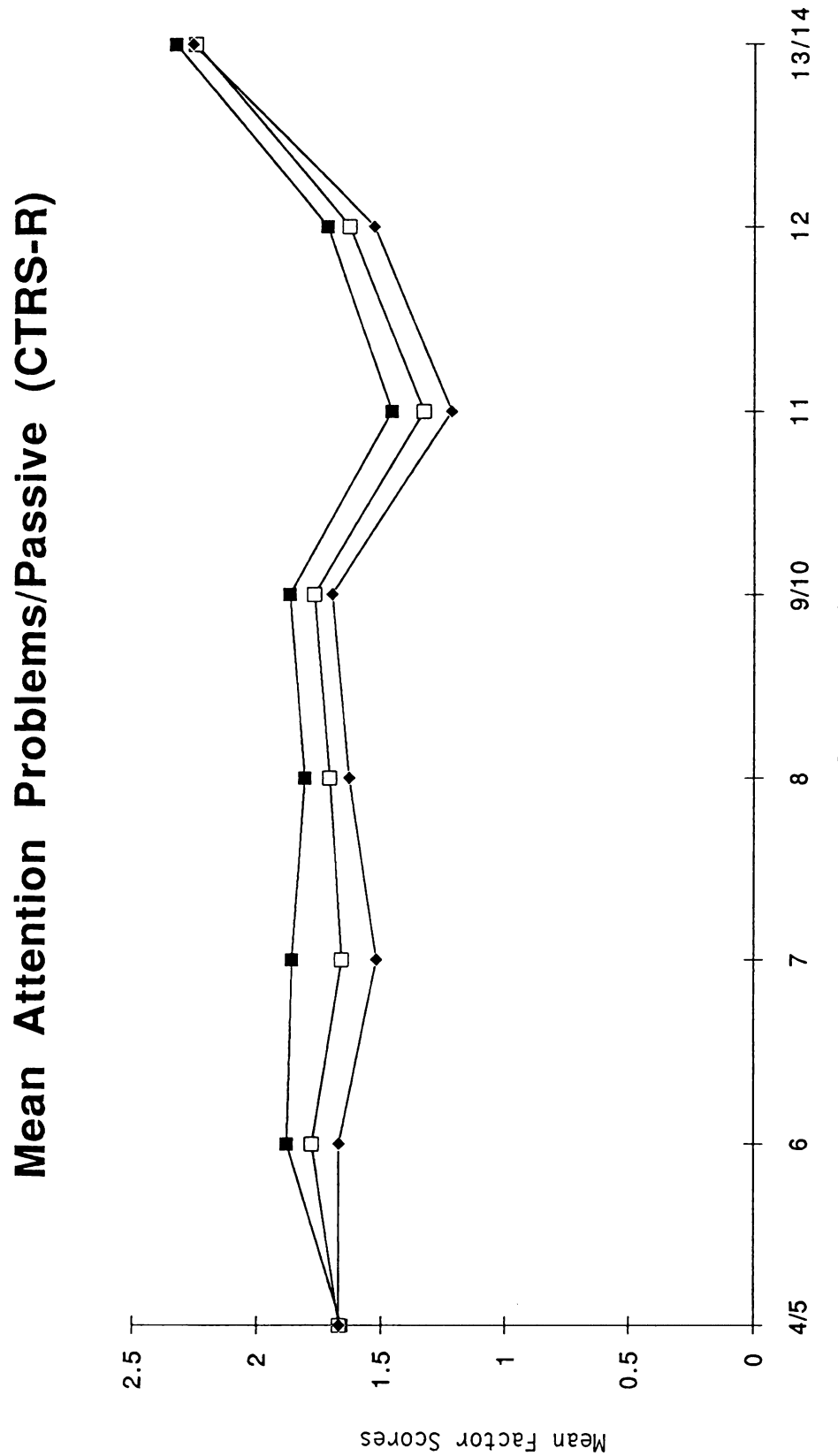


Figure 10 Mean Attention Problems/Passive Subscale Scores (CTRS-R, Spanish Version)

The results for gender and grade groups are presented in Figures 11, 12, and 13, for the ACTRS-R, Behavior Problems/ Overactivity, and Attention Problems/Passive subscales, respectively.* As for age, the trends are composed of lows and peaks, with some instability throughout childhood. There is a general trend showing that girls peak later for all behavioral and attentional problems and that the scores for both boys and girls drop at sixth grade, ending lower than when the children started school. It is also clear that boys consistently displayed more severe behavior and attentional problems than girls at all grade levels and that boys start school with more of these problems than girls. Specifically, for the ACTRS-R subscale, Figure 11 shows that in preschool, boys start with higher scores than girls to peak by first grade. Scores then begin a downswing, reaching the lowest point in sixth grade. Girls start preschool with less hyperactivity problems than boys but there is a gradual increase of difficulties which peak in third grade. Girls peak later than boys (in third grade), but soon afterwards, they follow the boys trend: scores begin to drop, reaching the lowest point in sixth grade also. Both boys and girls end up having somewhat less hyperactivity problems in sixth grade than when they started school. The results for the Behavior Problems/Overactivity subscale, shown in Figure 12, demonstrate that preschool boys start having more behavioral

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Note. *Significant differences have been presented in the ANOVA results section.

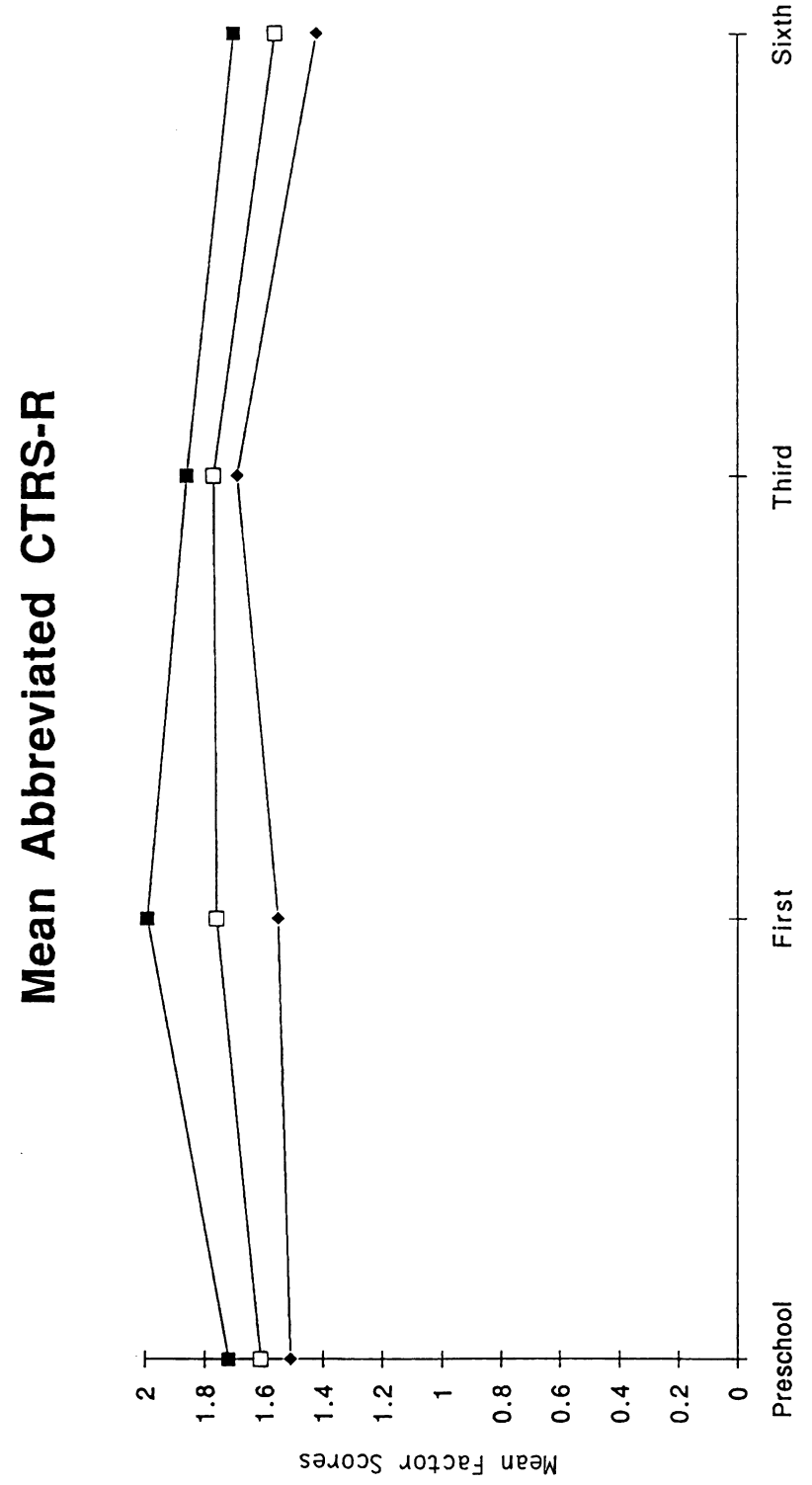


Figure 11 Mean Abbreviated Conners's Teacher Rating Scale Scores

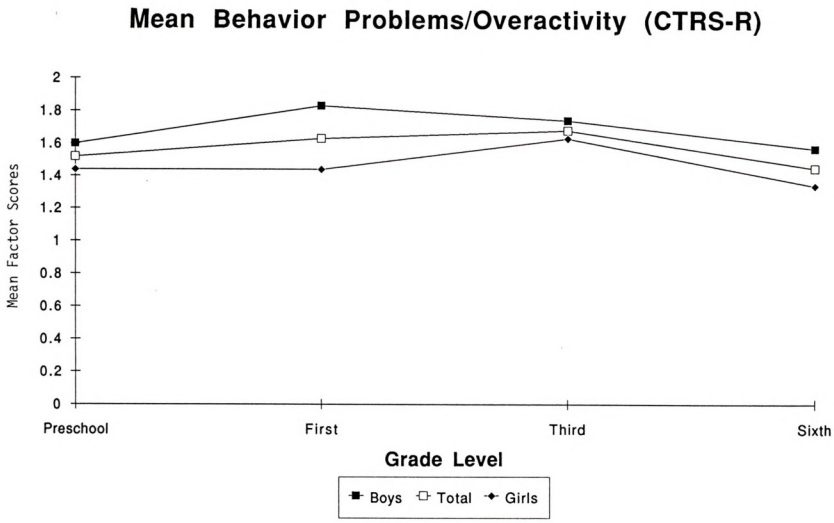


Figure 12 Mean Behavior Problems/Overactivity Subscale Scores (CTRS-R, Spanish Version)

difficulties than girls, which peak in first grade. Soon afterwards, the scores begin to drop, reaching the lowest point in sixth grade. Girls start school with lower scores than boys and remain stable until after first grade, when they show an increase in behavior problems, which peak in third grade, which is later than the boys' peak. As for boys, this peak is followed by a downswing, which reaches its lowest point also in sixth grade. Figure 13 shows that a similar trend is observed for both boys and girls on the Attention Problems/Passive measure. No interactions are observed in any of the graphs.

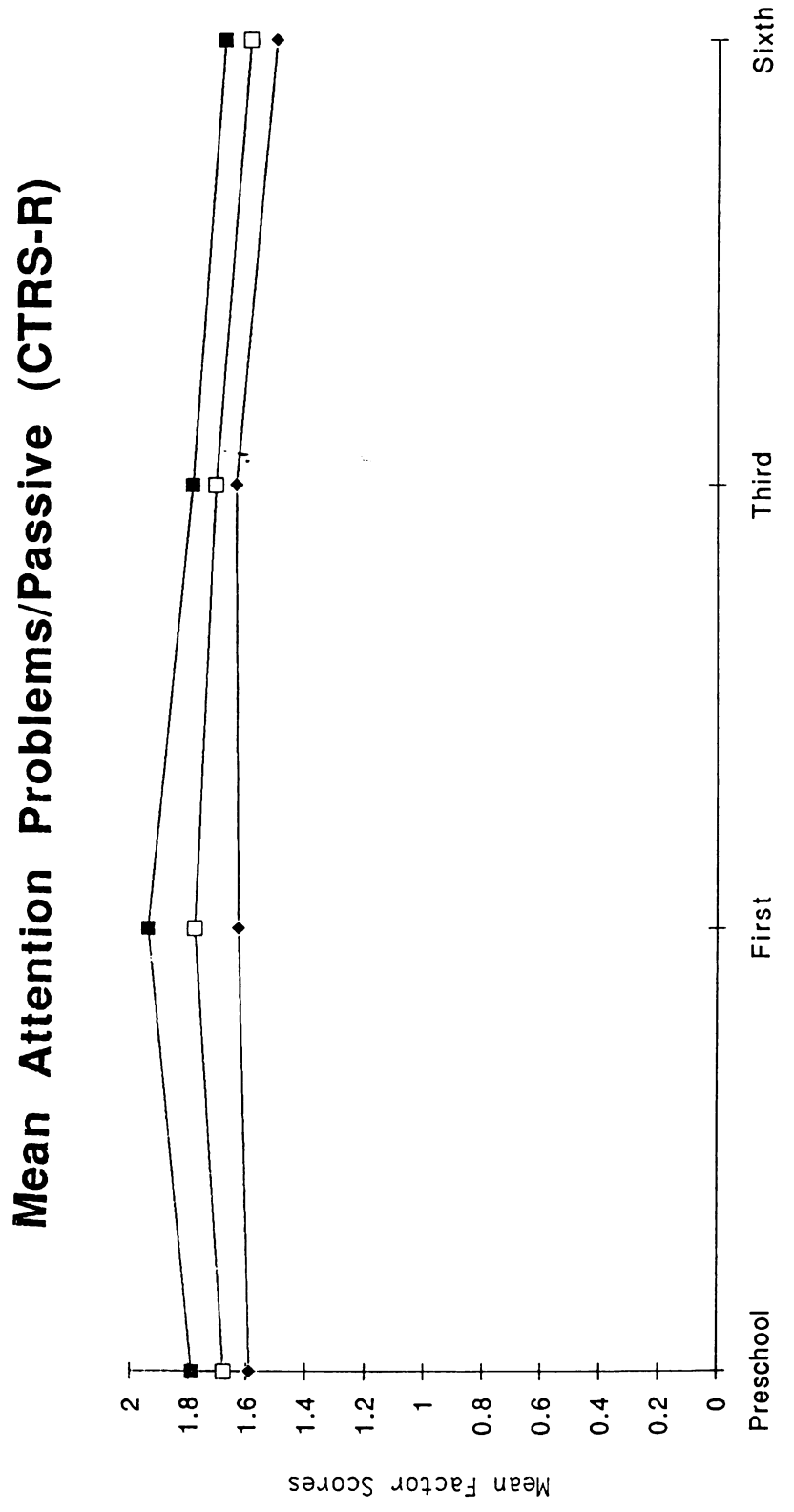


Figure 13 Mean Attention Problems/Passive Subscale Scores (CTRS-R, Spanish Version)

Prevalence Rates

The recommended cutoff point by Sprague, et al. (1974) of 1.5 (0-3 scoring) on the ACTRS-R has been used to identify hyperactive children. In this study, the cutoff point of 1.5 has been transformed to 2.5 to represent a 1-4 scoring. Using this cutoff score as an index of hyperactivity on the ACTRS-R and on the Behavior Problems/Overactivity and Attention Problems/Passive subscales, it can be seen from Table 74 that there was a higher prevalence rate of behavior problems, over-activity, and attentional problems among boys than girls. The ACTRS-R identified 18.31% of the boys and 7% of the girls as hyperactive, for a total prevalence rate of 12.23%. Using the same criterion on the Behavior Problems/Overactivity subscale, 10.35% of the children scored at or above the 2.5 cutoff, 14.58% of the boys and 6.71% of the girls. For the Attention Problems/Passive subscale, 15.93% of the boys and 8.75% of the girls were classified as having attentional difficulties, for a total prevalence rate of 12.07%. As expected, behavior problems, overactivity, and difficulties in concentration were most frequently noted behaviors in boys.

Table 74

Percentage of Boys and Girls Surpassing the Cutoff Score on the CTRS-R, Spanish Version*

	Number			Percentage**			Ratio
Subscales	Boys	Girls	Total	Boys	Girls	Total	Boys:Girls
BP/O	43	23	66	14.58	6.71	10.35	1.9:1
AP/P	47	30	77	15.93	8.75	12.07	1.6:1
SI	40	25	65	13.56	7.29	10.19	1.6:1
SP	33	28	61	11.19	8.16	9.56	1.2:1
ACTRS-R	54	24	78	18.31	7.00	12.23	2.3:1

Note. * Criterion score is 2.5 item mean, based on 1-4 rating (1.5 on a 0-3 rating)

** These percentages are not independent as some children scored above cutoff on more than one subscale

The prevalence rate of hyperactivity differed when the criteria used was based on the use of a traditional statistical method for calculating an acceptable cutoff score, that is, adding two standard deviations to the obtained mean score. Prevalence rates resulting from this method are shown in Table 75.* According to the cutoff score, it was found that 9.49% of the boys and 3.5% of the girls scored above this cutoff on the ACTRS-R, for a total of 6.27%. When the cutoff point was applied to the Behavior Problems/Overactivity subscale, 10.17% of the boys and 3.5% of the girls were selected for a total of 6.58%. The cutoff of two standard deviations for the Attention Problems/Passive subscale resulted in 5.02% prevalence of attentional difficulties, 7.46% of the boys and 2.92% of the girls. This method identified less

Note. *Applying the mean plus two standard deviations criteria resulted in cutoff scores for the total sample of 29.8 for the ACTRS-R, 39.4 for Behavior Problems/Overactivity, and 23.7 for Attention Problems/Passive.

children as having behavior, overactivity, and inattentiveness problems but again boys were noted to have more of these problems than girls.

Table 75

Percentage of Boys and Girls Surpassing the Cutoff Score on the CTRS-R, Spanish Version*

	Number			Percentage**			Ratio
Subscales	Boys	Girls	Total	Boys	Girls	Total	Boys:Girls
BP/O	30	12	42	10.17	3.50	6.58	2.5:1
AP/P	22	10	32	7.46	2.92	5.02	2.2:1
SI	26	16	42	8.81	4.67	6.58	1.6:1
S/P	22	17	39	7.46	4.96	6.11	1.3:1
ACTRS-R	28	12	40	9.49	3.50	6.27	2.3:1

Note. * Criterion score is two standard deviations above the total sample's mean item score based on 1-4 ratings

** These percentages are not independent as some children scored above cutoff score on more than one subscale.

On the other hand, using a criterion of two standard deviations above the obtained mean for boys and girls separately, it can be observed in Table 76 that the prevalence estimates of overactivity, behavior problems, and attentional difficulties for boys and girls are practically identical.*

Note. *Applying the mean plus two standard deviations criteria obtained cutoff scores for boys of 32.6 for the ACTRS-R, 42.9 for Behavior Problems/Overactivity, and 25.4 for Attention Problems/Passive. For girls, the same criteria resulted in cutoff scores of 26.7 for the ACTRS-R, 35.6 for Behavior Problems/Overactivity, and 22 for Attention Problems/Passive.

Table 76

Percentage of Boys and Girls Surpassing the Cutoff Score on the CTRS-R, Spanish Version*

Subscales	Number		Percentage**		Ratio
	Boys	Girls	Boys	Girls	Boys:Girls
BP/O	20	19	6.78	5.54	1.1:1
AP/P	14	17	4.75	4.96	.8:1
SI	26	16	8.81	4.67	1.6:1
S/P	22	17	7.46	4.96	1.3:1
ACTRS-R	20	20	6.78	5.83	1:1

Note. * Criterion score is two standard deviations above boys and girls mean item score based on 1-4 ratings

** These percentages are not independent as some children scored above cutoff score on more than one subscale

The calculated cutoff score on the ACTRS-R for the boys' sample resulted in 6.78% of the boys scoring at or above the cutoff point. For the girls, the calculated cutoff point produced a prevalence estimate of hyperactivity of 5.83%. The Behavior Problems/Overactivity subscale resulted in a prevalence rate of 6.78% for the boys; while the girls' cutoff score classified 5.54% of the girls as having behavior problems. For the Attention Problems/Passive subscale the cutoff point for the boys resulted in 4.75% of the boys being classified as having attentional difficulties. For girls, the cutoff point classified 4.96% of the girls in this category. With this approach, the differences in overactivity and behavior problems between boys and girls were most frequently noted for boys although differences were insignificant. On the other hand, this cutoff score identified just a few more girls than boys as being inattentive.

However, the prevalence estimates obtained with the previous criteria are not independent as some children scored above the cutoff score on more than one subscale. Glow (1980) has suggested the use of a categorical approach to the prevalence of abnormal behavior, in which children are assigned to only one category. Using this method, children with behavior and attention problems would not be classified as hyperactive, as the term 'hyperactive' implies that hyperactive behaviors predominate and that such behaviors are unaccompanied by other types of problems.

Table 77 shows the results of the classification of children scoring at or above the two standard deviations cutoff score on the obtained mean for the total sample on the relevant subscales according to this categorical method. In contrast to the preceding approaches, each child has been assigned to only one type of disorder. This procedure identified 8 boys (2.71%) and 5 girls (1.46%) as having behavior and overactivity problems and nine boys (3.05%) and 6 girls (1.75%) as having attentional difficulties.

Table 77

Prevalence of Behavior Problems, Overactivity, and Attention Problems using a Categorical Approach to Disorder based on the CTRS-R, Spanish Version*

Subscales**	Boys	Girls	Ratio Boys:Girls
Behavior Problems/ Overactivity	8	5	1.6:1
Attention Problems/Passive	9	6	1.5:1
Abbreviated CTRS-R	5	0	5:0
Behavior Problems/Overactivity and Attention Problems/Passive	1	0	1:0
Abbreviated CTRS-R and Behavior Problems/Overactivity	12	8	1.5:1
Abbreviated CTRS-R and Attention Problems/Passive	1	2	.5:1
Abbreviated CTRS-R, Behavior Problems/Overactivity, and Attention Problems/Passive	10	2	5:1

Note. * Criterion score is two standard deviations above total sample's obtained mean item score based on 1-4 ratings

** Other combinations were found for the Social Incompetence and Sensitive Passive subscales but were not included here

It is important to observe that only 12 children scored above the cutoff point on all three subscales (ACTRS-R, Behavior Problems/Overactivity, and Attention Problems/ Passive). The ACTRS-R was able to identify 22 boys and 10 girls that also scored above cutoff point on the Behavior Problems/Overactivity subscale and 11 boys and 4 girls that also scored above the cutoff point on the Attention Problems/ Passive subscale, but it failed to identify 8 boys and 5 girls with only behavior and overactivity problems, 9 girls and 6 boys with only attentional difficulties, and 1 boy with both, attentional and behavioral problems.

above the cutoff point on the Behavior Problems/Overactivity subscale and 5 boys and 1 girls that were rated above the cutoff point on the Attention Problems/Passive subscale. However, it failed to select 11 boys and 9 girls with only behavior and overactivity problems, 8 boys and 6 girls with only attentional problems, and 2 boys with both attentional and behavioral difficulties.

It needs to be said, however, that some of these children had marginal scores in two or the three subscales under study, barely missing the cutoff point. A few children scored above the cutoff point on all four subscales and the ACTRS-R reflecting either extreme symptomatic behavior or perhaps as a result of the negative halo that has been found to be reflected in teachers' ratings.

The data produced prevalence rates for the total sample from 6% to 12% depending on the method and criteria used. Because the obtained mean item ratings for boys and girls are highly different, cutting scores for boys and girls differed when derived from their own means.

For comparison purposes, it can be seen in Table 1 (page 51) that Puerto Rican children exhibited overall rates of overactivity, behavior problems, and attentional difficulties as measured by the ACTRS-R (1.5 cutoff point) similar to Italian children (O'Leary et al., 1985) and to Anglo-American children from southern United States (Langsdorf et al., 1979). For boys, the prevalence estimate was like for the Brazilian children (Brito, 1987); while for girls, the prevalence

estimate was close to the South African black children (Barling et al., 1983).

Examination of Tables 74, 75, 76, 77, and 78 demonstrate how prevalence estimates are directly related to the criteria and cutoff score chosen (e.g., ACTRS-R or subscales) and whether the cutoff score is obtained from the total sample, separately for boys and girls, or from some extraneous source (e.g., Werry et al., 1975). The prevalence estimates for behavior and overactivity problems appear to be larger for boys than girls regardless of the method or criterion used. The ratio of boys to girls ranged from 1.1:1 to 2.5:1, which resembles the ratios previously described among general populations. Prevalence rates of attention deficits in Puerto Rican children is harder to explain. Should one decide to use the obtained total sample's mean item rating, boys would exhibit more of these problems; the ratio of boys to girls being 2.2:1. However, there were only minimal gender differences when taking the obtained mean item ratings for girls and boys, with girls displaying more attentional difficulties than boys. The ratio of boys to girls then was .8:1, an insignificant difference. Further, it is evident that the use of the ACTRS-R to estimate 'hyperactivity' rates leaves a high percentage of only inattentive and only behaviorally-disordered children unselected.

Moreover, the scores in Tables 74, 75, and 76 represent cutting points that theoretically would identify about 2.3% of a normal distribution of scores. However, except for the

categorical approach, all other criteria used generally yielded percentages that are far beyond the 2-3% which are supposedly identified by two standard deviations above the mean of a normal distribution.

A higher cutoff score restricted the labeling of attention deficits, overactivity, and behavior problems. Nevertheless, the classification of children into a set of predefined categories is of clinical importance. Although a conservative approach (i.e., restraining the identification of behavior and attention problems) would identify the expected percentage of children, this approach would increase the number of false negatives (children who are not selected, but who are hyperactive). It is important to note, though, that a more liberal approach would result in the opposite problem, in more children identified as hyperactive which are not because there is a reciprocal relationship between false positives and false negatives (Loney & Milich, 1982).

It has to be remembered that variations from normality of the distribution of scores for the samples employed will produce deviations from the 2-3% figure that would be theoretically predicted given a normal distribution of scores. Inspection of the distribution of scores for the variables in this study indicated that they were all positively skewed (see Appendix N). Because the teacher ratings are not distributed normally in this study, as was also true in other studies (e.g., McGee et al., 1985; O'Leary et al., 1985; Ullmann et al., 1984), cutoff scores selected

children who were beyond the expected 2-3% of a normal distribution. Positive skewness is typical in analyses of measures assessing childhood psychopathology; nevertheless, it raises the issue of the appropriate type of analysis for data of this kind. Several points need to be mentioned: first, normally distributed variables are seldom encountered and Nunnally (1978) describes such data as "dead data" and asserts that skewness is a result of the positive correlation among items. Second, product-moment correlations do not assume a normal distribution (Cattell, 1978). Third, although in multivariate statistics the variables are assumed to be normally distributed (e.g., factor analysis) and several procedures have been suggested before factoring (e.g., normalizing the data), Brewer and Hills (1969) cited in Gorsuch (1983) have reported that the effects of "even serious skewness", are insignificant. Fourth, parametric procedures appear to be robust to violations of the normal distribution (Keppel, 1982). Finally and most important, the normality assumption is a purely statistical restriction that does not fit reality and "considerable latitude" may be allowed (Harman, 1976). Thus, it is appropriate to assume that the analyses performed in this study have yielded satisfactory findings.

Prevalence

Modified Behavior Problems Checklist

The modified BPC is not commonly used to assess the prevalence of hyperactivity and attention problems. However,

in this study, out of curiosity, those subscales (i.e., Behavior Problems/Overactivity and Attention Problems) that appear to reflect these dimensions have been used to estimate prevalence rates of hyperactivity and attentional problems in Puerto Rico.*

Using the scoring system of 1-4 for each item, the means and standard deviations for the total sample on the four factors of the modified BPC, Spanish version, are presented in Table 79. Mean factor scores were also computed for boys and girls on these measures.

Table 79

Means and Standard Deviations of Puerto Rican Children on the Modified BPC, Spanish Version*

Subscales	Boys M	Boys SD	Girls M	Girls SD	Total M	Total SD
Behavior Problems/ Overactivity	1.58	.65	1.38	.47	1.47	.57
Anxiety Withdrawal	1.57	.56	1.49	.50	1.53	.53
Somatic Concerns/Fears	1.48	.57	1.63	.65	1.57	.62
Attention Problems	1.72	.72	1.50	.60	1.60	.67

Note. * Means and standard deviations reflect 1-4 scoring

Prevalence Distribution

Figures 14 and 15 show the mean ratings by gender, grade, and age for the Puerto Rican children who were rated two standard deviations above the total sample's mean on the Behavior Problems/Overactivity subscale. The results

Note. *Graphical representation of results on the Anxiety Withdrawal and Somatic Concerns/Fears subscales are shown in Appendix O.

resemble the findings obtained for the CTRS-R Behavior Problems/Overactivity subscale. Boys, as expected, were found to have more behavior problems than girls. Further, by looking at the graphs, the same instability can be observed both by grade and by age.

The use of the girls and boys obtained mean item ratings resulted in a similar pattern. That is, behavior problems, inattentiveness, and overactivity fluctuated throughout childhood, although boys generally scored higher than girls.

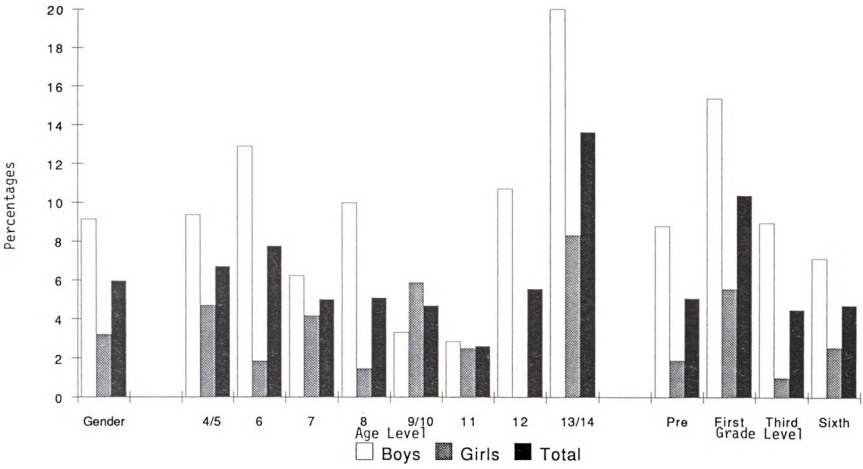


Figure 14 Percentages of Children Scoring at or above 2 s.d. (total sample's mean) for Gender, Age, and Grade on the Behavior Problems/Overactivity Subscale (modified BPC, Spanish Version)

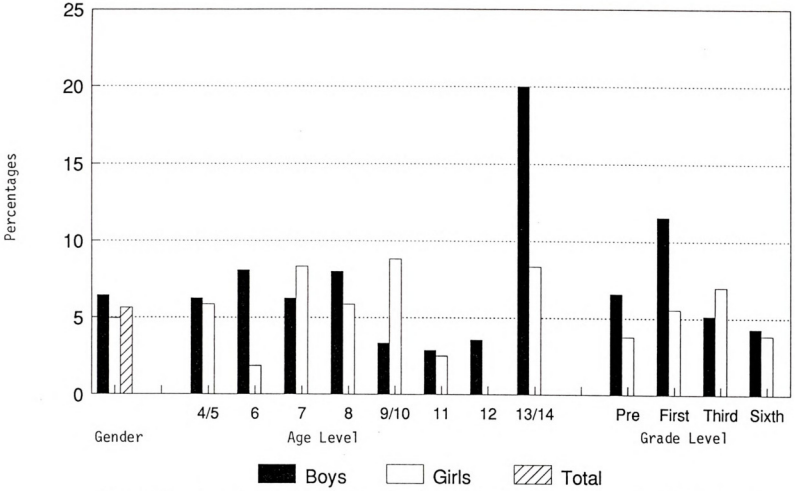


Figure 15 Percentages of Children Scoring at or above 2 s.d. (Boys' girls' means) for Gender, Age, and Grade on the Behavior Problems/Overactivity Subscale (modified BPC, Spanish Version)

The results for the Attention Problems subscale are presented graphically in Figures 16 and 17. It can be observed how the pattern that resulted from this subscale is also like the one that appeared for the CTRS-R Attention Problems/Passive subscale. Although boys usually exhibited more attentional difficulties than girls when the criterion used was two standard deviations above the obtained total sample, girls generally exhibited more attentional difficulties than boys when taking in consideration the obtained mean ratings separately for boys and girls.

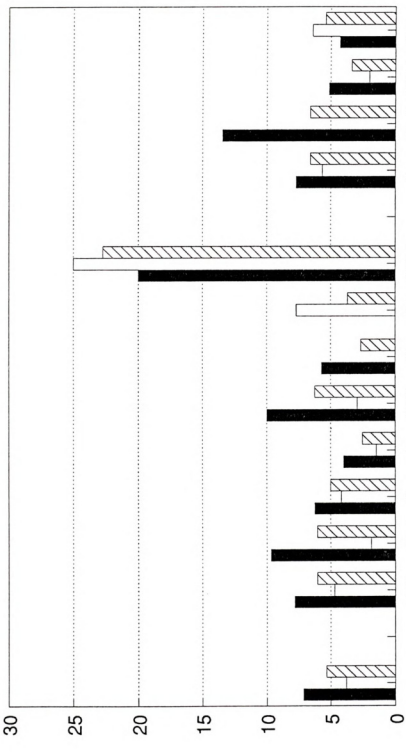


Figure 16 Percentages of Children Scoring at or above 2 s.d. (total sample's mean) for Gender, Age, and Grade on the Attention Problems Subscale (modified BPC, Spanish Version

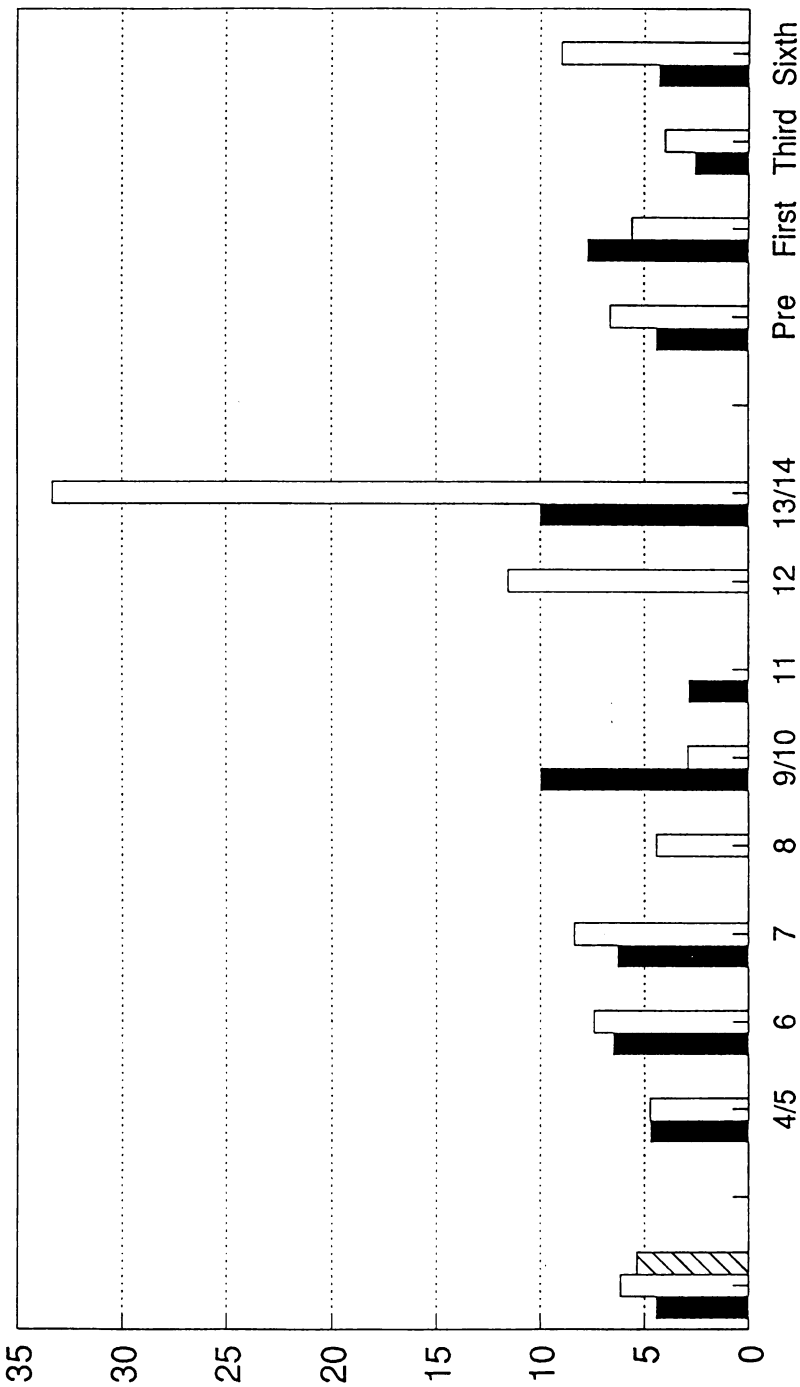


Figure 17 Percentages of Children Scoring at or above 2 s.d. (Boys', girls' means) for Gender, Age, and Grade on the Attention Problems Subscale (modified BPC, Spanish Version)

As for the CTRS-R, mean factor scores were computed for boys and girls in all age and grade group to show trends in the developmental aspect of some behavior problems for Puerto Rican children during childhood.* It was particularly interesting in this set of results to see a high degree of similarity in the pattern of the mean ratings by gender and age groups on all factors of the CTRS-R and the modified BPC.

For example, it can be seen in Figures 18 and 19 that for the Behavior Problems/Overactivity and Attention Problems subscales, the trends resemble the developmental path that was identified on like-named CTRS-R subscales. No interactions are observed in any of the graphs.

Note. *Significant differences have been presented in the ANOVA results section.

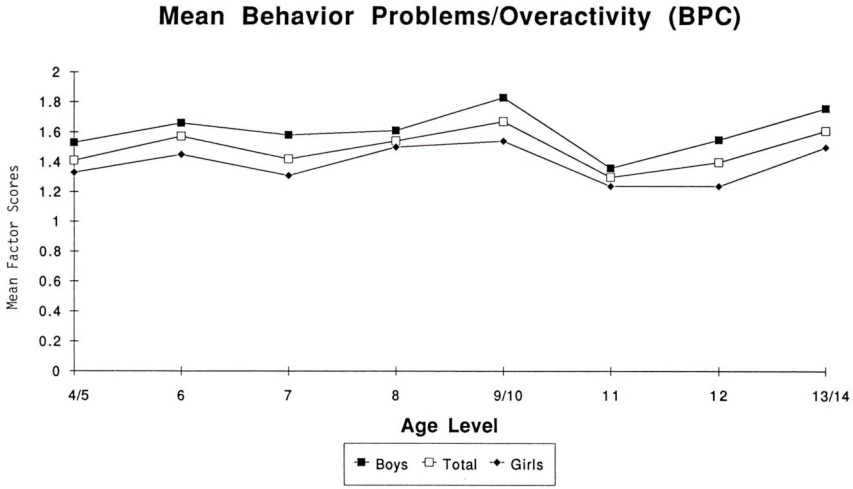


Figure 18 Mean Behavior Problems/Overactivity Subscale Scores (modified BPC)

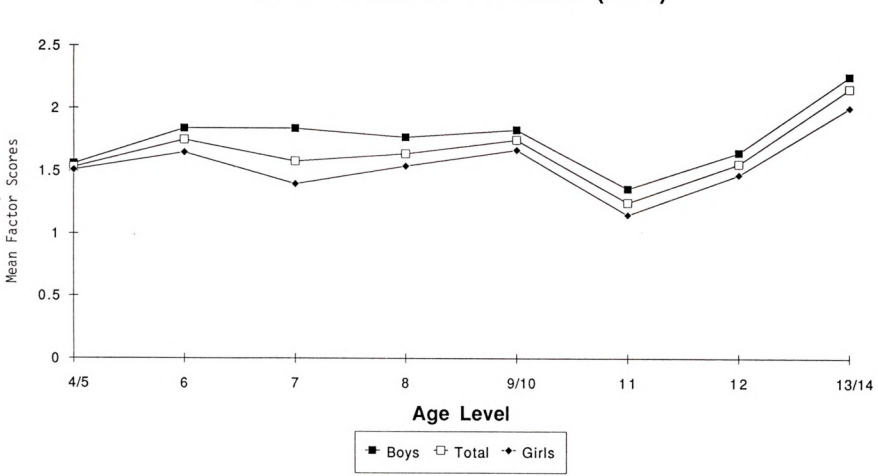


Figure 19 Mean Attention Problems Subscale Scores (modified BPC)

The results for gender and grade groups are presented in Figures 20 and 21 for the Behavior Problems/Overactivity and the Attention Problems subscales, respectively. As for age, the developmental trends are similar to the ones obtained by like-named subscales of the CTRS-R. It is also clear that boys consistently displayed more behavior and attentional problems than girls at all grade levels and that boys start school with more of these problems than girls. No interactions are observed in any of the graphs.

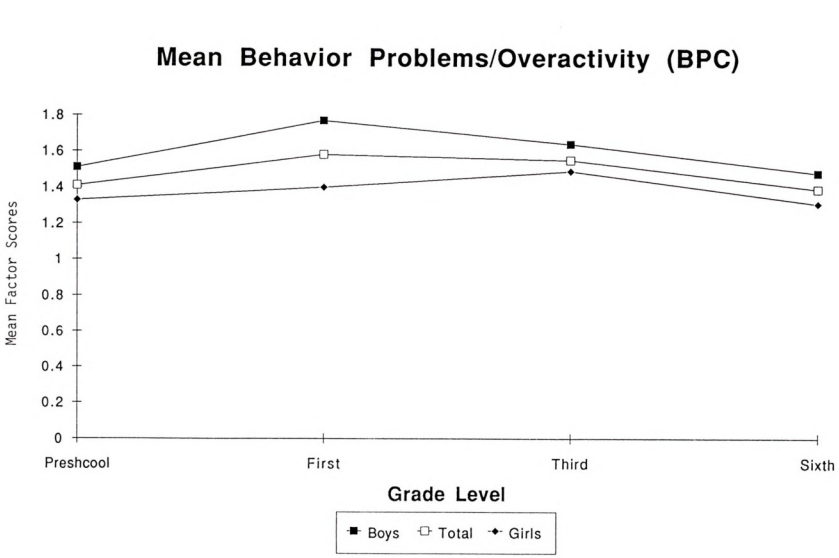


Figure 20 Mean Behavior Problems/Overactivity Subscale Scores (modified BPC)

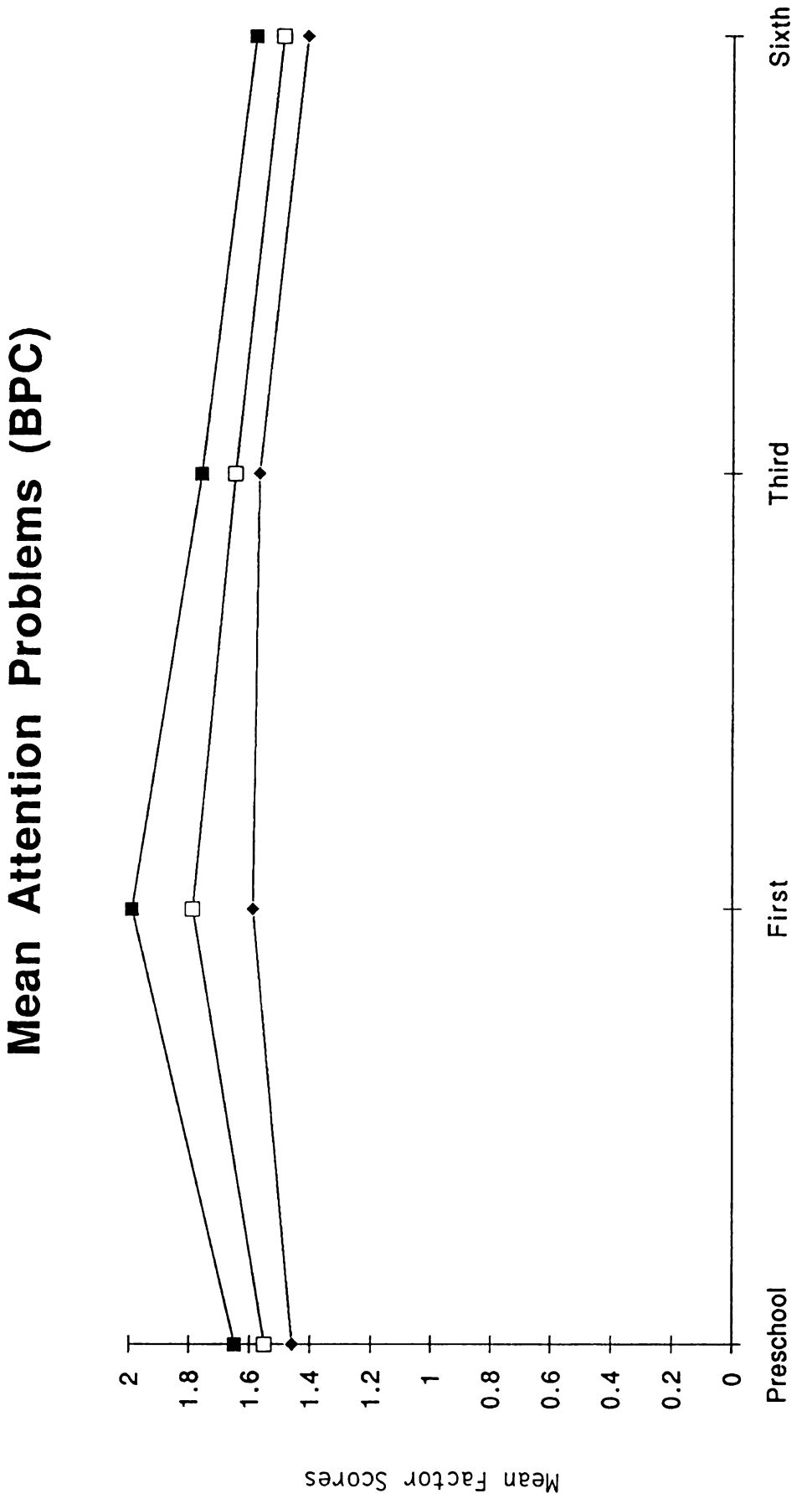


Figure 21 Mean Attention Problems Subscale Scores (modified BPC)

Prevalence Rates

The prevalence estimate of hyperactivity was based on the addition of two standard deviations to the obtained mean score for the Behavior Problems/Overactivity and the Attention Problems subscales.* Prevalence rates resulting from this method are shown in Table 80.

Table 80

Percentage of Boys and Girls Surpassing the Cutoff Score on the modified BPC, Spanish Version*

	Number			Percentage**			Ratio
Subscale	Boys	Girls	Total	Boys	Girls	Total	Boys:Girls
BP/O	27	11	38	9.15	3.21	5.96	2.5:1
AW	14	17	31	4.75	4.96	4.86	.8:1
SC/F	9	28	37	3.05	8.16	5.80	.3:1
AP	21	13	34	7.12	3.79	5.33	1.6:1

Note * Criterion score is two standard deviations above the total sample's mean item score based on 1-4 ratings

** These percentages are not independent as some children scored above cutoff score on more than one subscale

Using this cutoff score as an index of hyperactivity on the Behavior Problems/Overactivity and the Attention Problems subscales, it can be seen that there was a higher prevalence rate of behavior problems, overactivity, and attentional problems among boys than girls. The Behavior Problems identified 9.15% of the boys and 3.21% of the girls as overactive and behavior problems, for a total prevalence rate of 5.96%.

Note. *Applying the mean plus two standard deviations criteria resulted in cutoff scores for the total sample's mean of 57.4 for the Behavior Problems/Overactivity and of 29.3 for Attention Problems.

Using the same criteria on the Attention Problems subscale, 5.33% of the children scored at or above the two standard deviations cutoff, 7.12% of the boys and 3.79% of the girls. As expected, behavior problems, overactivity, and difficulties in concentration were most frequently noted behaviors in boys. It is important to observe that these prevalence rates are close to the ones obtained for the Behavior Problems/ Overactivity and Attention Problems subscales on the CTRS-R.

On the other hand, using a criterion of two standard deviations above the obtained mean item score for boys and girls separately, it can be observed in Table 81 that the prevalence rates of behavior problems for boys and girls are quite similar.*

Note. *Applying the mean plus two standard deviations criteria resulted in cutoff scores for boys of 63.3 for the Behavior Problems/Overactive and of 31.6 for Attention Problems. For girls, the same criteria resulted in cutoff scores of 51.2 for the Behavior Problems/Overactive and of 26.9 for the Attention Problems.

Table 81

Percentage of Boys and Girls Surpassing the Cutoff Score on the modified BPC, Spanish Version*

Subscale	Number		Percentage		Ratio
	Boys	Girls	Boys	Girls	Boys:Girls
Behavior Problems/ Overactivity	19	17	6.44	4.96	1.1:1
Anxiety Withdrawal	14	17	4.75	4.96	.8:1
Somatic Concerns/Fears	15	23	5.09	6.71	.7:1
Attention Problems	13	21	4.41	6.12	.6:1

Note. * Criterion score is two standard deviations above the boys' and girls' obtained mean item score based on 1 to 4 ratings.

The calculated cutoff score for the Behavior Problems/ Overactivity subscale for the boys' sample resulted in 6.44% of the boys scoring at or above the cutoff point. For the girls, the calculated cutoff point resulted in a prevalence rate of behavior problems of 4.96%. The boys' cutoff score on the Attention Problems subscale identified 4.41% of the boys while the girls' cutoff score classified 6.12% of the girls as having attention problems. With this approach, the overactivity and behavior problems were most frequently noted for boys, while Attention Problems was most common in girls. As for the CTRS-R, this procedure resulted in small gender differences.

As for the CTRS-R, prevalence of overactivity and attention and behavior problems was examined using a categorical approach. Table 82 demonstrates that some

children were scored at or above the two standard deviations above the obtained mean on more than one diagnostic criteria. The results of this method show that 19 boys and 4 girls were selected as having only behavior problems, 13 boys and 13 girls were selected as having only attention problems, and only 9 boys and 5 girls were selected as having both behavior and attention problems.

Table 82

Prevalence of Behavior Problems, Overactivity, and Attention Problems using a Categorical Approach to Disorder based on the modified BPC*

Subscale**	Boys	Girls	Ratio Boys:Girls
Behavior Problems/Overactivity	19	4	4.8:1
Attention Problems	13	13	1:1
Behavior Problems/Overactivity and Attention Problems	9	5	1.8:1

Note. * Criterion score is two standard deviations above the total sample's obtained mean item score based on 1 to 4 ratings

** Other combinations were found for the other subscales but were not included here

If instead of using the sample's mean for the cutoff score, the boys' and girls' obtained means are used, it can be observed in Table 83 that the categorical approach identified 16 boys and 8 girls as having behavior problems, 8 boys and 13 girls as having attention problems, and only 5 boys and 8 girls as having both diagnosis, behavior/overactivity problems and attentional difficulties.

Table 83

Prevalence of Behavior Problems, Overactivity, and Attention Problems using a Categorical Approach to Disorder based on the modified BPC*

Subscales**	Boys	Girls	Ratio Boys:Girls
Behavior Problems/Overactive	16	8	2:1
Attention Problems	8	13	.6:1
Behavior Problems/Overactive and Attention Problems	5	8	.6:1

Note. * Cutoff score is two standard deviations above boys' and girls' obtained means based on 1 to 4 ratings

** Other combinations were found for the other subscales but were not included here

The resulting prevalence rates demonstrate, as for the CTRS-R, that prevalence estimates are directly related to the criteria and cutoff score chosen both for the total sample and separately for boys and girls.

CHAPTER V

Discussion

Factor Structure

The present study summarizes factor analyses of Spanish versions of the CTRS-R (Goyette et al., 1978) and the modified BPC (O'Donnell et al., 1982). The scales derived from the factor analyses represent a set of behavioral domains characteristic of children as empirically derived from a normative sample of 638 Puerto Rican children. Each subscale represents a distinct dimension of behavior that when dysfunctional may provide a clinical picture. The subscales understudy are those related to the so-called 'hyperactive' syndrome. As in earlier studies (e.g., Conners, 1969; Edelbrock & Achenbach, 1984; Quay, 1983), clusters were isolated reflecting behavior problems, overactivity, impulsivity, inattention, anxiety, withdrawal, and fears dimensions establishing their significance in childhood diagnostic classifications.

The attempt to compare the factor structure of the Spanish versions of the CTRS-R and a modified BPC with factor structures obtained in other studies revealed some similarities, but as hypothesized, important differences. There are differences in the number of factors and in the order of emergence of factors, which point to sample differences which may have affected the results. The analyses also support what others have claimed (Clark, 1987), namely, that the factors identified universal core meanings of the constructs under

study as well as variations of the constructs between cultures. The results demonstrate that Anglo-American, Mexican-American, and Puerto Rican children exhibited different patterns of behavior. That is, the clusters on the rating scales took on unique forms reflecting different item compositions for Puerto Rican, Mexican-American, and Anglo-American children.

Before discussing differences it should be pointed out that there is a CTRS-R factor whose item composition as revealed by visual inspection, and as indicated by more rigorous comparisons, is significantly similar cross-culturally. That factor is the Attention Problems/Passive one for the Puerto Rican sample and the Inattentive/Passive one in Goyette's et al. (1978) study for an Anglo-American sample. In addition, the comparison of the modified BPC Attention Problems factor for Puerto Rican children with the Attention Problems factor for Mexican-American children (Distractible/Hypoactive) also exhibited significant cross-cultural similarity. The item composition was similar except for minor differences (e.g., "suggestible" was found in Anxiety Withdrawal for Puerto Rican children and in Distractible/Hypoactive for Mexican-American children). The comparison of the Attention Problems factor for Puerto Rican children with the Attention Problems factor for Anglo-American children (Distractible/Hyperactive) was statistically significant indicating factorial similarity. However, resemblance is derived from items related to inattentiveness, but not to overactivity.

A major finding evident in this data is the fact that attentional difficulties emerged independently from overactivity and behavior problems for Puerto Rican and Mexican-American children and for a normative sample of Anglo-American children (Goyette et al., 1978), but not for the Anglo-American sample of preschoolers (O'Donnell et al., 1982). For this last sample, attentional difficulties combined with overactivity and impulsivity.

The magnitude of the Coefficients of Congruence for the CTRS-R Behavior Problems/Overactivity factor for the Puerto Rican children and the Conduct Problems and Hyperactivity factors for the Anglo-American children also indicated significant factorial matching. Similarly, the comparison between the modified BPC Behavior Problems/Overactivity factor with the factors identified by O'Donnell et al. (1978) composed of items describing behavior problems, overactivity, impulsivity, and affective features resulted in apparent substantial cross-cultural similarities between the Puerto Rican, Anglo-American, and Mexican-American factors. While at first impression the dimensions appear to be largely similar, they turn out to present significant differences. The present analyses did not extract separate behavior problems, overactivity, impulsivity, and affective dimensions. Instead, a combined major factor which reflected primarily behavior problems and overactivity but also impulsivity and an affective component, was identified as accounting for the largest proportion of variance within the sample on both measures. The Anglo-American

and Mexican-American data yielded three factors reflecting 'hyperactivity' characteristics (i.e., Distractible/ Hyperactive, Temper Tantrums, and Conduct Problems for Anglo-American children; Conduct Problems, Anxious/Negativism, and Temper Tantrums for Mexican-American children). These findings indicated less differentiation for behavior problems, overactivity, and impulsivity for Puerto Rican children than for Anglo-American and Mexican-American children.

When the item content of the clusters was examined, it was found that there were items reflecting other domains in some of these factors that combined in different patterns for the three groups of children. For example, for Mexican-American and Anglo-American children a cluster was identified which described a negative, temperamental child subject to temper tantrums. Mexican-American children differed from Anglo-American children in that this cluster also identified a Mexican-American child who exhibited more serious behavior problems (e.g., "swears, curses"). Exception made of more severe behavior problems, which emerged separately for Puerto Rican children, these characteristics also explained a Puerto Rican child, but were perceived by teachers as being part of a general picture of defiant, oppositional behavior and combined with items describing such behaviors. Although for the three groups of children, behavior problems were associated with disruptive behavior, this group of behaviors formed a separate group for Anglo-American and Mexican-American children, but not for Puerto Rican children. These characteristics

were associated with more severe unsocialized behavior (e.g., "truancy", "steals") and with irresponsibility and laziness only for Anglo-American children. On the other hand, irresponsible and lazy behaviors were seen by Puerto Rican teachers as descriptors of an inattentive child. A cluster characterizing a defiant, negativistic, and impulsive child was distinct for Mexican-American children but only for them were these traits associated with anxiety.

Although the results of the Anxiety Withdrawal and Somatic Concerns/Fears factors are peripheral to the goals of this study, the findings regarding these factors are comparable to what was found for the factors under study. Certainly, the comparison of the Anxiety Withdrawal factors for the Anglo-American, Mexican-American, and Puerto Rican children indicated substantial cross-cultural resemblance for this dimension, suggesting that symptoms of unhappiness, shyness, aloofness, and withdrawn behavior seem to cluster for the three groups of children and describe Puerto Ricans, Anglo-Americans, and Mexican-Americans alike. However, there were also differences in the item composition of the scales. For example, an inactive child who also daydreamed was seen as anxious and withdrawn if he was Anglo-American and as having attentional difficulties if he was Puerto Rican.

The resemblance of the Somatic Concerns/Fears factor for Puerto Rican children and the Somatic Concerns factor for Anglo-American children even though similarly named was related only to "physical complaints" and "nightmares". For

Puerto Rican children, somatic concerns combined with children's fears, whereas for Anglo-American children, somatic concerns appeared with impulsivity and overtalkativeness. In contrast, some behaviors that defined a fearful Puerto Rican child were used to define an anxious, withdrawn Anglo-American child (e.g., "fears being lost"). Somatic Concerns did not emerge as an independent factor for Mexican-American children. Characteristics such as physical complaints were found for them together with defiant, negativistic, and impulsive behavior. Further, Mexican-American children did not appear to have a good deal of fears (e.g., germs, monsters, and animals) as these items did not load highly any component for them.

The fifth factor for Puerto Rican children on the modified BPC consisted of only 2 items and does not merit consideration except to note that "swear" was perceived by Puerto Rican teachers as being from a different quality that the rest of the behavior problems and loaded separately from the Behavior Problems/Overactivity factor. Similarly, the third (Social Incompetence) and fourth factors (Sensitive/Passive) of the CTRS-R which emerged from this study are of interest but are somewhat unstable and too small to be useful. They reflect a combination of behaviors that have face validity and have appeared in other studies with larger pools of items relating to the dimensions (Arias & O'Leary, 1984; Barling et al., 1983; Trites et al., 1982).

The findings also confirm the appearance of an affective

dimension, which points to the fact that teachers are perceiving a feature which has usually been ignored, and corroborate similar findings reported by Brown (1985) and Furlong and Fortman (1984). The factor analyses of the abbreviated CTRS-R yielded a clear factor of emotionality and it consisted of items found in the Behavior Problems/Overactivity subscales (e.g., "moody", "pouts and sulks", "irritable"). These items have loaded independently in other studies (Arias & O'Leary 1984; O'Leary et al., 1985; Trites et al., 1982) or have appeared with other items, like in this study.

Affectivity is increasingly recognized as a component to be assessed in studies of hyperactive children (O'Leary & Steen, 1982). It can be of importance to explore the role of these features in those children that continue exhibiting symptomatology. Although limited data is available in adults that have been diagnosed as hyperactives when children, this diagnosis has been associated with serious depression (Cantwell, 1985; Hechtman, Weiss, Perlman, & Tuck, 1981). It is also worth considering the association between the overactivity and affective features found in 'hyperactive' children and mood disorders such as manic depressive disorders in adultlife.

Second-Order Factor Analysis

A second-order factor analysis of the modified BPC yielded a clear three factor solution with a dimension characterized by disruptive, oppositional, and more serious behavior problems (e.g., "truancy"), overactivity, impulsivity, and

affectiveness, a domain reflecting attentional difficulties and anxious withdrawn behaviors, and a dimension defining children's physical complaints and fears. The domain reflecting attentional problems and anxious withdrawn behavior confirms that these domains are closely associated with each other for this sample of Puerto Rican children. These results also confirmed O'Donnell's et al. (1982) finding, who reported a similar combination of attentional difficulties and anxious withdrawn behaviors for Mexican-American children. This is of interest, as he also reported that in his study attentional difficulties associated with acting out and aggression for the Anglo-American children, which seems to corroborate the usually found association between attention problems and behavior and conduct problems in previous studies that have used Anglo-American samples. It has been proposed that the broad-band factors represent general behavior patterns, (i.e., externalizing and internalizing disorders), but may mask the narrow-band or subscategories which appear to represent syndromes that vary with such characteristics as gender, developmental level, ethnicity, and socioeconomic level (Balow, 1979).

Gender Differences in the Factor Structure

These findings confirm the work of others (Achenbach, 1982; O'Leary et al., 1985), who have found that the gender of the child may influence the factor structures obtained when one uses various behavior problem checklists to assess child behavior. The present factor analyses of the CTRS-R

and the modified BPC produced factor solutions for both genders. The factorial solutions for boys and girls exhibited considerable overlap as evidenced by the high magnitude of the Coefficients of Congruence, but also some differences. Except for the most robust factor for both measures, the Behavior Problems/Overactivity factor, the order of emergence of some factors was reversed for the total sample and for boys and girls which reflects differences in sample characteristics. However, only one factor in each measure was different enough to be given different name.

Boys and girls had a major behavior problems factor interwoven with overactivity, impulsivity, and affectiveness, but for girls the items reflecting emotionality and sensitivity also loaded an independent factor. These girls' factors had unique compositions, were not replicated in the boys' sample, and are not found in previous research with separate analyses for boys and girls. The gender differences found in the Sensitive and Temperamental/Sensitive factors suggest that the sensitive dimension is more prominent for girls than for boys. This dimension occurs along with a variety of behaviors in boys but not in girls which suggests less differentiation for the affective dimension for boys as opposed to girls. Although these components accounted for only a small portion of the variance for girls, it is considered that this finding is of importance and deserves exploration in future research.

The composition of some of the factors was different for

boys and girls. The most clear example is that in this study attentional difficulties and anxious withdrawn behavior emerged as a separate component for boys and merged into a single cluster for girls. However, it is important to point out that the two domains combined in a second-order analysis of the boys' first order factor solution suggesting that they are narrow bands of a broader domain. The data appear to support the notion that narrow-band syndromes vary with such characteristics as gender and ethnicity (Balow, 1979). It is worth mentioning that more severe antisocial behavior split off from defiant, aggressive behaviors for Puerto Rican boys and girls. For both genders, these items formed a cluster which resembled antisocial behavior. However, this factor was not clearly delineated in the factor solution for the total sample and was dropped.

Different socialization patterns for boys and girls are likely to produce different behavior patterns for the two genders. Further, many studies attest to the different gender ratios for referral problems to mental health clinic. Such data should alert to the need to examine factor structures separately for boys and girls.

Factor Similarity Across Cultures

Goyette et al. (1978) reported a three-factor solution for conduct problems, overactivity, and inattention for their total sample, whereas the present analyses identified two factors: overactivity, impulsivity, and aggressive behavior emerged as one factor and inattentiveness as a second factor.

That this was the case for the factor analyses of boys and girls separately and for the total sample suggests that this is a robust finding. As such it confirms the results of Arias and O'Leary (1984) for Spanish children and of O'Leary et al. (1985) for Italian children.

On the other hand, in this study, Puerto Rican teachers perceived attentional difficulties as a different construct from overactivity, impulsivity, and defiant, oppositional behavior. This finding supports the notion that inattentiveness and behavioral problems are largely independent constructs. These findings are also well in line with those reported in other studies where the two factors have emerged separately (Buchsbaum et al., 1985; Edelbrock, Costello & Kessler, 1984; Goyette et al., 1978; McGee, Williams, & Silva, 1985). Factor analysis of other rating scales also confirm this distinction between attention problems and disruptive, oppositional behavior (e.g., Quay, 1979). Additionally, examination of the correlational and Coefficients of Congruence tables support the relative independence of the Behavior Problems/Overactivity subscales from the Attention Problems subscales. The interpretation is also supported by the fact that, for Puerto Rican children, attention difficulties are more associated to anxious withdrawn behavior than to defiant, aggressive behavior and overactivity. Further, the CTRS-R Attention Problems/Passive factor was significantly and highly correlated with the Attention Problems factor of the modified BPC suggesting that for both measures the factors measuring inattentiveness are

alike. Moreover, there was a large group of children who appeared to have only behavior problems or only attention problems, which proves the absence of perfect dependence between these two factors (Caperaa, Cote, & Thivierge, 1985).

Evidence from this study supports previous findings of another issue of possible diagnostic importance. Namely, that the CTRS-R appears to assess two rather different types of attention deficits, one that is characterized by over-active and impulsive behavior, whereas the other reflects inattentiveness and short attention span (Trites et al., 1982). Impulsivity has been reported to be associated to excessive motor activity and to be dissimilar from problems of attentiveness while being more closely related to the behavior problems domain than to the attention problems one (Lahey, Schaughency, Frame, & Strauss, 1985; Lahey, Schaughency, Strauss, & Frame, 1984; Prior & Sanson, 1986).

The independence between overactivity, defiant and aggressive behaviors, and inattentiveness present an important debate in child psychology (e.g., Quay, 1980; Trites & Laprade, 1983). Difficulty in distinguishing between attention deficit, overactivity, and conduct problems has been an intractable one since these disorders have been shown to be closely linked in a variety of ways. While some researchers have argued that they have identified a factor which represents the 'hyperactivity' syndrome, that is, inattention, overactivity, and impulsivity (Trites & Laprade, 1983), other have provided evidence that documents the distinction

between overactivity and attention deficits (Dienske, DeJonge, & Sanders-Woudstra, 1985). In contrast, other researchers have presented compelling evidence suggesting first, that independent factors of behavior problems and hyperactivity (overactivity and impulsivity) are so closely associated that they should be combined (e.g., Lahey et al., 1980; Sandberg et al., 1978), and second, that the factors display similar patterns of correlation with criterion measures of interest.

The importance of attention deficits as the basic problem of hyperactive children is now widely accepted (Douglas, 1972). It has been claimed that attention deficits can exist in the absence of motor activity and that overactivity by itself is not predictive of poor outcomes (Milich & Loney, 1980). Some even doubt that overactivity and restlessness is a disorder at all (Dienske et al., 1985; Werry, Elkind, & Reeves, 1987; Lahey et al., 1980).

This set of data appears to support the notion that overactivity and impulsivity problems are associated with behavior problems and that attention deficits are independent. The present results are also consistent with Quay's position (1979), I could not identify a 'Hyperactivity' factor defined by overactivity, impulsive, and inattention, in the total sample nor in the boys' and girls' samples.

It can be argued that the lack of differentiation that was reflected in the Behavior Problems/Overactivity cluster between overactivity, impulsivity, and defiant, aggressive behavior resulted from Puerto Rican teachers possessing less

information about the 'hyperactivity' syndrome and their responses to the rating scales showed it (Ullmann et al., 1981). This explanation, is somewhat contradicted, however, by the Puerto Rican teachers' ability to clearly differentiate between other domains (e.g., attention problems, anxiety withdrawal). Another possible explanation is the tendency of certain problems to covary with more than one syndrome, "just as fever covaries with more than one type of physical illness" (Achenbach et al., 1987). Critical examination of other studies showed that contrary to behavior problems and attention deficits dimensions, overactivity and impulsivity are behaviors that appear to be flexibly ascribed. These behaviors have combined with inattention in some cultures (Canada and England), with behavior and conduct problems in other cultures (Italy, Puerto Rico, and Spain), and still in others have emerged independently (United States).

A more plausible line of reasoning to explain differences in factor structures across studies is that similarities and differences in responses to rating scales might be in the 'eye of the beholder'. That is, responses to rating scales involve a judgement in the part of the observer and are dependent on which factors teachers attend to in making judgement of hyperactivity. Observers, teachers in this case, may be attending to a meaningful combination of cues and represent unique perceptions and biases (Ullmann et al., 1981). Overactivity for example, is a behavior that is susceptible to negative halo effects (Schachar, Sandberg, & Rutter, 1986)

and subject to the perceptual meanings of the observer, which are influenced by social and cultural values about what is considered to be good or bad children's behavior. The comparison of the results of this study with the results from Goyette et al. (1978) and O'Donnell et al. (1982) studies evidence that the perception of the teachers in the two cultures differed from one another in such a way that it affected the derived factor structure of the rating scales. Clearly, the role of the teacher needs to be taken in consideration in the observed heterogeneity of hyperactive children (Ullmann et al., 1981).

Prevalence

The major goal of this study was to estimate the prevalence of overactivity, behavior problems, and attentional difficulties in Puerto Rican children based upon teachers' reports and to compare them cross-culturally. However, after examining the factor analyses for this set of data, I have to question the applicability of cross-cultural prevalence rate. Although assessment of attention deficits and defiant-oppositional appear to be distinct dimensions, Puerto Rican teachers failed to distinguish a clear dimension of 'hyperactivity', namely, inattention, overactivity, and impulsivity. The value of comparisons based on such a dimension as 'hyperactivity' would then be dubious. The estimated prevalence rates are for behavior problems and for attention deficits; I have not assumed they reflect a 'hyperactivity' prevalence estimate per se. For this purpose, only the Behavior Problems/

Overactivity subscales and the Attention Problems subscales were used.

Nevertheless, for comparison purposes, the results of the abbreviated CTRS-R will be discussed, as fortunately that measure has been used to estimate prevalence rates in other countries, which facilitates comparisons between cultures and hopefuly help to reconcile cross-cultural differences. Using the recommended cutoff score of 1.5 on the ATRS-R, 18.3% of the boys and 7% of the girls were classified as 'hyperactive'. The prevalence rate for the total sample was 12.2%. However, when the prevalence estimates were derived from the total sample's obtained mean scores, only 9.5% of the boys and 3.5% of the girls were classified as 'hyperactive'. Using this method, 6.3% of the Puerto Rican children were classified as 'hyperactive'. Further, our data indicate that our cutoff scores (i.e., adding two standard deviations to the obtained mean score) are higher for boys and lower for girls that the commonly used 1.5 score. Prevalence rates resulting from this method identified 6.8% of the boys and 5.8% of the girls as 'hyperactive'.

Despite my predictions, the prevalence estimates of attention problems, behavior problems, and overactivity as derived from the abbreviated CTRS-R were not as low as expected. Puerto Rican prevalence rates were similar to Italy and lower than in New Zealand and United States, but higher than prevalence rates in South Africa and West Germany (see Table 1, page 51). The 1.5 cutting score produced the

expected higher prevalence rates for boys than for girls, but prevalence rates for girls were higher than expected. Estimated prevalence rates for Puerto Rican girls were similar to South African Black girls and to Canadian girls, but higher than for South African Indian and White girls, West German, Chinese, and Italian girls. These findings also differed from Langsdorf et al. (1979), who reported lower 'hyperactivity' rates in Mexican-American children.

These surprising results can in part be accounted for by the changes that Puerto Rican society has undergone over the past decades. Indeed, it is possible that the transformation of the Puerto Rican mothers' social role, single parenthood (for some children), and the acculturation process resulting from United States influence may have resulted in the development of considerable different patterns of behavior for Puerto Rican children. A different interpretation of these data might view that behavior and attentional difficulties is behavior beyond the normal limits of tolerance in a given setting. In the context of the classroom, the identification of who particularly is overactive, inattentive, and oppositional has to be relative to the general level of disturbing behaviors around the classromm. Thus, 'hyperactivity' as measured in this study, is actually a function of the teachers' reaction to the children's behavior in the classroom. This confounding of factor, including actual children's behavior, should be noted in any cross-cultural comparison. How teachers react, of course, could in turn affect the children's behavior.

these findings, however, do not allow to say to what extent the scores obtained reflect differences in the teachers' perceptions, in the children's behaviors, or in the interaction of both. A final answer to whether the noted differences in prevalence are due to children or teachers will require that large-scale studies be carried out simultaneously in different countries taking in consideration teachers, parents, and children's perceptions.

As had been mentioned, the prevalence rates of behavior problems and attention deficits were estimated by using the mean factor scores on the Behavior Problems/Overactivity and Attention Problems subscales for both rating scales. The derived estimates produced prevalence rates for the total sample ranging from 5.6% to 10.4% for behavior problems and from 4.9% to 12.1% for attention problems, depending on the method and criteria used. Further, the prevalence estimates using a categorical approach demonstrated that there are children who are only inattentive or only defiant and oppositional, but also a few children scored above the cutoff score on more than one subscale.

The results demonstrated how prevalence estimates are directly related to the criteria and cutoff score chosen (e.g., ACTRS-R or subscales) and whether the cutoff score is obtained from the total sample, separately for boys and girls, or from some extraneous source (e.g., Werry et al., 1975). A higher cutoff score restricted the labeling of attention deficit and behavior problems/overactivity.

However, the classification of children into a set of predefined categories is of clinical importance. Although a conservative approach (i.e., restraining the identification of behavior and attention problems) would identify the expected percentage of children) this approach would increase the number of false negatives. It is important to note, though that a more liberal approach would result in the opposite problem, in more children identified as deviant which are not. To some extent, the choice of appropriate cutoff points must depend on how the clinician or researcher intends to use the score. Hence, in both clinical and research contexts, standard cutoff scores should be used only with caution.

The fact that the composition of the factors is somewhat different between studies and that different samples yielded different mean scores on the subscales makes it clear that the standard 1.5 cutoff score used to identify 'hyperactive' children is unsuitable. Thus, it is of concern that research results have been influenced by the widespread inappropriate use of 1.5 as a cutoff point for subjects selection. Additionally, the failure of the ACTRS-R to identify a high number of inattentive and defiant-oppositional children raises questions about its use as a screening tool.

Rating Scales

A primary goal in the present study was to develop short, simple, empirically derived measures of behavior and attention problems for Puerto Rican children with hope that

the measures will be useful for screening purposes, and with the understanding that they are to be used only as part of a thorough comprehensive evaluation. The measures could be of value for both clinical and research purposes.

The CTRS-R and the modified BPC have been proved to be reliable measures and sufficiently stable. The major difference between the two appears to be behavioral coverage. The CTRS-R has been developed to assess behavioral, overactive, and attention problems. It was adapted from an earlier scale developed by Conners (1969) and was shortened by eliminating the item pool regarding dimensions such as unsocialized conduct problems and affectivity and slightly reworded in an attempt to simplify administration and interpretation. The modified BPC taps a broader range of behavior problems than the CTRS-R, including anxious withdrawal, somatic concerns, and children's fears.

In this study the major subscale on both measures has been named Behavior Problems instead of Conduct Problems because it is composed of items describing oppositional and defiant behaviors. The more unsocialized behaviors such as steals, lies, or truancy from school split off from this scale for the total sample of Puerto Rican children and for boys and girls. However, conduct problems accounted for only a small proportion of the total variance. A realistic possibility for this result is that conduct problems are more common in the older age groups and its appearance may have been diluted by its absence in the younger age groups.

In their critical examination of the Conners's rating scales, Ullmann et al. (1985) recommended abandonment of "all" Conners's rating scales. I doubt that it is wise to throw out the baby with the bath water. Findings in this study demonstrated that the revised version of the CTRS by Goyette et al. (1978), especially if obliquely rotated, is a short, stable measure that can be helpful for screening purposes.

However, a word is needed to those who use the abbreviated CTRS-R. The present results add to the literature indicating serious problems in the use of the abbreviated CTRS-R (Ullmann et al., 1985). The abbreviated CTRS-R reflects a conglomerate of characteristics which have been assumed to be behaviors describing a hyperactive child (i.e., inattentiveness, lack of concentration, emotionality, overactivity, and behavior problems). The traditional use of a global rating resulted in overselecting children who have different combinations of symptoms. Additionally, in this study, the abbreviated CTRS-R left a high percentage of only overactive and behaviorally-disordered children or only inattentive children unselected. The results also indicate that a global interpretation of the ACTRS-R may be improper. It is of much concern the extent to which conclusions about the 'hyperactive' syndrome have been made in studies that have used the abbreviated CTRS-R. In view of the findings in this study, I agree with Ullmann's et al. recommendations and urge researchers to quit using the abbreviated CTRS-R.

Although traditionally, an orthogonal rotation has been used on factor analyses of the CIRS, an oblique solution was tried. As the correlations among the oblique factors were low to moderate, the oblique rotation seems more adequate than the orthogonal solution. For these set of data, an oblique Promax rotation produced a similar factor structure but the best approximation to simple structure. I would suggest the use of oblique rotations for the CIRS-R in future studies. The CIRS-R confounded factorial structure due to double loadings seemed to be more a function of the rotation used (orthogonal versus oblique) rather than to inherent characteristics of the sample.

The factor structures of the CIRS-R and the modified BPC were judged to be internally consistent as shown by both significant inter-item correlations and item-total correlations. Alpha coefficients were moderate or high for all subscales. Factor stability was evaluated by Coefficients of Congruence calculated from two random halves of the total sample which had been submitted to identical factor analytic procedures. Except for the Sensitive/Passive subscale, the more unstable factor of the CIRS-R, the Coefficients of Congruence were all significant and provided further evidence of factor stability for both measures. It indicates that the factors are highly stable with a high likelihood of replicating in future research (Cattell & Kline, 1977).

Normative Data

Normative data on the CTRS-R and the modified BPC have been presented by gender, age, and grade. The norms are based on children who attend school in Puerto Rico. These norms could also apply to ratings made by mainland Puerto Rican teachers who have recently migrated and attend schools in the United States. However, additional norms need to be developed for mainland Puerto Rican children. As with any other assessment instrument, the ratings obtained in the modified BPC and the CTRS-R need to be interpreted in the context of the child's actual school and sociocultural environment, and take into consideration the potential effects of an acculturation process. Further, there is every reason to believe that minority status or ethnicity introduce important sources of variation on assessment instruments.

Teacher ratings could have been influenced by a variety of factors other than diagnostic status of the child including various sociodemographic variables. To explore this possibility several analyses of variance were conducted. The results of the analyses of variance indicated that gender, age, and grade are significant determinants of a child's score on the Behavior Problems/Overactivity subscales of both rating scales, Attention Problems/Passive, Attention Problems, and the abbreviated CTRS-R subscales.

The results obtained from the Puerto Rican children's data do confirm previous findings of boys generally exhibiting more severe behavior and attentional difficulties than

girls throughout childhood (Brito, 1987; Goyette et al., 1978; Kendall & Brophy, 1981; McGee et al., 1985; O'Donnell et al., 1982; Salili & Hoosain, 1985), possibly as a function of constitutional differences, but more likely in response to different levels of social expectancy and tolerance of deviant behavior. Boys also started school with more of these problems than girls.

A high boy-girl ratio has been consistent in all of the studies of 'hyperactivity' with wide variations in the degree to which boys predominate. In Puerto Rico, the ratio of approximately 2 boys to one girl surpassing the cutoff point of the Behavior Problems/Overactivity, Attention Problems, and abbreviated CIRS-R is lower than ratios reported in previous studies. In other studies using the CIRS-R, the boy-girl ratio has ranged from a low of 3:1 in Canada (Trites et al., 1979) to a high of 8:1 in United States (Lambert, Sandoval & Sassone, 1978). Further, gender differences disappeared when the cutoff score was derived from the boys' and girls' mean total scores. Although it has usually been reported that the boys exhibit more of these problems, usually the estimates have been derived from means obtained for the total sample and not from the means obtained for boys and girls separately. The previous estimates could be then the result of the use of a cutting score rather than real differences between gender. Another possibility is that the low boy-girl ratio difference may be attributable to my having chosen children from the general population. It has been

reported that same gender ratios may prevail among the general population (Rutter et al., 1970). In part, this finding may also have been the result of teachers' having different levels of tolerance for boys' and girls' behavior in the classroom. It seems reasonable to suspect that different gender role expectations may affect teachers' perception, hence resulting in higher scores for girls when they misbehave in the classroom as compared to their male counterparts. In view of this finding, it certainly has clear advantages to assess gender differences in developing a meaningful classification of 'hyperactive' behavior.

When the developmental trend of boys and girls is compared, both generally exhibited similar trends. There was a general trend, though, showing that girls peak later for behavior and attention problems than boys, and that although the scores for both boys and girls drop at sixth grade, there was a small group of older children who displayed a marked upswing of the scores after 12. This parallels the findings that had been reported earlier by Peterson (1961) and more recently by Cohen, Durant, and Cook (1988). A similar pattern with a peak around 9/10 and a decline at 11 was found with a Chinese sample (Salili and Hoosain, 1985). On the other hand, in the case of China, there was a steady decline in the ratings. Reasons for the apparent upswing in problems after 12 are obscure. The increase in these kind of problems for older children may reflect an exacerbation of what is normally seen as the child approaches the adolescent years and the

difficulty this can bring about to teachers in our society (Gittelman, Mannuzza, Shenker, & Bonagura, 1985; Rutter, Graham, Chadwick, & Yule, 1976). As the child approaches adolescence she/he becomes physically more difficult to manage, causing the teacher to view the child as more problematic. Therefore, it may be the increasing problem of manageability as opposed to increasing severity that is being reflected in the higher ratings. Another possible explanation is that the increase in behavioral and attentional difficulties is that adolescent turmoil may be more severe with children with these kinds of problems. Although these speculations must be viewed with caution because of the small numbers in this age range, they are consistent with the literature on attention deficits among older children which clearly indicate that maturation alone is not sufficient to ameliorate the children's behavior (Weiss, 1985). In any case, further investigation of this finding within a longitudinal design would be most interesting.

It was particularly striking, however, to see a high degree of inconsistency in the scores by gender, age, and grade groups. The overall representation showed that for Puerto Rican children, behavior problems, overactivity, impulsivity, and attention problems appear to be unstable attributes by age and grade level, which is different from previous reports in literature which claim that the hyperactive symptoms (i.e., overactivity, attentional difficulties) wane or even disappear with age (Brito, 1987; Kendall &

Brophy, 1981; Salili & Hoosain, 1985).

The results obtained with the Puerto Rican sample seem to indicate that socioeconomic status (SES) of the child may influence teachers' ratings of inattentive or behaviorally problematic children. Although main effects, when found, were modest, post hoc comparison of means demonstrated that fathers' SES significantly determined children's scores on the subscales. Overall, social disadvantage was strongly related with both kinds of behaviors, attention difficulties and behavior problems. Specifically, findings indicated that children from lower SES were scored significantly higher regardless of their school location, urban or rural. Similar results have been reported in Puerto Rico by Bauermeister et al. (1987) and Bird, Gould, Yager, Staghezza, and Canino (1989) and in United States by Stevens (1981) and Langsdorf et al. (1979). The results failed to differentiate between behavior problems, overactivity, and impulsivity and between attention problems. SES appear to be a risk factor for both aggressive behavior and attention problems. It is evident that economically disadvantaged children run the risk of being labeled deviant by their teachers. This finding suggest that SES effects may be independent of culture, that is, differences regarding this variable are more social than cultural.

There were no significant differences between children's scores from urban and rural schools, which may not be sharp in densely populated Puerto Rico. Notwithstanding, it should

be noted that the teacher report data did yield higher scores among children attending rural schools although statistically reliable results were not achieved.

Clinicians and researchers need to take in consideration these determinants as well as gender, age, and grade when interpreting results of rating scales as part of a diagnostic evaluation. No significant interactions between gender, age, grade, SES, and school location were found.

Concurrent Validity

Pearson correlations between the two measures indicate a strong correspondence between the Behavior Problems/ Overactivity subscales and between the Attention Problems subscales from both rating scales. They appear to assess manifestations of similar constructs. The factors labeled Behavior Problems/Overactivity encompass restlessness, and defiant, oppositional behavior, impulsivity, and an affective dimension. The factors labeled Attention Problems and Attention Problems/Passive are very similar and encompass behavirs such as distractibility, short attention span, day-dreaming, failure to finish tasks, immaturity, and difficulty learning. As can be expected, scales measuring conceptually different constructs were weakly associated. Further, the magnitude of the relationships between Attention Problems and Anxiety Withdrawal was relatively strong and higher than the relationship between Behavior Problems/Overactivity and Attention Problems. The abbreviated CTRS-R appeared to be highly associated with both Behavior Problems/Overactivity

and Attention Problems subscales, which is not surprising as it consists of the 10 most commonly checked CTRS items and it reflects a combination of inattention, overactivity, and behavior problems.

The strength of the correlations appear to support the concurrent validity of both measures. The modified BPC and the CTRS-R differ in terms of item selection and wording and method of scale construction, as well as the sample size and subject characteristics on which the factor analyses were based. The corresponding subcales of the two rating scales are not identical in terms of content or number of items but there is sufficient item overlap to suggest agreement of the behavior problems and overactivity and the attentional problems domains.

The Rating Scales and DSM-III-R

A finding of clinical interest emerged when the dimensions obtained through an empirical approach were compared with the descriptive DSM-III-R classification. In contrast to the dimensional approach to clinical diagnosis of childhood disorder, the alternative descriptive model, of which DSM-III-R is an example, provides explicit diagnostic criteria and holds that a disorder is present when all or nearly all the symptoms are present (Quay, 1983). Currently, whether a descriptive or a dimensional model is taken has a vast impact on the diagnosis of a disorder since both views depend on different diagnostic criteria. However, Stein and O'Donnell (1985) have noted that both measurements approaches

show some convergence. With this in mind, the subscales were compared to the Attention-deficit/Hyperactivity, Oppositional Defiant, and Conduct Disorders classifications of the DSM-III-R.

Content examination of DSM-III-R criteria for Attention-deficit/Hyperactivity Disorder revealed that it was represented on two subscales, Behavior Problems/Overactivity and Attention Problems. The DSM-III-R criteria for an Oppositional Defiant Disorder was characterized by items on the Behavior Problems/Overactivity subscales. The DSM-III-R criteria for a Conduct Disorder was not represented on any of the subscales. Based on findings from this study it appears that a key difference between the empirically derived dimensions and the Attention-deficit and Oppositional Defiant DSM-III-R categories is that for Puerto Rican children, behavior problems, overactivity, and impulsivity combined and is a separate dimension from attentional difficulties in both measures. The most fundamental criteria for establishing the validity of diagnostic categories is that the syndrome be identifiable (Rutter, 1977). However, in this study we were unable to replicate the distinctiveness of the major diagnostic features of an attention-deficit disorder, which according to DSM-III-R stipulations need to be diagnosed "separately" from disturbance of conduct.

These findings raise concerns about the DSM-III-R validity when used to diagnose Puerto Rican children. I argue that the Attention-deficit Disorder and the Oppositional

Defiant Disorder as described by DSM-III-R diagnostic criteria cannot adequately identify Puerto Rican children living in the island and Puerto Rican children who have recently migrated and attend schools in the United States. Whether the DSM-III-R categories can be used to diagnose other Puerto Rican children living in United States awaits evaluation in future research studies. Until then, the present findings alert researchers and clinicians to the potential danger in using DSM-III-R criteria for Puerto Rican children.

Clinical Concerns

According to follow-up studies the prognosis for 'hyperactive' children tends to be poor. Although a substantial number of children do seem to lose their symptoms with age, a number of them continue to demonstrate symptoms in later life. This group is at risk for the development of emotional or social problems (Hechtman & Weiss, 1984).

From a clinical perspective, it is of concern that for Puerto Rican children overactivity and impulsivity have combined with defiance and aggression since it has been suggested that the presence of behavior aggression in 'hyperactive' children is a strong predictor of poor outcomes in adolescence and adulthood (Cantwell, 1985; Loney et al., 1978). Aggressive behavior in childhood has been associated with many kinds of undesirable adjustment (e.g., social alienation). Current findings also suggest that aggression is a highly stable attribute from early childhood into adulthood (Fergusson & Horwood, 1987; Huesmann & Eron, 1984).

The fact that aggressiveness and impulsivity are more common in Puerto Rican boys than Puerto Rican girls is also of concern as it appears that the male child is more at risk for maladjustment than girls. This is an important finding particularly to those concerned with clinical intervention, in light of the studies that demonstrate that childhood aggression is an antecedent of delinquency (Roff & Wirt, 1984, 1985; Stewart et al., 1980). Further, as is true in other disorders, SES has been strongly related with both attention and behavior problems (Loney, Kramer, & Milich, 1981) and has been found to be an important factor in education and work outcome as well as in police involvement (Hechtmann, Weiss, Perlman, & Amsel, 1984). Further, the importance of SES in the etiology of aggression has been reported by Roff and Wirt (1984). SES appears to function as an antecedent of aggression and aggression as an antecedent of delinquency.

It also needs to be pointed out that children who were found to have only attention difficulties are also at risk. Edelbrock, Costello, and Kessler (1984) have suggested that they are more impaired in some areas. For example, they have been described as less happy, more socially withdrawn, shy, anxious, and more disliked by peers (Lahey, Schaughency, Strauss, & Frame, 1984). The social rejection does not necessarily imply lack of popularity, but a study by Milich and Landau (1984) suggests that aggressive boys who are also

withdrawn have the highest risk of being both unpopular and rejected.

A note of caution should be added concerning the above considerations. Because there are no known longitudinal studies in Puerto Rico that have actually examined the relation between attentional and behavioral difficulties, aggression, and delinquency among Puerto Rican children, findings are discussed in light of information derived from studies in United States. As such, interpretations should be used cautiously.

Methodological Considerations

Many problems remain with this methodology. This is a preliminary effort that suggest the extent of specific relationships that can be tested in future research. The present sample differed from the one used by O'Donnell et al. (1982) in an important aspect. These researchers used preschoolers from low socioeconomic classes whereas this set of data comprised a much wider age range and included children from all socioeconomic levels. Although sampling factors could be hypothesized to have resulted in the differences obtained between the three groups of children, the results show considerable convergence of universal core meanings indicating this to be unlikely. It also needs to be emphasized that the data discussed here reflect how the children are seen by the teachers, not necessarily how the children are. Further, the present results may not apply to parental ratings of behavior problems.

This study does not resolve the questions on the classification of the 'hyperactive' syndrome. Whether patterns of scores on the several dimensions reported here will be valuable as predictors of 'hyperactivity' attributes remains to be explored. It is my understanding that precision in the clusters content is a necessary step to achieve conceptual and diagnostic clarity regarding 'Hyperactive' children which will take in consideration not only Anglo-American children but also minority children such as Puerto Rican children. Although it is possible to distinguish between inattention and behavior problems in a descriptive sense, whether such distinctions have clinical importance depends on whether or not these behaviors are differentially related to other variables (Hinshaw, 1987).

Despite the widespread clinical assumption that the hyperactive syndrome constitutes a nosologically distinct clinical condition, there are obvious conceptual difficulties in calling the 'hyperactive' symptoms (i.e., distractibility, impulsivity, and overactivity) one syndrome and giving them the status of a diagnosis. Clearly definitional problems for the attention deficit, defiant, oppositional, and impulsive children remain unresolved. There is no way that the disorder can be reasonable examined in terms of etiology, course, prognosis, and response to treatment of children's behavior until the most fundamental criteria is fulfilled, that is, that the disorder is identified (Boyle & Jones, 1985).

Future studies need to replicate this study in normative

and clinic samples and with exceptional children to determine if sampling could produce different factors structures and more differentiation between overactivity, impulsivity, and behavior problems. It would also be of interest to replicate this study in United States using comparison groups (e.g., Hispanic groups).

Finally, these findings should be interpreted with caution since they are based on a cross-sectional sample and other factors may be operative. Because there are no longitudinal data to support conclusions in this study, findings should be considered as hypotheses that require further investigation.

In conclusion, this study has presented evidence that the concept of a hyperactive syndrome as defined by Anglo-American standards was not meaningful to this group of Puerto Rican children. Although the results partly validated the dimensions of the rating scales, Puerto Rican children rated as overactive, aggressive, and inattentive actually exhibited different combinations of behaviors which is consistent with earlier findings (Waechter et al., 1987). This piece of cross-cultural work appeared to identify universal core of meaning of the theoretical constructs under study, but also it identified variations of the meaning of the constructs as well. These present findings indicate the importance and need of validating instruments with minorities because of variations in attitudes and values relative to other groups of people.

It also is of much concern that in most instances ethnic data is not even considered by researchers. However, when findings are presented they leave the reader with the impression that behavior problems, attention deficits, or 'hyperactivity' are evenly distributed among children in United States (Waechter et al., 1979). Such classification biases can profoundly affect what happens to minority children. They may be referred to treatment, including medication, and to special needs classrooms.

The present results add to the literature indicating that cultural influences should be taken into account in the development of classification systems in order to prevent inaccurate diagnosis. All children in United States are not "Anglos and middle class" (DeCosta, 1984).

APPENDICES

APPENDIX A

APPENDIX A

DSM-III-R CRITERIA
DISRUPTIVE BEHAVIOR DISORDERS

Note: The DMS-III and DSM-III-R nomenclature requires that Attention-deficit/Hyperactivity Disorder be considered separately from disturbance of conduct. Attention-deficit/ Hyperactivity Disorder is the term used to designate a significantly dysfunction state in a large group of children that is characterized by a failure to remain attentive in situations, especially in school and at home, where is socially necessary to do so. Conduct Disorder and Oppositional disorder are the terms used to designate a significantly dysfunction state in a large group of children that is characterized by aggressive, antisocial behavior, noncompliance, and disruptiveness.

I. Attention-deficit/Hyperactivity Disorder

Consider a criterion met only if the behavior is considerably more frequent that that of most people of the same age.

A. A disturbance of at least six months during which at least eight of the following are present:

1. often fidgets with hands or feet or squirms in seat (in adolescents, may be limited to subjective feelings of restlessness)

2. has difficulty remaining seated when required to do so

3. is easily distracted by extraneous stimuli

4. has difficulty awaiting turn in games or group situations

5. often blurts out answers to questions before they have been completed

6. has difficulty following through on instructions from others (not due to oppositional behavior or failure of comprehension), (e.g., fails to finish chores)

7. has difficulty sustaining attention in tasks or play activities

8. often shifts from one uncompleted activity to another

9. has difficulty playing quietly

10. often talks excessively

11. often interrupts or intrudes on others (e.g., butts into other children's games

12. often does not seem to listen to what is being said to him or her

13. often loses things necessary for tasks or activities at school or at home (e.g., toys, pencils, books, assignments)

14. often engages in physically dangerous activities without considering possible consequences (not for the purpose of thrill-seeking) (e.g., runs into street without looking)

B. Onset before the age of seven.

C. Does not meet the criteria for a Pervasive Developmental Disorder.

Criteria for severity of Attention-deficit/Hyperactivity Disorder:

Mild: Few, if any, symptoms in excess of those required to make the diagnosis **and** only minimal or no impairment in school and social functioning.

Moderate: Symptoms of functional impairment intermediate between "mild" and "severe."

Severe: Many symptoms in excess of those required to make the diagnosis **and** significant and pervasive impairment in functioning at home and school and with peers.

II. Conduct Disorder

A. A disturbance of conduct lasting at least six months, during which at least three of the following have been present:

1. has stolen without confrontation of a victim on more than one occasion (including forgery)

2. has run away from home overnight at least twice while living in parental or parental surrogate home (or once without returning)

3. often lies (other than to avoid physical or sexual abuse)

4. has deliberately engaged in fire-setting

5. is often truant from school (for older person, absent from work)

6. has broken into someone else's house, building, or car

7. has deliberately destroyed others' property (other than by fire-setting)

8. has been physically cruel to animals

9. has forced someone into sexual activity with him or her

10. has used a weapon in more than one fight

11. often initiates physical fights

12. has stolen with confrontation of a victim (e.g., mugging, purse-snatching, extortion, armed robbery)

13. has been physically cruel to people

B. If 18 or older, does not meet criteria for Antisocial Personality Disorder.

Criteria for severity of Conduct Disorder:

Mild: Few if any conduct problems in excess of those required to make the diagnosis, **and** conduct problems cause only minor harm to others.

Moderate: Number of conduct problems and effect on others intermediate between "mild" and "severe."

Severe: Many conduct problems in excess of those required to make the diagnosis, **or** conduct problems cause considerable harm to others (e.g., serious physical injury to victims, extensive vandalism or theft, prolonged absence from home.

Types:

Group Type

The essential feature is the predominance of conduct problems occurring mainly as a group activity with peers. Aggressive physical behavior may or may not be present.

Solitary Aggressive Type

The essential feature is the predominance of aggressive physical behavior, usually toward both adults and peers, initiated by the person (not as a group activity).

Undifferentiated Type

This is a subtype for children or adolescents with Conduct Disorder with a mixture of clinical features that cannot be classified as either Solitary Aggressive Type or Group Type.

III. Oppositional Defiant Disorder

Note: Consider a criterion met only if the behavior is considerably more frequent that that of most people of the same mental age.

A. A disturbance of at least six months during which at least five of the following are present:

1. often loses temper

2. often argues with adults

3. often actively defies or refuses adult requests or rules (e.g., refuses to do chores at home)

4. often deliberately does things that annoy other people (e.g., grabs other children's hats)

5. often blames others for his or her own mistakes

6. is often touchy or easily annoyed by others

7. is often angry or resentful

8. is often spiteful or vindictive

9. often swears or uses obscene language

B. Does not meet the criteria for Conduct Disorder, and does not occur exclusively during the course of a psychotic disorder, Dysthymia, or a Major Depressive, Hypomanic, or Manic Episode.

Criteria for severity of Oppositional Defiant Disorder:

Mild: Few, if any, symptoms in excess of those required to make the diagnosis and only minimal or no impairment in school and social functioning.

Moderate: Symptoms or functional impairment intermediate between "mild" and "severe".

Severe: Many symptoms in excess of those required to make the diagnosis and significant and pervasive impairment in functioning at home and school and with other adults and peers.

Note: The above items are listed in descending order of discriminating power based on data from a national field trial of the DSM-III-R criteria for Disruptive Behavior Disorders

APPENDIX B

APPENDIX B

COVER LETTER

February 20, 1985

Dear Parents:

The Clinical Psychology Program from Michigan State University, East Lansing, Michigan, will start in the near future a project to develop norms for Behavior Problem Checklists with Puerto Rican children. These questionnaires are frequently used to diagnose childhood behavior problems and evaluate the effects of treatment programs.

We have invited many families to participate in this project which will allow us to use these measures with Puerto Rican children both in the island and in the United States. We would very much like to obtain your cooperation to participate in this project.

Your participation will consist of filling out the demographic questionnaire and authorizing your child's teacher to fill out questionnaires about your child's behavior in school. All information obtained in this study will be strictly confidential.

If you have any question in regard to the project please call the telephone (809) 767-5465. We appreciate your participation in the project, and hope this project will help to improve the psychological assessment process of our children in the island as well as in the United States. Brief summaries of the outcomes of our study will be made available. If you are interested in receiving such a summary, please fill out your name and address in the space provided in the consent form.

Truly yours,

Ana Margarita Cebollero

Ana Margarita Cebollero, M. A.
Graduate Student
Child and Family Clinical Psychology Program

Wade Horn

Wade Horn, Ph. D.
Assistant Professor
Department of Psychology
College of Social Sciences

20 de febrero de 1985

Estimados padres:

El programa de Psicología Clínica de Michigan State University, East Lansing, Michigan, iniciará próximamente un proyecto para desarrollar normas para unos cuestionarios sobre Problemas de Conducta con niños puertorriqueños. Estos cuestionarios se usan frecuentemente para diagnosticar problemas de conducta en la niñez y evaluar los resultados de programas de tratamiento en niños.

Hemos solicitado a muchas familias que participen en este proyecto especial que nos permitirá utilizar estas medidas con niños puertorriqueños tanto en la isla como en los Estados Unidos. Tenemos sumo interés en contar con su cooperación participando en este proyecto.

Su participación requerirá llenar el cuestionario de información demográfica y autorizar al maestro/maestra de su hijo o hija el llenar los cuestionarios sobre el comportamiento de su hijo/hija en la escuela. La información que se obtenga en el estudio será confidencial.

Si tiene alguna pregunta en relación al proyecto, siéntase libre de llamar al teléfono (809) 767-5465. Estamos agradecidos por su participación y esperamos que este proyecto ayude a mejorar el proceso de evaluación de nuestros niños tanto aquí en Puerto Rico como en los Estados Unidos. Prepararemos resúmenes cortos sobre los resultados de esta investigación y éstos estarán disponibles para las personas interesadas. Si usted desea recibir este resumen, llene el espacio provisto para este propósito en la carta de consentimiento.

Ana Margarita Cebollero

Ana Margarita Cebollero, M. A.
Estudiante Graduada del
Programa Doctoral en Psicología
Clínica del Niño y la Familia

Wade Horn

Wade Horn, Ph. D.
Profesor Asociado
Departamento de Psicología
Colegio de Ciencias Sociales

APPENDIX C

APPENDIX C

Informed Consent

I, the parent (or legal guardian) of _____ agree to have him/her and myself participate in the project to develop hispanic norms for the Conners's Teacher Rating Scale (1978) and the modified Behavior Problem checklist (O'Donnell, et al., 1982).

I understand that my participation in this project will consist of the following:

1. Fill out the demographic information questionnaire.

2. Authorize the teacher of my daughter/son to fill out the questionnaires according to his/her judgement of my daughter's/son's behavior at school.

I understand that my participation in this project is completely voluntary and that my daughter's/son's assent to participate will be requested. I further understand that my child will not derive any direct benefit through his/her participation in this project. Also, I understand I am free to decline participating in this project if I so choose, and may withdrew at any time.

I have read this consent form and freely and voluntarily have decided to participate. I have not been offered any reward, inducement or payment for it. I have also been told that all the information will be confidential and that if I so desire I can obtain a short summary about the project results.

_____

Father's signature Date
(or legal guardian)

_____

Mother's signature Date
(or legal guardian)

Forma de Consentimiento

Se me ha informado, entiendo y acepto tanto en nombre de mi hijo/hija como del mio propio que:

Yo, el padre y/o la madre (o tutor/tutora legal) de _____ _____(nombre del nino) estoy de acuerdo que el/ella y yo participemos en el Proyecto para desarrollar Normas del Cuestionario del Maestro (Goyette et al., 1978) y la lista de Problemas de Conducta de Ninos (O'Donnell et al., 1982) con ninos puertorriquenos.

Yo entiendo que participar en este proyecto consiste de lo siguiente:

1. Llenar el cuestionario de information demografica.

2. Autorizar al maestro/maestra de mi hijo/hija a llenar los cuestionarios de acuerdo a su juicio sobre el comportamiento de mi hijo/hija en la escuela.

Yo entiendo que mi participacion en este proyecto es completamente voluntaria y que a mi hijo/hija tambien se le pedira que asienta a participar. Tambien entiendo que mi nino/nina no se beneficiara directamente por participar en este proyecto. Ademas entiendo que soy libre de declinar el participar en el mismo si asi lo deseo o puedo retirarme del mismo en cualquier momento.

He leido esta forma de consentimiento y libre y voluntariamente he decidido participar. No se me ha prometido ninguna recompensa, incentivo o pago para ello. Tambien se me ha dicho que toda la informacion sera mantenida confidencialmente y que de yo desearlo puedo obtener un resumen corto sobre los resultados de este proyecto.

_____

Firma del Padre (o tutor legal) Fecha

_____

Firma de la Madre (o tutora legal) Fecha

APPENDIX D

APPENDIX D

Demographic Information Questionnaire

Today's Date: _____

Coding Number: _____

Relationship to child of person completing this questionnaire:

a. mother
b. father
c. stepmother
d. stepfather
e. legal guardian
f. teacher
g. other (specify) _____

Gender of the child:

a. boy
b. girl

Birthdate: _____ Age: _____

Ethnic group:

a. Puerto Rican
b. American
c. Other (If other, which one?) _____

Father's age: _____

Father's occupation: _____

Highest level of father's education: _____

Monthly father's income: _____

Mother's age: _____

Mother's occupation: _____

Part-time or full-time: _____

Highest level of mother's education: _____

Monthly mother's income: _____

Page 2

Total monthly family income: _____

Parents of the child are:

a. married, live together
b. separated
c. divorced
d. widowed
e. unmarried

Number of children, including the one participating in the project: _____

School information:

Rural School: _____ Urban School: _____

Grade the child is attending: _____

Special education classroom: Yes: _____ No: _____

Specify, if yes: _____

General information:

Migrant family: Yes: _____ No: _____

Has the family lived outside of P. R.? Yes: _____

No: _____

Where: _____

When (give data): _____

For how long: _____

Have some members of the family lived outside of P. R.:

Yes: _____ No: _____

Whom: _____

When did the family (or person) return to Puerto Rico (give date): _____

Informacion Demografica

Fecha de hoy: _____

Numero de Identificacion: _____

Relacion que tiene la persona que llena el cuestionario con el nino:

a. madre
b. padre
c. madrastra
d. padrastro
e. tutor/tutora legal
f. maestra/maestro
g. otro/otra (especifique quien) _____

Sexo del nino (marque uno de ellos):

a. nino
b. nina

Fecha de nacimiento del nino: _____ Edad: _____

Grupo etnico:

a. puertorriqueno
b. americano
c. otro (Si otro, cual?): _____

Edad del padre: _____

Ocupacion del padre: _____

Ingreso mensual del padre: _____

Ultimo grado escolar adquirido por el padre: _____

Edad de la madre: _____

Ocupacion de la madre: _____ Trabajo a tiempo completo o parcial: _____

Ingreso mensual de la madre: _____

Ultimo grado escolar adquirido por la madre: _____

Ingreso familiar total anual: _____

Pagina 2

Los padres del nino estan (circule uno):

a. casados, viven juntos
b. separados
c. divorciados
d. viuda/viudo

Numeros de hijos, incluyendo al que participa en el proyecto:

_____

Informacion escolar:

Escuela Rural: _____

Escuela Urbana: _____

Grado escolar en que el nino se encuentra: _____

Grupo especial: Si: _____ No: _____

Tipo de ayuda especial: _____

Informacion General:

Familia migrante: Si: _____ No: _____

Ha vivido la familia fuera de P. R. Si: _____

No: _____

Donde: _____

Cuando (de fecha): _____

Por cuanto tiempo: _____

Ha vivido algun miembro de la familia fuera de P. R.:

Si: _____ No: _____

Quien: _____

Cuando la familia o la persona regreso a Puerto Rico (de

fecha): _____

APPENDIX E

APPENDIX E

Conners's Teacher Rating Scale, Revised
Goyette, et al., 1978
Teacher's Questionnaire

Please indicate whether each item applies to this child now or during the past four months. If a behavior never occurs or if you have never observed a behavior, circle the zero; if a behavior sometimes occurs, circle the one; if a behavior often occurs, circle the two; if a behavior occurs very often, circle the three.

1. Restless in the "squirmy" sense.
2. Makes inappropriate noises when he shouldn't.
3. Demands must be met immediately
4. Acts "smart" (impudent or sassy).
5. Temper outbursts and unpredictable behavior.
6. Overly sensitive to criticism.
7. Distractibility or attention span a problem.
8. Disturbs other children.
9. Daydreams.
10. Pouts and sulks.
11. Mood changes quickly and drastically.
12. Quarrelsome.
13. Submissive attitude toward authority.
14. Restless, always "up and on the go."
15. Excitable, impulsive.
16. Excessive demands for teacher's attention.
17. Appears to be unaccepted by group.
18. Appears to be easily led by other children.
19. No sense of fair play.
20. Appears to lack leadership.
21. Fails to finish things that he starts.
22. Childish and immature.
23. Denies mistakes or blames others.
24. Does not get along well with other children.
25. Uncooperative with classmates.
26. Easily frustrated in efforts.
27. Uncooperative with teacher.
28. Difficulty in learning.

Cuestionario del maestro o maestra

Codificacion: _____ Fecha de evaluacion:

Por favor conteste todas las preguntas. Haga un circulo al lado de cada aclaracion para indicar el grado del problema.

0 = circule 0 si la conducta NUNCA ocurre
o si usted NUNCA ha observado esa conducta
1 = Circule el 1 si la conducta ocurre SOLO UN POCO
2 = Circule el 2 se la conducta ocurre BASTANTE
3 = Circule el 3 si la conducta ocurre MUCHO

1. Intranquilo/intranquila, al punto de no estarse quieto/quieta
2. Hace ruidos impropios cuando no debe
3. Sus reclamos deben ser satisfechos immediatamente
4. Se comporta como un sabihondo/sabihonda (insolente o descarado/descarada
5. Caracter explosivo y conducta imprevisible
6. Demasiado susceptible a la critica
7. Distraido/distraida, tiene problema prestando atencion
8. Molesta a otros ninos
9. Suena despierta/despierto
10. Hace pucheros, se enfurruna, pone mala cara
11. Su estado de animo cambia rapida y drasticamente
12. Peleon/peleona
13. Adopta una actitud sumisa ante la autoridad
14. Inquieto/inquieta, siempre esta activo/activa y en movimiento
15. Excitable, impulsivo/impulsiva
16. Exige la atencion de la mestra/maestro incesantemente
17. Da la impresion de no ser aceptado/aceptada por su grupo
18. Parece ser manejado/manejada facilmente por otros ninos
19. No tiene sentido de jugar justamente
20. Parece carecer de liderato
21. Falla en terminar las tareas que empieza
22. Aninado/aninada e inmaduro/inmadura
23. Niega sus errores o culpa a otros
24. No se lleva bien con otros ninos
25. No coopera con sus companeros de clase
26. Se frustra con facilidad
27. No coopera con la maestra
28. Tiene dificultad aprendiendo

APPENDIX F

APPENDIX F

ABBREVIATED CONNER'S TEACHER RATING SCALE

(EXTRACTED FROM GOYETTE ET AL. (1978) CONNERS'S TEACHER RATING REVISION)

Item 1. Restless in the "squirmy" sense

Item 2. Temper outbursts and unpredictable behavior

Item 3. Distractibility or attention span a problem

Item 4. Disturbs other children

Item 5. Pouts and sulks

Item 6. Mood changes quickly and drastically

Item 7. Restless, always "up and on the go"

Item 8. Excitable, impulsive

Item 9. Fails to finish things that he starts

Item 10. Easily frustrated in efforts

Note: Conners derived the abbreviated Conners's Teacher Rating Scale from a revision he made of the 1969 teacher rating scale. He changed 5 items from the 39-item original Teacher Rating Scale: "sits fiddling with small objects" to "fidgeting," "falls apart under stress of examination" to "demands must be met immediately-gets frustrated," "difficulty in concentrating" to "fails to finish things he starts-short attention span," "selfish" to "cries," and "tattles" to "mood changes quickly," but did not resubmit his data to factor analysis (Werry et al., 1975). Subsequently, Goyette et al. (1978) again revised the teacher rating scale. These researchers dropped items not loading in previous factor analyses, combined similar items into single items, and reworded others, resulting in a 28-item rating scale.

APPENDIX G

APPENDIX G

Modified Behavior Problem Checklist

Codificacion:

Please indicate whether each item applies to this child now or during the past four months. If a behavior never occurs (or if you have never observed a behavior), circle the zero; if a behavior sometimes occurs, circle the one; if a behavior often occurs, circle the two; if a behavior occurs very often, circle the three.

1. Is restless; unable to sit still; fidgety
2. Seeks attention; shows off
3. Repetitive speech; incoherent speech
4. Doesn't know how to have fun; takes self too seriously
5. Is self-conscious; easily embarrassed
6. Lacks emotional reactivity; doesn't show feelings
7. Is disruptive; tendency to annoy and bother others
8. Feelings of inferiority
9. Is afraid of being alone, of getting lost, of new places
10. Is boiterous, rowdy
11. Cries over minor annoyances and hurts; cries easily
12. Is preoccupied; "in a world of his/her own"
13. Is shy, bashful, timid
14. Prefers solitary activities; is socially withdrawn
15. Dislikes school; truancy from school
16. Is jealous over attention paid other children
17. Worries about many things
18. Short attention span; poor concentration, fails to finish things
19. Lacks self-confidence
20. Inattentive to what others say
21. Easily flustered and confused
22. Fights; hits or kicks other children
23. Afraid others don't like him/her; fears being teased or criticized
24. Has temper tantrums; screams and bangs things
25. Teases and/or bullies other children
26. Is hypersensitive; feelings easily hurt
27. Lazy in school and in performing other tasks
28. Is afraid of germs, hospitals, death, illness, injury, fights, etc.
29. Is irresponsible; undependable
30. Daydreams; strares into space
31. Is tense; wound up; unable to relax
32. Is disobedient; is difficult to control or to discipline
33. Appears sad; unhappy, distressed, depressed

34. Is uncooperative in group situations
35. Is aloof, socially reserved, does not participate
36. Is passive, suggestible, is easily led by others
37. Is clumsy, awkward, has poor muscular coordination
38. Moves constantly; always on the go; is into things; is overactive
39. Is easily distracted; is distractible
40. Is destructive in regard to his/her own and other's property
41. Tends to do the opposite of what's requested negativistic
42. Is defiant, rude, disrespectful
43. Is sluggish, lethargic, inactive
44. Is resentful, sullen, sulky
45. Uses profane language, swears, curses
46. Appears nervous, jittery, jumpy, easily startled
47. Is irritable, hot-tempered, easily aroused to anger
48. Denies having done wrong; blames others
49. Has physical complaints (e.g., headaches, stomach aches, etc.)
50. Is afraid of thunderstorms, lightening, ghosts, monsters, etc.
51. Is easily excited
52. Has nightmares, complains of bad dreams; awakens at night
53. Is moody; is changeable or variable in mood
54. Speaks rapidly; overtalkative
55. Is quarrelsome; argumentative
56. Is unpredictable in show of affection
57. Acts or speaks without thinking; is impulsive
58. Is afraid of animals such as dogs, snakes, insects, mice, etc.
59. Steals things

Lista de Problemas de Conducta

Codificacion: _____
Fecha de evaluacion: _____

Por favor conteste todas las preguntas. Haga un circulo al lado de cada aclaracion para indicar el grado del problema en la actualidad o durante los ultimos 4 meses en cuanto a este nino se refiere.

0 = Circule 0 si la conducta NUNCA ocurre
o si usted NUNCA ha observado esa conducta
1 = Circule el 1 si la conducta ocurre A VECES
2 = Circule el 2 si la conducta ocurre FRECUENTEMENTE
3 = Circule el 3 si la conducta ocurre MUY FRECUENTEMENTE

1. Es inquieto/inquieta; no puede sentarse tranquilo/tranquila; nervioso/nerviosa
2. Procura atraer la atencion, exhibicionista
3. Comunicacion reiterativa; habla incoherentemente
4. No sabe como divertirse; se toma muy en serio
5. Cohibido/cohibida; se averguenza facilmente
6. Carece de expresiones emocionales; no demuestra sus sentimientos
7. Interrumpe; tiende a molestar y a fastidiar a los demas
8. Tiene sentimientos de inferioridad
9. Teme estar solo/sola, teme perderse, teme a sitios nuevos
10. Es exhuberante, ruidodo/ruidosa
11. Llora por tonterias; llora facilmente
12. Esta ensimismado/ensimismada en su "propio mundo"
13. Es timido/timida, vergonzoso/vergonzosa, asustadizo/asustadiza
14. Prefiere actividades solitarias; se aisla socialmente
15. No le gusta la escuela; corta clases, come jobos
16. Se encela de la atencion que se le presta a otros ninos
17. Se preocupa por muchas cosas
18. Lapso corto de atencion; poca concentracion, no termina lo que empieza
19. No confia en si misma/mismo
20. No atiende a lo que otros dicen
21. Se turba y confunde facilmente
22. Pelea, le da o patea a otros ninos
23. Teme no agradarle a otras personas; teme que lo embromen o lo critiquen
24. Le dan rabietas; grita y tira cosas
25. Molesta y/o "cuca", intimida a otros ninos
26. Es sumamente sensitivo; se le hieren los sentimientos facilmente
27. Vago/vaga en la escuela y en ejecutar otras tareas

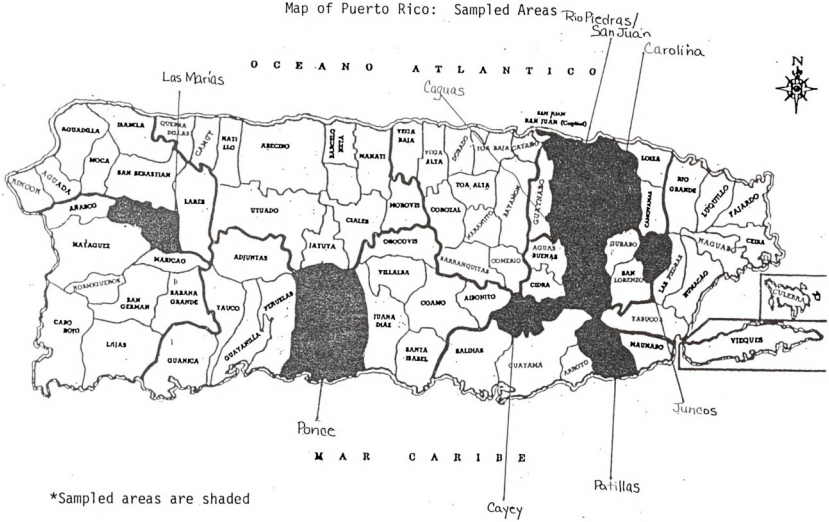
Pagina 2

28. Teme a los germenes, hospitales, muerte, enfermedades, golpes, peleas, etc.
29. Es irresponsable; no se puede depender de el/ella
30. Suena despierto/despierta, tiene su mirada espaciada
31. Es tenso/tensa; le es dificil relajarse
32. Es desobiende; da trabajo el controlarlo/controlarla o disciplinarlo/disciplinarla
33. Aparenta estar triste; infeliz; angustiado/angustiada, deprimido/deprimida
34. No coopera cuando se encuentra en grupos
35. Es reservado/reservada, se aparta socialmente, no participa
36. Es pasivo/pasiva, sugestionable; se deja manejar por los otros facilmente
37. Es torpe de movimiento, desmanado, desmanada, tiene poca coordinacion muscular
38. Se mueve constantemente, siempre esta haciendo algo, es demasiado activa/activo
39. Se distrae facilmente, se aturde
40. Es destructiva/destructivo con su propiedad y con la propiedad de otros
41. Tiende a hacer lo opuesto a lo que se le pide (negativo/negativa)
42. Es desafiante, rudo/ruda; irrespotuoso/irrespetuosa
43. Es holgazan/holgazana, letargico/letargica, inactivo/inactiva
44. Se ofende, malhumorado/malhumorada, pone mala cara
45. Malhablado/malhablada, blasfema, maldice
46. Parece nervioso/nerviosa, miedoso/miedosa, asustadizo/asustadiza, cortado/cortada
47. Es irritable, tiene mal caracter, le da coraje con facilidad
48. Niega que ha hecho algo malo; le echa la culpa a otros
49. Se queja de dolamas fisicas, por ejemplo, dolor de cabeza, dolor de estomago, etc.
50. Le tiene miedo a los rayos, truenos, fantasmas, monstruos, etc.
51. Se excita facilmente
52. Tiene pesadillas, se queja de suenos malos; se despierta de noche
53. Es taciturno/taciturna, su humor es variable, inconsistente
54. Habla rapidamente, habla demasiado
55. Es peleon/peleona, argumentador/argumentadora
56. Sus expresiones de afecto son imprevisibles
57. Actua o habla sin pensar; es impulsivo/impulsiva
58. Tiene miedo a animales tales como perros, serpientes, insectos, ratones, etc.
59. Roba cosas

APPENDIX H

Puerto Rico*

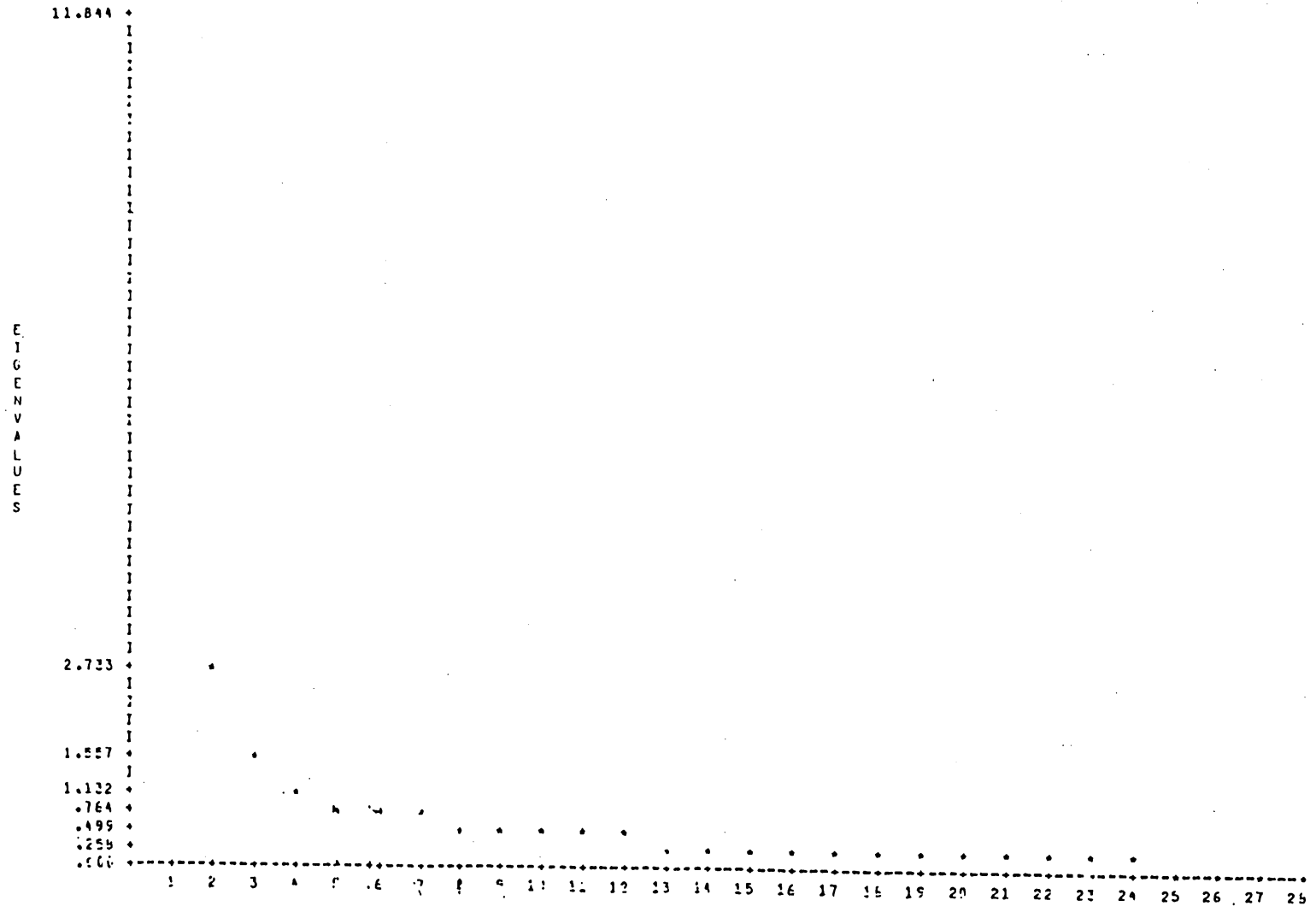
Map of Puerto Rico: Sampled Areas


Rio Piedras/
San Juan
Carolina
Las Marías
Caguas
O C E A N O A T L A N T I C O
N
Ponce
M A R C A R I B E
Cayey
Patillas
Juncos
AGUADILLA
ISABELA
QUEBRADILLAS
AGUADA
MOCA
SAN SEBASTIAN
ARECIBO
BARCELONETA
MANATI
VEGA BAJA
VEGA ALTA
TOA BAJA
CATAÑO
SAN JUAN
SAN JUAN (Capital)
LOIZA
RIO GRANDE
LUQUILLO
FAJARDO
CEIBA
AGUADILLA
ARECIBO
BARCELONETA
MANATI
VEGA BAJA
VEGA ALTA
TOA BAJA
CATAÑO
SAN JUAN
LOIZA
RIO GRANDE
LUQUILLO
FAJARDO
CEIBA
AGUADILLA
ISABELA
QUEBRADILLAS
AGUADA
MOCA
SAN SEBASTIAN
ARECIBO
BARCELONETA
MANATI
VEGA BAJA
VEGA ALTA
TOA BAJA
CATAÑO
SAN JUAN
SAN JUAN (Capital)

APPENDIX I

APPENDIX I
SCREE TEST: CTRS-R

FACTOR ANALYSIS



APPENDIX J

APPENDIX J

CONNERS'S TEACHER RATING SCALE, REVISED
SPANISH VERSION

INDIVIDUAL SUBSCALES SCORES

Child	BP/O	AP	SI	S/P	ACTRS
Child 1	16	21	8	13	15
Child 2	37	16	7	7	24
Child 3	26	16	5	6	19
Child 4	29	16	8	6	18
Child 5	16	10	4	4	13
Child 6	16	9	4	4	11
Child 7	33	10	5	5	20
Child 8	18	11	5	7	13
Child 9	18	16	7	6	17
Child 10	15	8	4	5	10
Child 11	23	9	6	5	15
Child 12	30	11	6	6	18
Child 13	17	8	4	4	11
Child 14	16	13	4	4	14
Child 15	15	8	4	5	10
Child 16	18	16	6	5	15
Child 17	16	12	5	5	11
Child 18	15	8	6	4	10
Child 19	17	14	4	5	13
Child 20	20	12	5	5	14
Child 21	16	9	4	6	11
Child 22	15	8	6	4	10
Child 23	22	10	4	5	15
Child 24	15	17	5	8	13
Child 25	17	23	5	7	17
Child 26	36	9	9	8	18
Child 27	15	9	4	4	10
Child 28	16	8	4	4	11
Child 29	17	12	4	6	12
Child 30	46	28	12	11	33
Child 31	18	12	5	6	12
Child 32	18	8	4	4	11
Child 33	16	9	4	4	11
Child 34	15	8	4	4	10
Child 35	16	9	4	5	11
Child 36	15	10	4	5	11
Child 37	33	22	11	6	27
Child 38	31	11	10	5	17
Child 39	15	8	4	4	10
Child 40	15	12	4	6	11

Child 41	33	9	6	5	17
Child 42	46	24	8	9	35
Child 43	31	13	6	5	21
Child 44	22	19	5	7	19
Child 45	45	10	8	5	27
Child 46	27	18	10	9	19
Child 47	28	10	9	5	20
Child 48	17	19	7	13	15
Child 49	18	8	4	5	12
Child 50	29	10	5	5	19
Child 51	19	16	5	6	14
Child 52	25	14	7	4	21
Child 53	16	11	4	5	11
Child 54	15	8	4	4	10
Child 55	15	8	4	4	10
Child 56	44	13	9	5	27
Child 57	15	8	4	4	10
Child 58	33	14	7	7	23
Child 59	20	13	4	6	13
Child 60	15	19	6	11	13
Child 61	20	29	11	12	19
Child 62	37	18	8	8	28
Child 63	15	14	7	13	10
Child 64	18	15	6	6	15
Child 65	15	8	6	4	10
Child 66	21	12	4	4	16
Child 67	35	26	8	11	30
Child 68	28	29	12	10	21
Child 69	31	17	8	6	24
Child 70	22	11	5	6	13
Child 71	23	13	6	9	15
Child 72	16	10	4	4	12
Child 73	17	11	6	7	11
Child 74	15	17	6	11	13
Child 75	27	17	7	7	20
Child 76	15	19	6	11	13
Child 77	32	19	10	12	22
Child 78	15	17	6	11	13
Child 79	15	11	4	5	11
Child 80	16	21	7	8	18
Child 81	22	14	5	6	16
Child 82	15	10	5	5	10
Child 83	20	14	7	10	12
Child 84	53	23	12	7	36
Child 85	17	17	4	6	14
Child 86	15	11	4	6	10
Child 87	43	26	12	12	29
Child 88	15	8	4	4	10
Child 89	21	9	4	5	15
Child 90	39	20	11	14	24
Child 91	20	13	6	5	15
Child 92	15	8	6	4	10
Child 93	30	9	6	5	19

Child 94	16	8	4	4	11
Child 95	15	8	4	4	10
Child 96	36	8	4	4	20
Child 97	18	10	5	5	12
Child 98	24	23	6	4	28
Child 99	18	10	5	4	12
Child 100	24	12	4	6	17
Child 101	15	8	4	4	10
Child 102	33	20	10	8	24
Child 103	30	23	10	9	23
Child 104	16	10	4	4	10
Child 105	49	13	5	10	29
Child 106	15	13	8	5	11
Child 107	15	12	8	7	10
Child 108	17	8	4	6	12
Child 109	16	8	4	6	10
Child 110	19	13	7	4	14
Child 111	15	8	4	4	10
Child 112	20	12	5	5	15
Child 113	18	10	6	5	13
Child 114	23	13	8	5	16
Child 115	16	11	6	5	11
Child 116	15	11	7	4	10
Child 117	15	8	4	4	10
Child 118	15	23	4	7	17
Child 119	17	9	4	4	12
Child 120	28	15	8	8	20
Child 121	22	14	6	7	15
Child 122	27	20	9	10	21
Child 123	19	15	4	7	15
Child 124	16	11	7	6	11
Child 125	33	11	7	4	21
Child 126	24	14	7	4	19
Child 127	25	8	5	4	15
Child 128	35	19	9	6	27
Child 129	15	13	4	5	11
Child 130	15	16	6	10	13
Child 131	15	17	6	11	13
Child 132	37	10	5	5	23
Child 133	26	13	4	5	20
Child 134	30	28	15	13	22
Child 135	17	8	4	4	12
Child 136	26	10	7	5	20
Child 137	37	15	10	8	22
Child 138	15	15	6	8	12
Child 139	16	8	4	4	11
Child 140	19	18	8	6	17
Child 141	17	16	4	6	16
Child 142	18	14	5	6	13
Child 143	17	10	4	4	13
Child 144	22	8	5	4	14
Child 145	37	11	5	4	22
Child 146	16	12	6	6	12

Child 147	15	15	4	6	13
Child 148	24	8	4	4	14
Child 149	30	9	7	7	18
Child 150	25	9	4	4	16
Child 151	53	26	14	11	35
Child 152	45	16	5	4	31
Child 153	15	11	5	5	11
Child 154	16	8	6	4	10
Child 155	22	15	5	7	19
Child 156	15	8	4	4	10
Child 157	17	8	4	4	11
Child 158	15	8	4	4	10
Child 159	20	19	5	6	17
Child 160	51	22	10	10	35
Child 161	15	13	5	6	11
Child 162	20	10	5	4	14
Child 163	15	8	4	4	10
Child 164	19	19	4	8	16
Child 165	42	10	8	5	25
Child 166	37	20	9	7	23
Child 167	17	9	4	5	13
Child 168	56	15	13	5	35
Child 169	24	18	6	11	16
Child 170	15	17	6	11	13
Child 171	18	14	5	5	15
Child 172	32	16	10	9	22
Child 173	38	30	10	12	30
Child 174	26	15	5	4	24
Child 175	16	8	4	4	11
Child 176	21	9	4	4	15
Child 177	16	9	7	4	12
Child 178	60	32	16	16	40
Child 179	15	8	6	4	10
Child 180	20	9	5	5	13
Child 181	15	8	4	4	10
Child 182	19	14	5	5	14
Child 183	15	8	4	4	10
Child 184	16	11	4	5	12
Child 185	18	30	4	13	18
Child 186	25	12	5	7	20
Child 187	15	8	4	4	10
Child 188	18	9	4	4	13
Child 189	33	24	7	10	27
Child 190	15	8	6	4	10
Child 191	15	8	4	4	10
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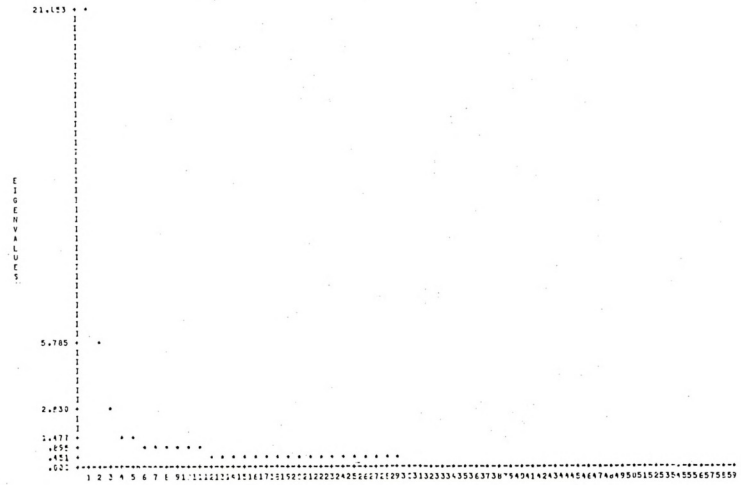
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Child 636	33	20	13	10	26
Child 637	28	11	11	4	19
Child 638	24	19	10	8	22

APPENDIX K

APPENDIX K
SCREE TEST: MODIFIED BPC

- F A C T O R A N A L Y S I S -



APPENDIX L

APPENDIX L

MODIFIED BEHAVIOR PROBLEM CHECKLIST
SPANISH VERSION

INDIVIDUAL SUBSCALE SCORES

Child	BP/O	AW	SC/F	AP
Child 1	22	38	12	22
Child 2	48	20	10	20
Child 3	33	17	10	21
Child 4	34	24	11	17
Child 5	22	12	6	14
Child 6	22	12	7	10
Child 7	43	13	12	11
Child 8	27	14	11	11
Child 9	26	16	10	22
Child 10	23	12	6	10
Child 11	32	13	6	12
Child 12	39	14	7	13
Child 13	24	12	6	10
Child 14	24	13	6	15
Child 15	22	15	7	10
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Child 19	23	17	9	14
Child 20	26	15	10	10
Child 21	22	15	9	10
Child 22	22	12	6	10
Child 23	29	13	6	12
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Child 25	23	17	6	29
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Child 29	26	19	10	13
Child 30	69	30	16	36
Child 31	24	14	6	12
Child 32	22	13	6	10
Child 33	22	12	6	10
Child 34	22	12	6	10
Child 35	25	17	8	12
Child 36	25	14	9	10
Child 37	45	21	6	24
Child 38	36	20	10	14
Child 39	22	15	6	11
Child 40	22	18	6	13

Child 41	41	13	7	13
Child 42	55	17	6	28
Child 43	42	16	11	15
Child 44	23	23	11	17
Child 45	37	18	12	14
Child 46	48	24	10	18
Child 47	29	14	10	13
Child 48	24	23	6	16
Child 49	26	13	7	10
Child 50	29	16	10	12
Child 51	25	13	6	13
Child 52	29	13	6	20
Child 53	22	15	10	15
Child 54	22	12	6	10
Child 55	22	12	6	10
Child 56	64	16	9	21
Child 57	22	12	6	10
Child 58	43	18	11	16
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APPENDIX M

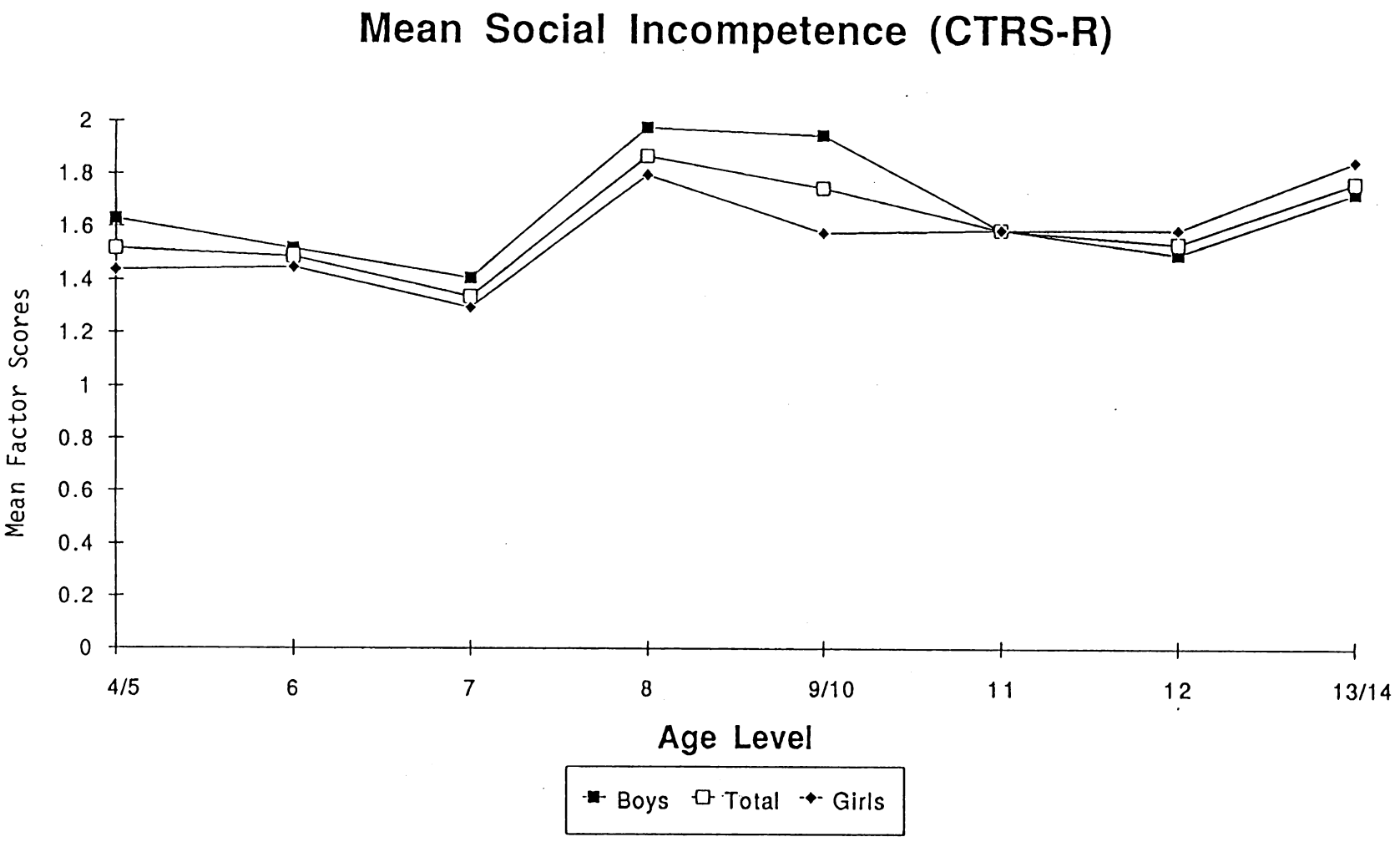


Figure 22 Mean Social Incompetence Subscale Scores (CTRS-R)

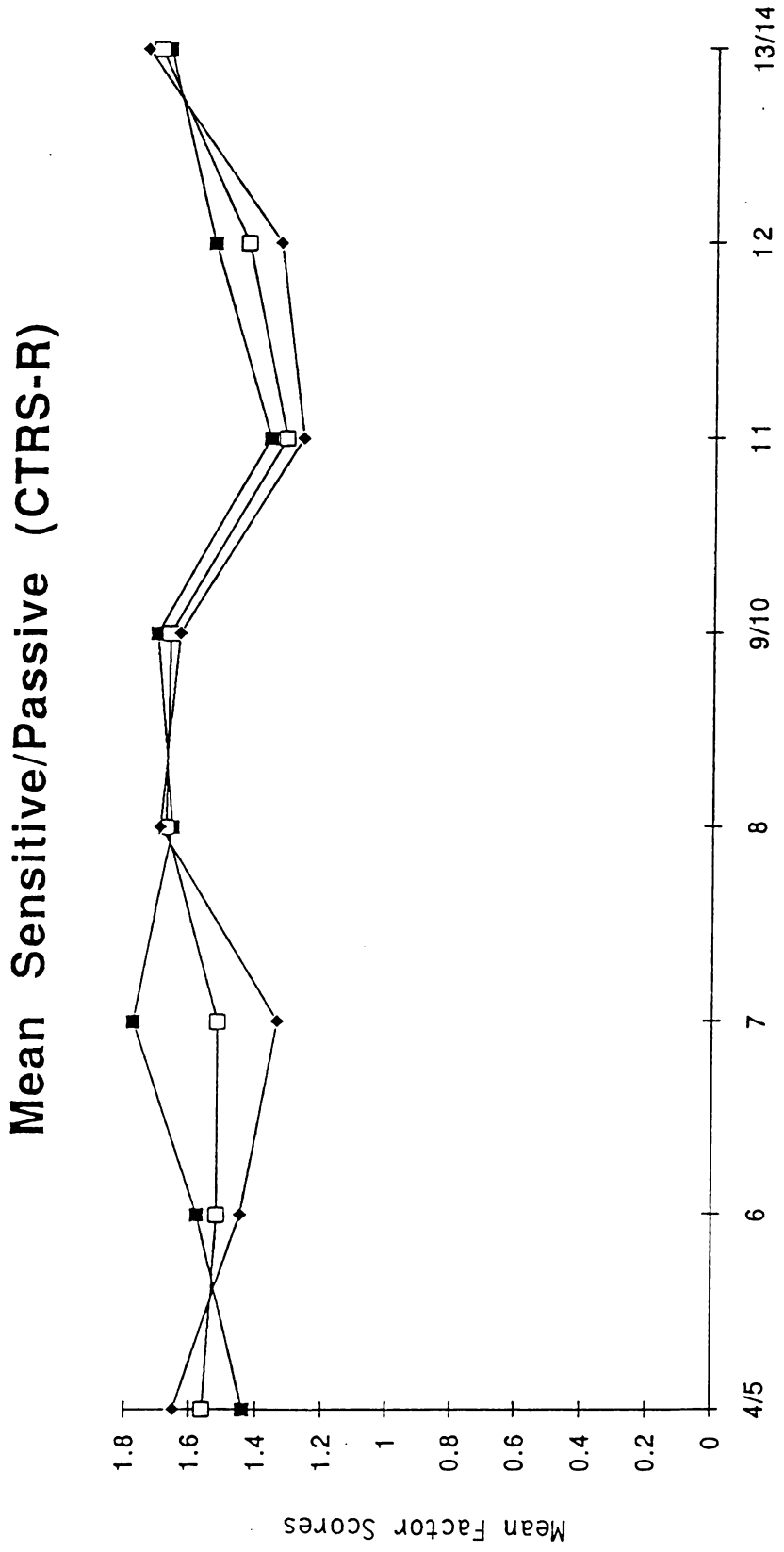


Figure 23 Mean Sensitive/Passive Subscale Scores (CTRS-R)

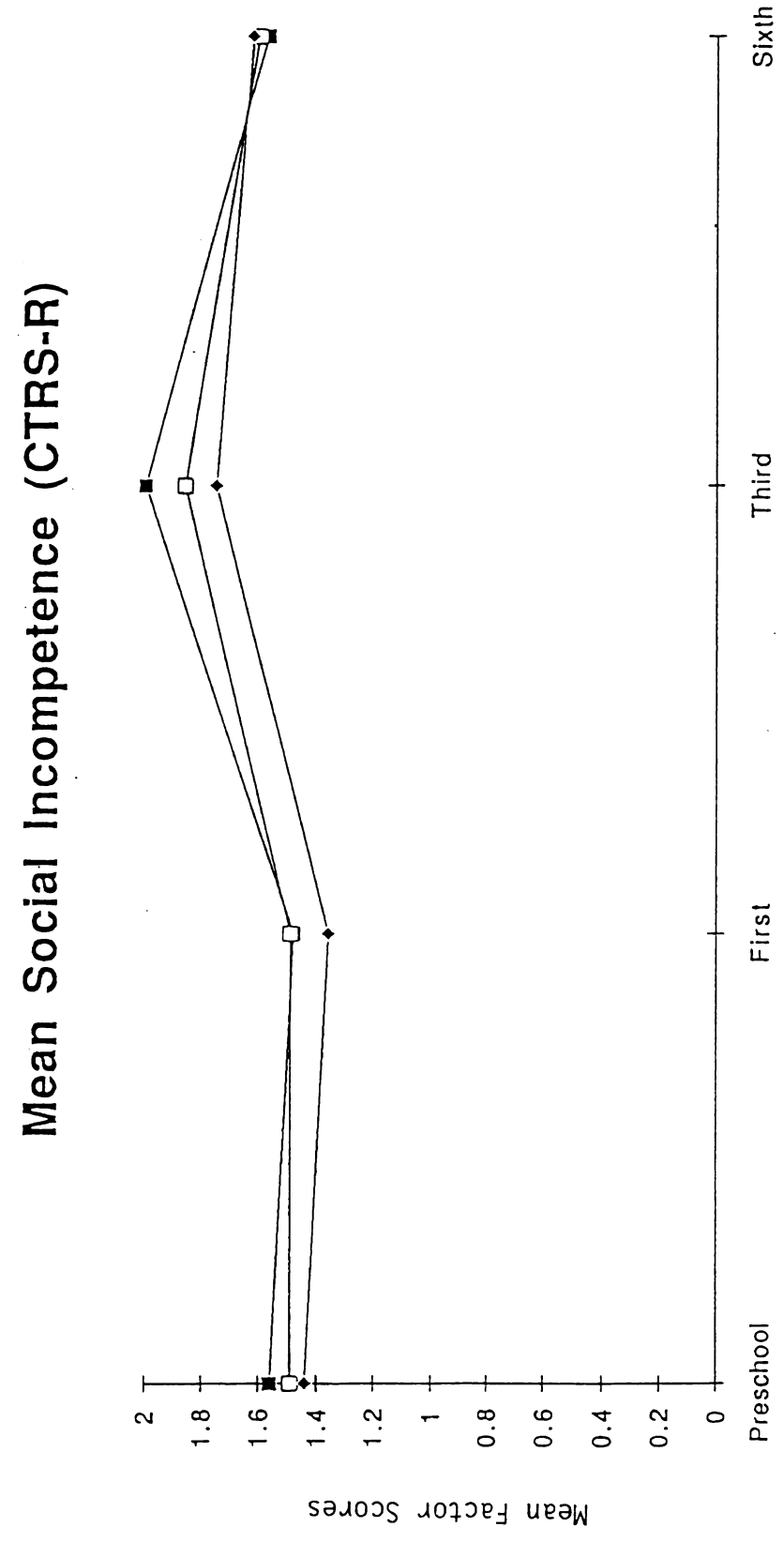


Figure 24 Mean Social Incompetence Subscale Scores (CTRS-R)

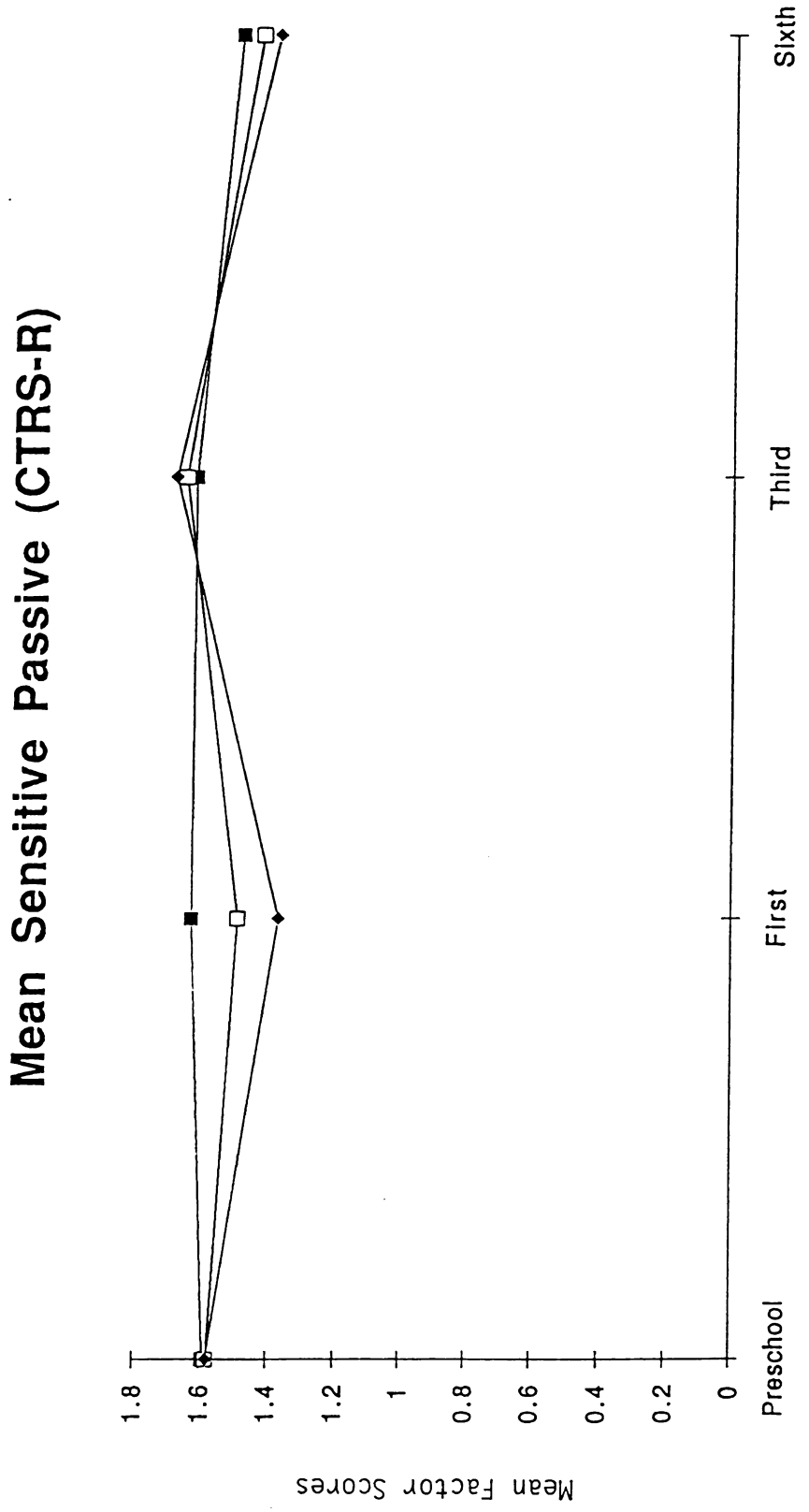
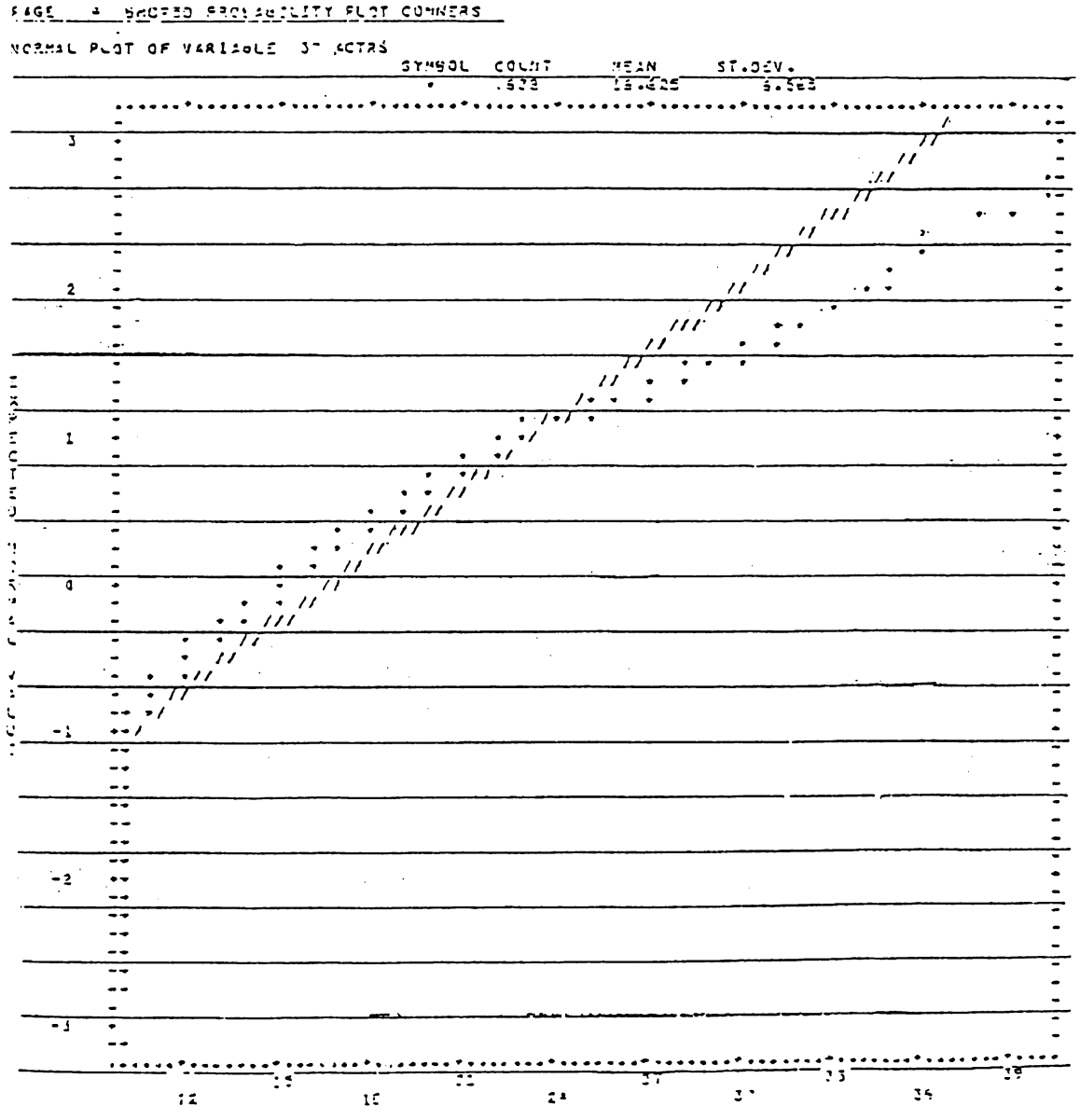


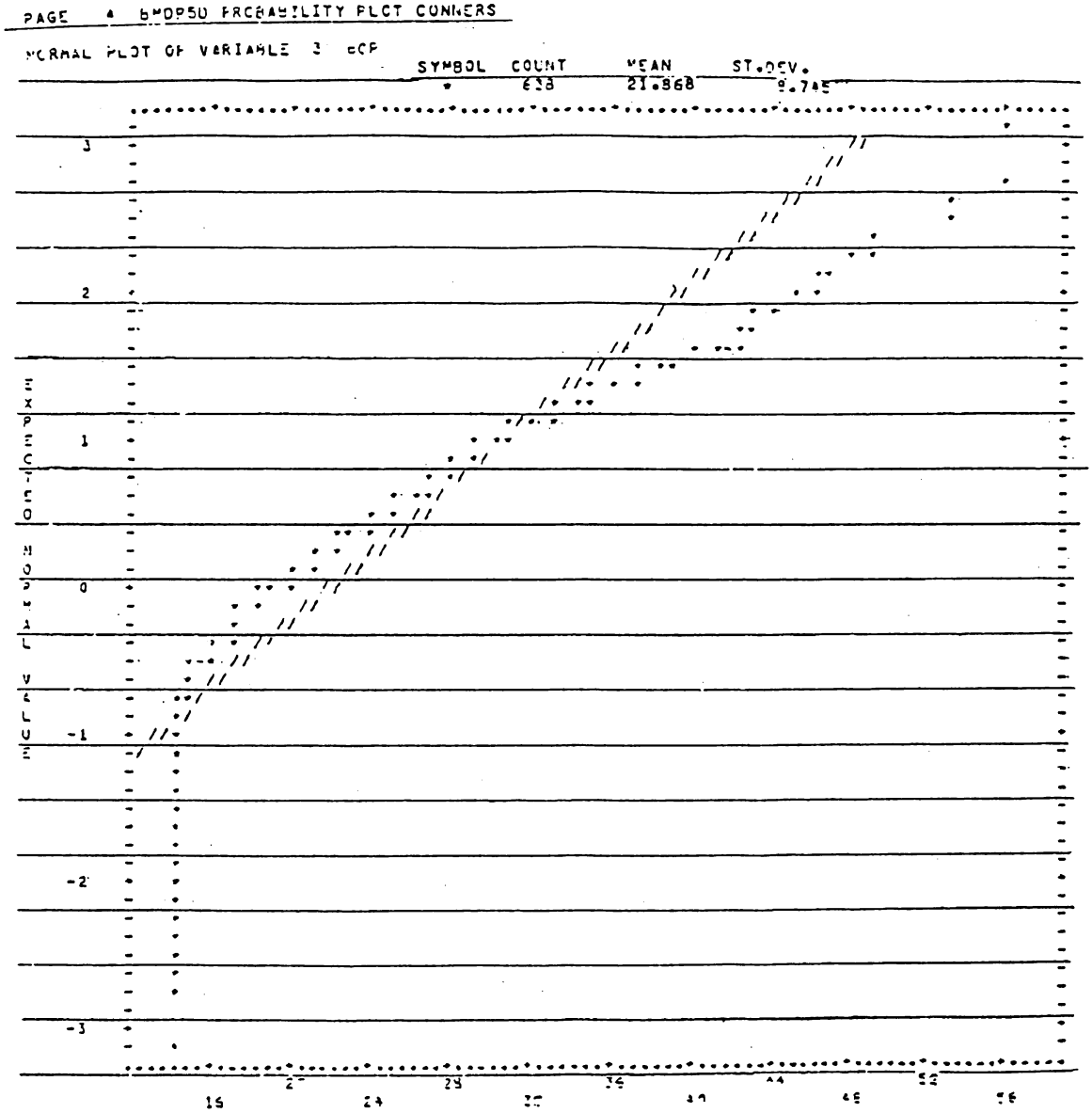
Figure 25 Mean Sensitive/Passive Subscale Scores (CTRS-R)

APPENDIX N

APPENDIX N

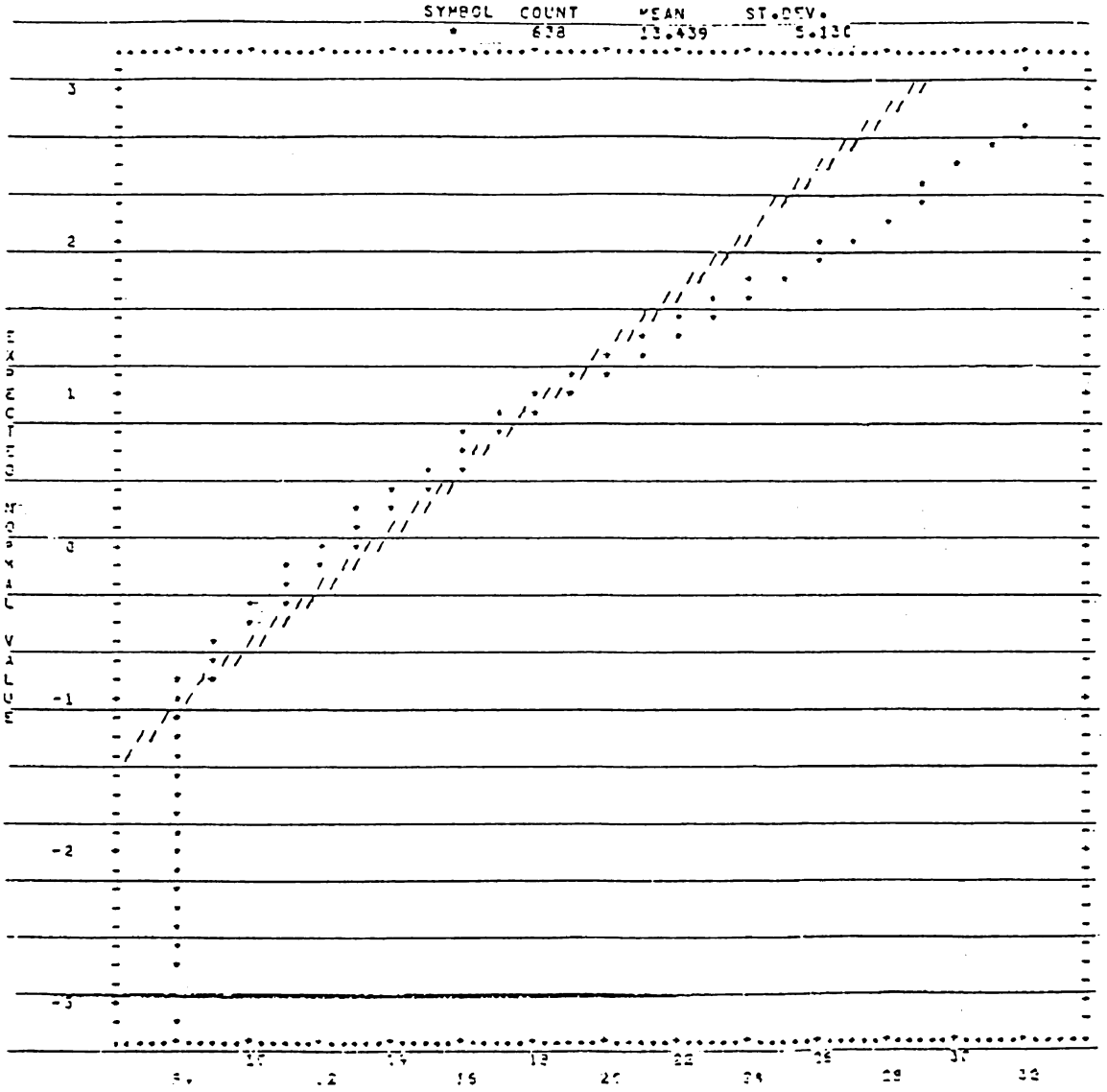
NORMAL PLOT OF VARIABLES
OF THE CTRS-R AND THE MODIFIED
BPC, SPANISH VERSIONS

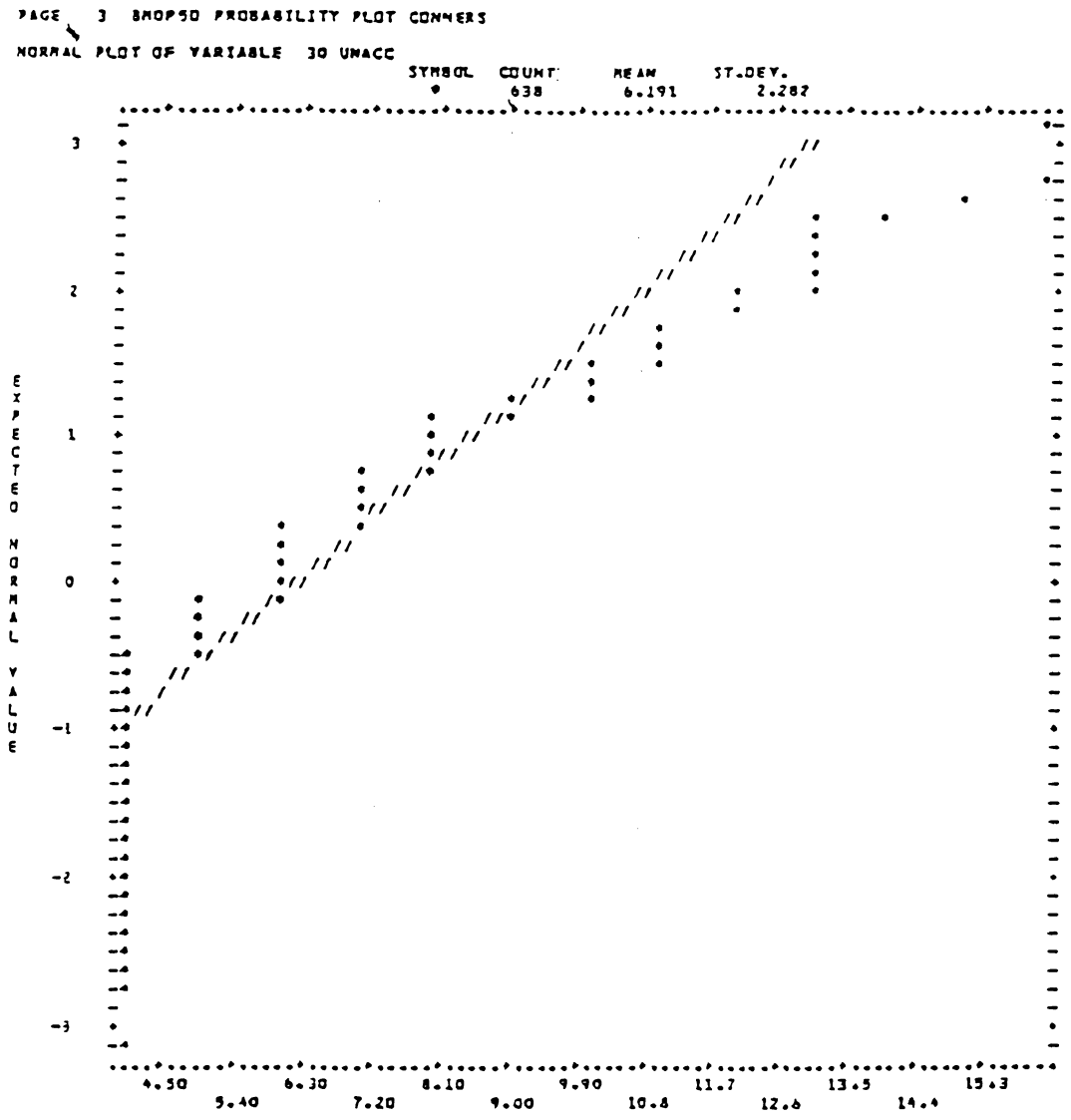



PAGE 4 BMDP5D PROBABILITY PLOT CONNERS
NORMAL PLOT OF VARIABLE 3 SCP
SYMBOL COUNT MEAN ST.DEV.
* 638 21.868 9.745
EXPECTED NORMAL VALUE
3
2
1
0
-1
-2
-3
15
22
29
36
44
52
24
39
46
56

PAGE 4 EMPIRICAL PROBABILITY PLOT CONNERS

NORMAL PLOT OF VARIABLE 31 ADD

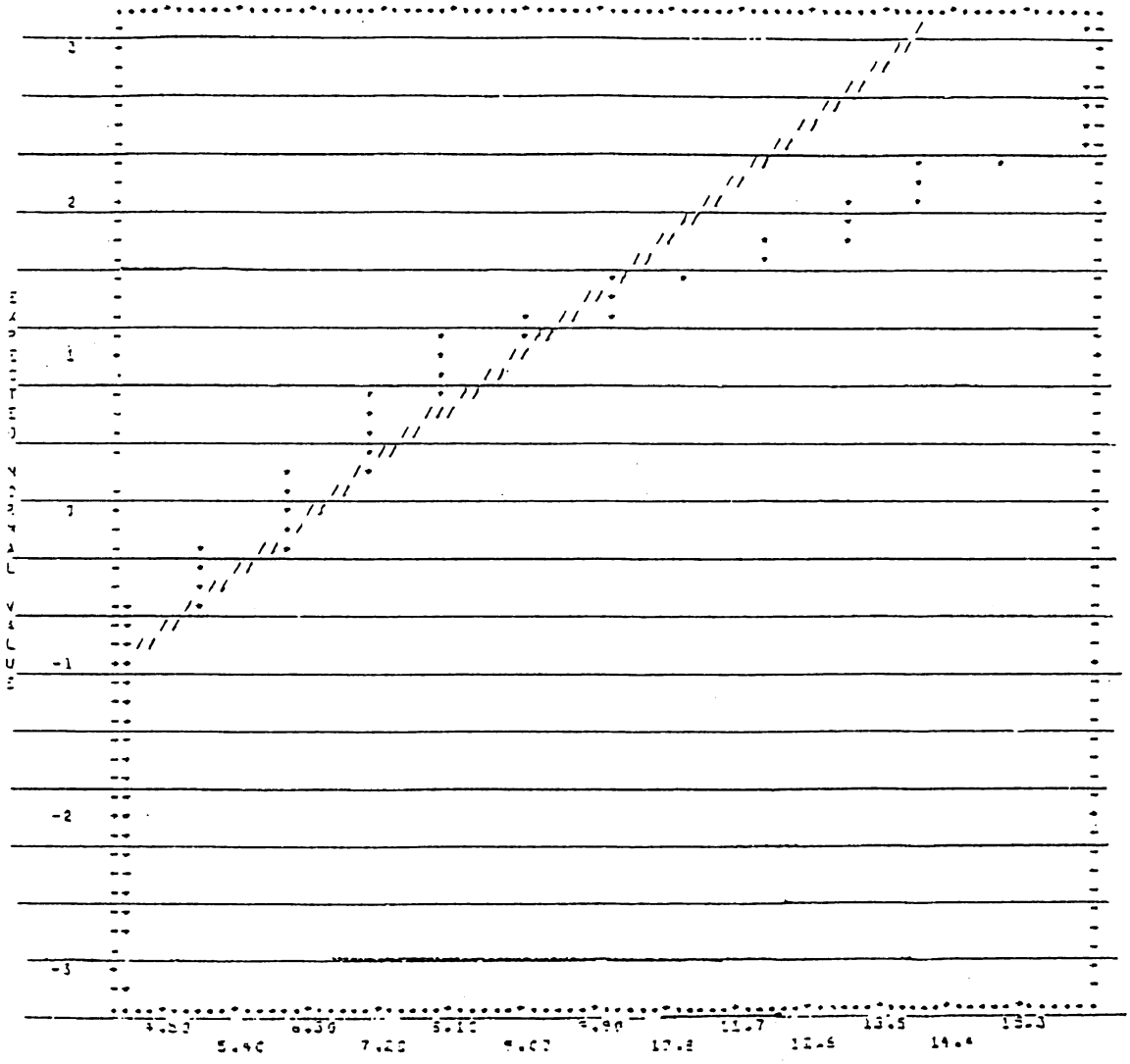



PAGE 3 BMDP5D PROBABILITY PLOT CONNERS
NORMAL PLOT OF VARIABLE 30 UNACC
SYMBOL COUNT MEAN ST.DEV.
• 638 6.191 2.282
EXPECTED NORMAL VALUE
3
2
1
0
-1
-2
-3
4.50
5.40
6.30
7.20
8.10
9.00
9.90
10.8
11.7
12.6
13.5
14.4
15.3

PAGE 3 BMDP5D PROBABILITY PLOT CONNERS

NORMAL PLOT OF VARIABLE 33 UNCO

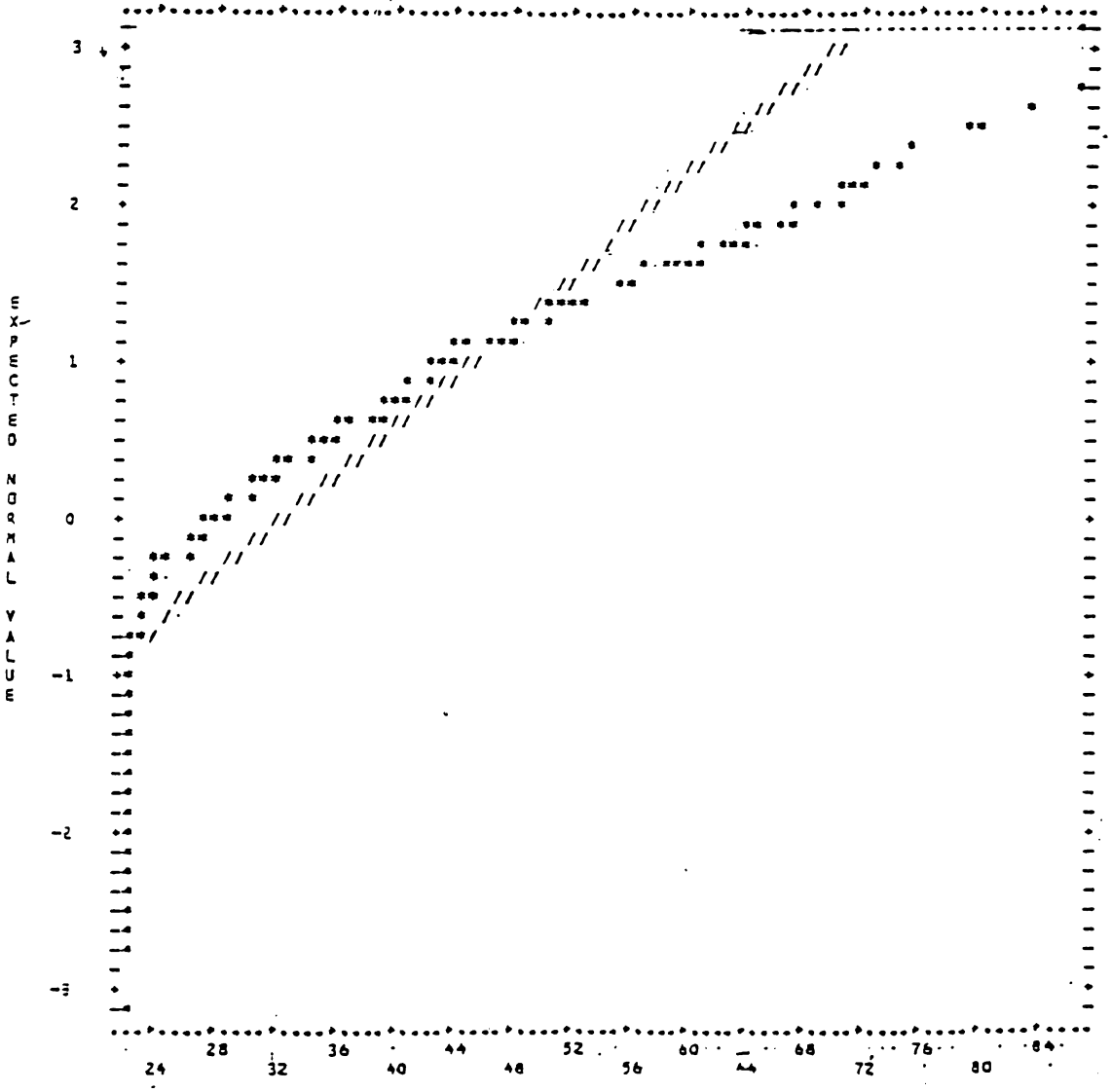
SYMBOL	COUNT	MEAN	ST.DEV.
*	638	6.411	2.453



PAGE 4 BMDP5D PROBABILITY PLOT SPC

NORMAL PLOT OF VARIABLE 61 SP

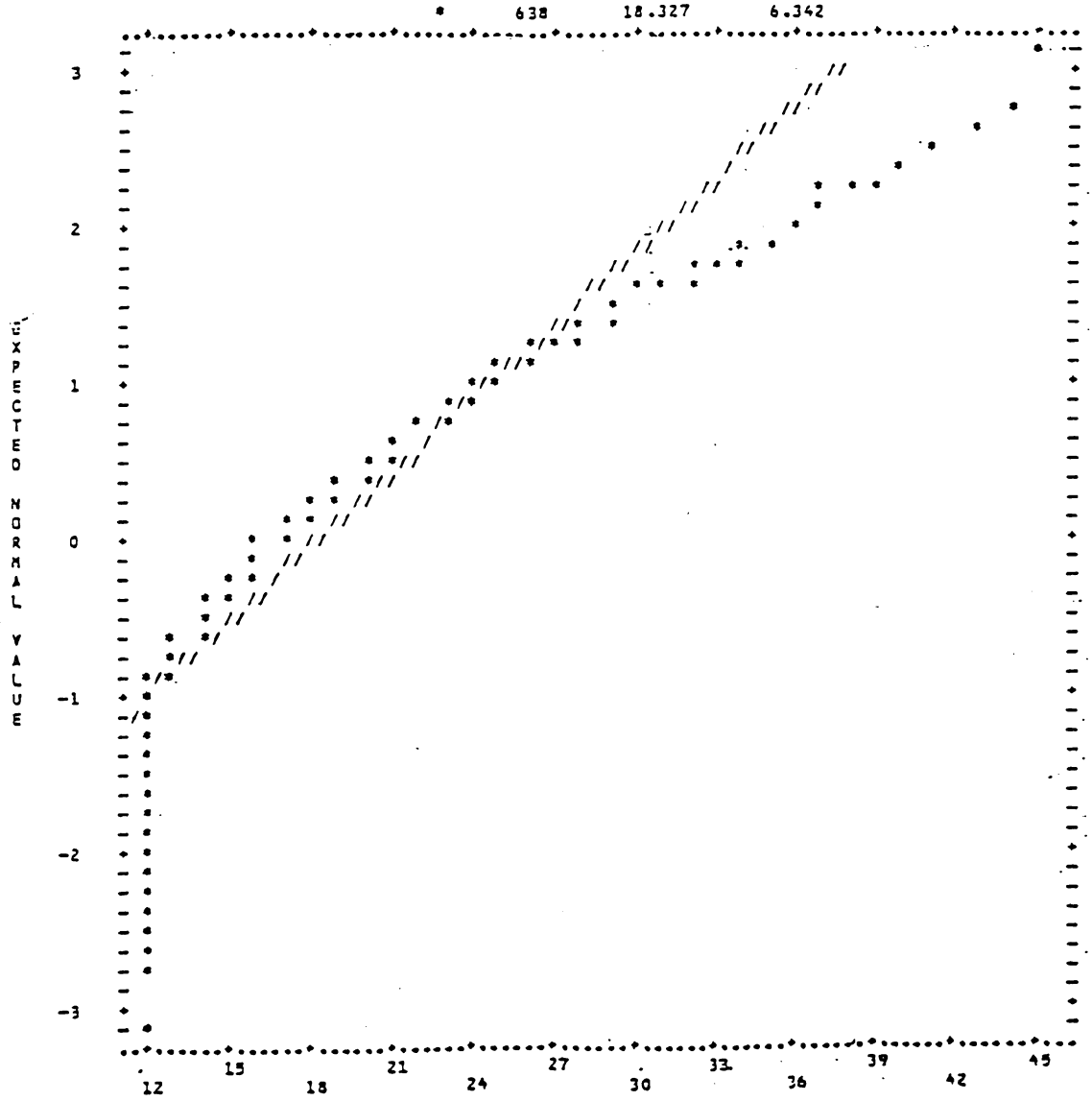
SYMBOL	COUNT	MEAN	ST.DEV.
*	638	32.401	12.518



PAGE 4 BMDP5D PROBABILITY PLOT SPC

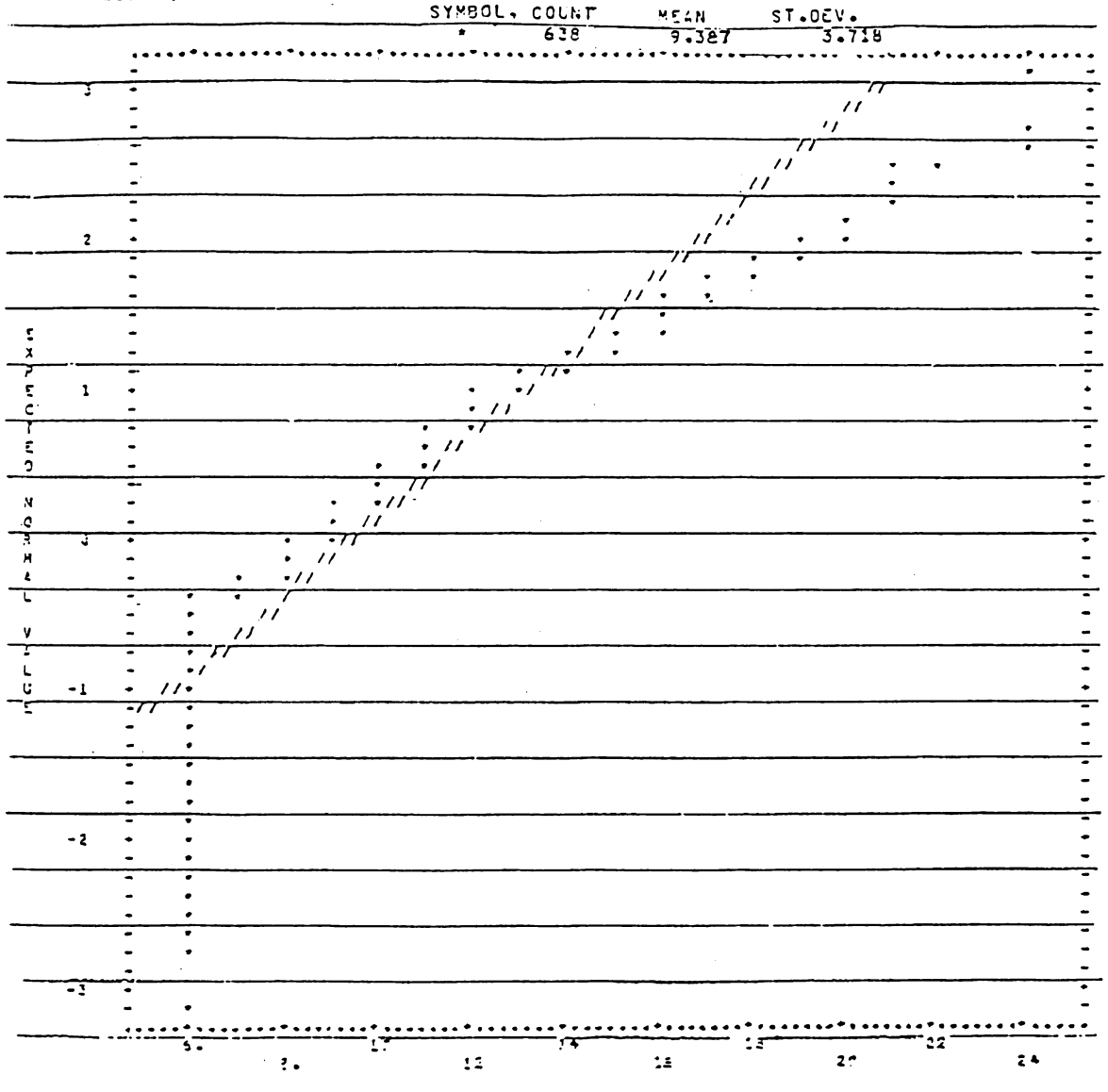
NORMAL PLOT OF VARIABLE 61 AM

SYMBOL	COUNT	MEAN	ST.DEV.
*	638	18.327	6.342



PAGE 4 BMDP5D PROBABILITY PLOT BPC

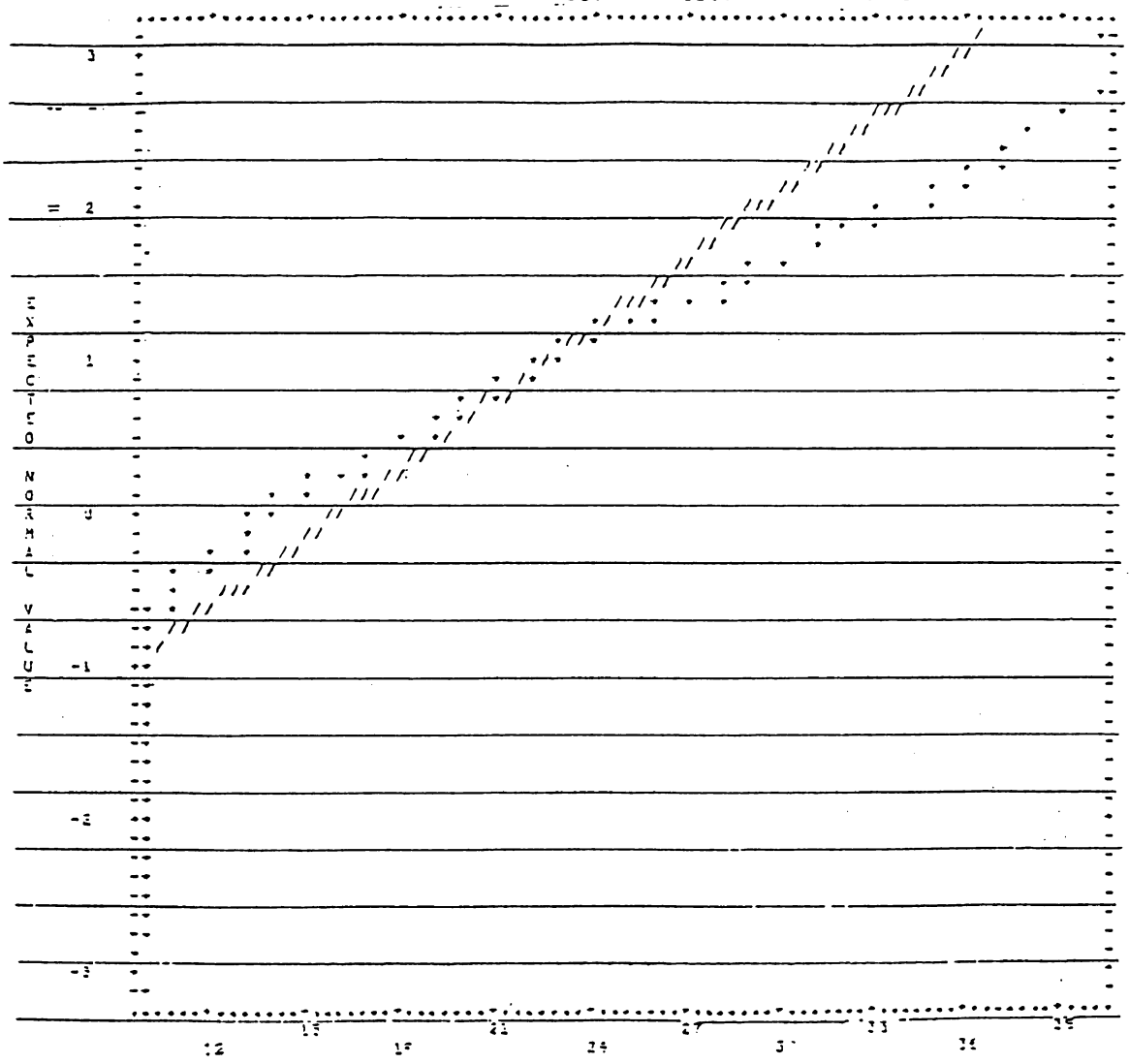
NORMAL PLOT OF VARIABLE 61 FS



PAGE 4 BMDP5D PROBABILITY PLOT BPC

NORMAL PLOT OF VARIABLE 61 AD

SYMBOL COUNT MEAN ST.DEV.
* 637 16.004 5.652



APPENDIX O

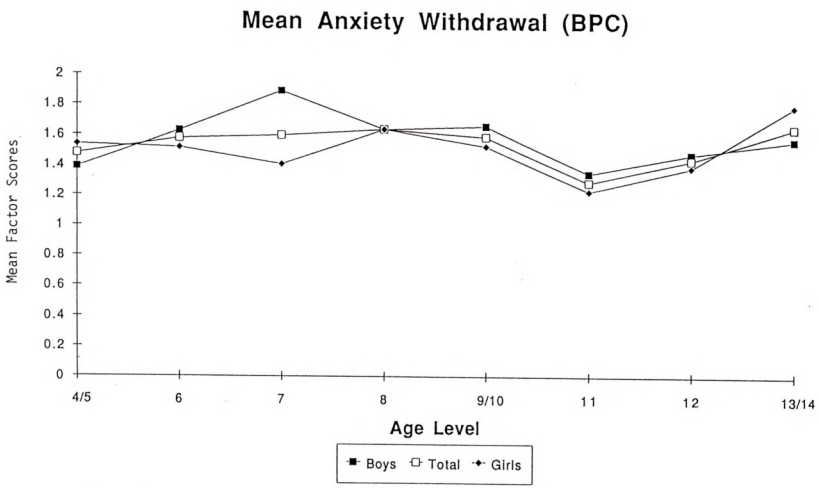


Figure 26 Mean Anxiety Withdrawal Subscale Scores (modified BPC)

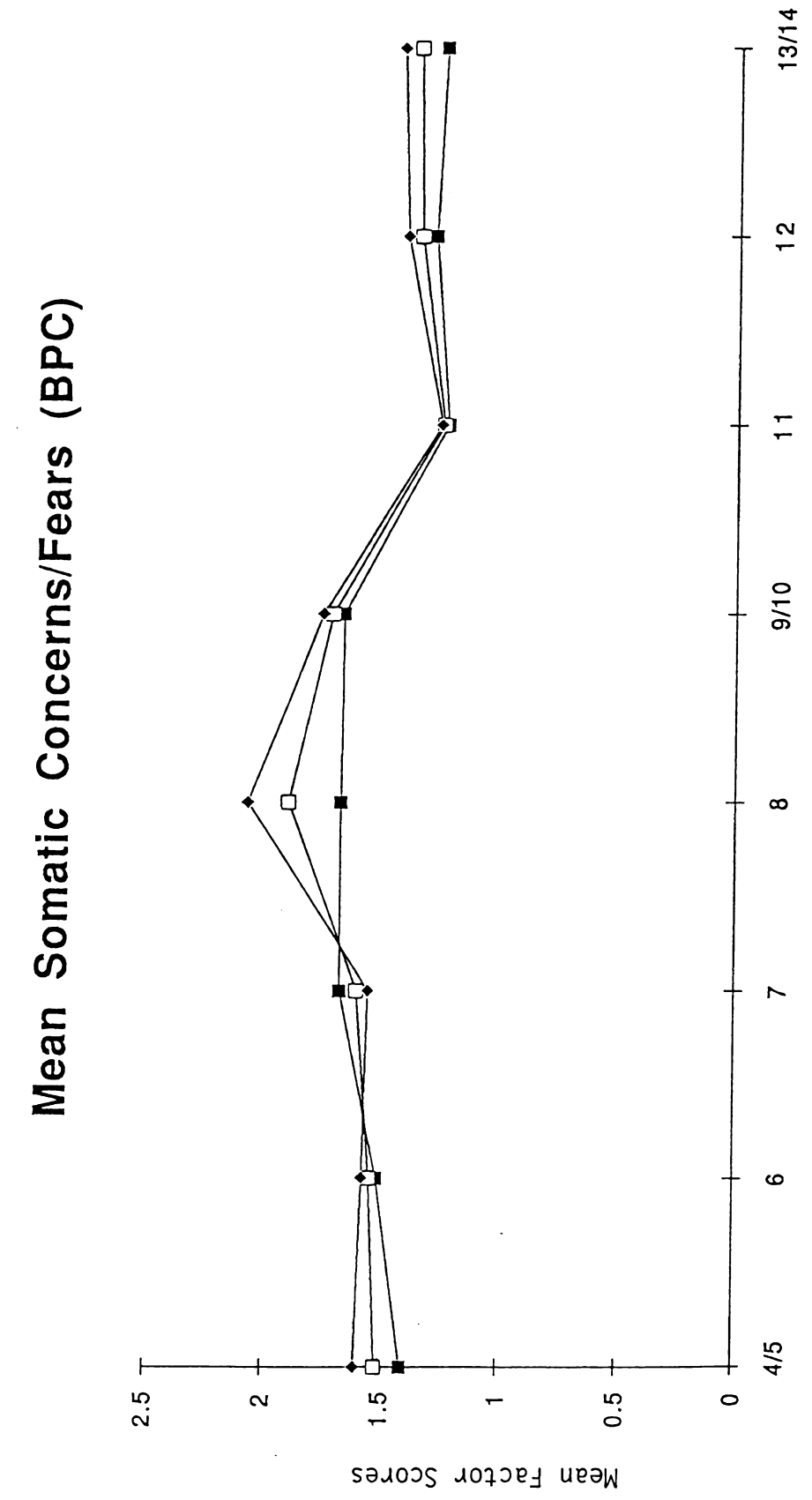


Figure 27 Mean Somatic Concerns/Fears Subscale Scores (modified BPC)

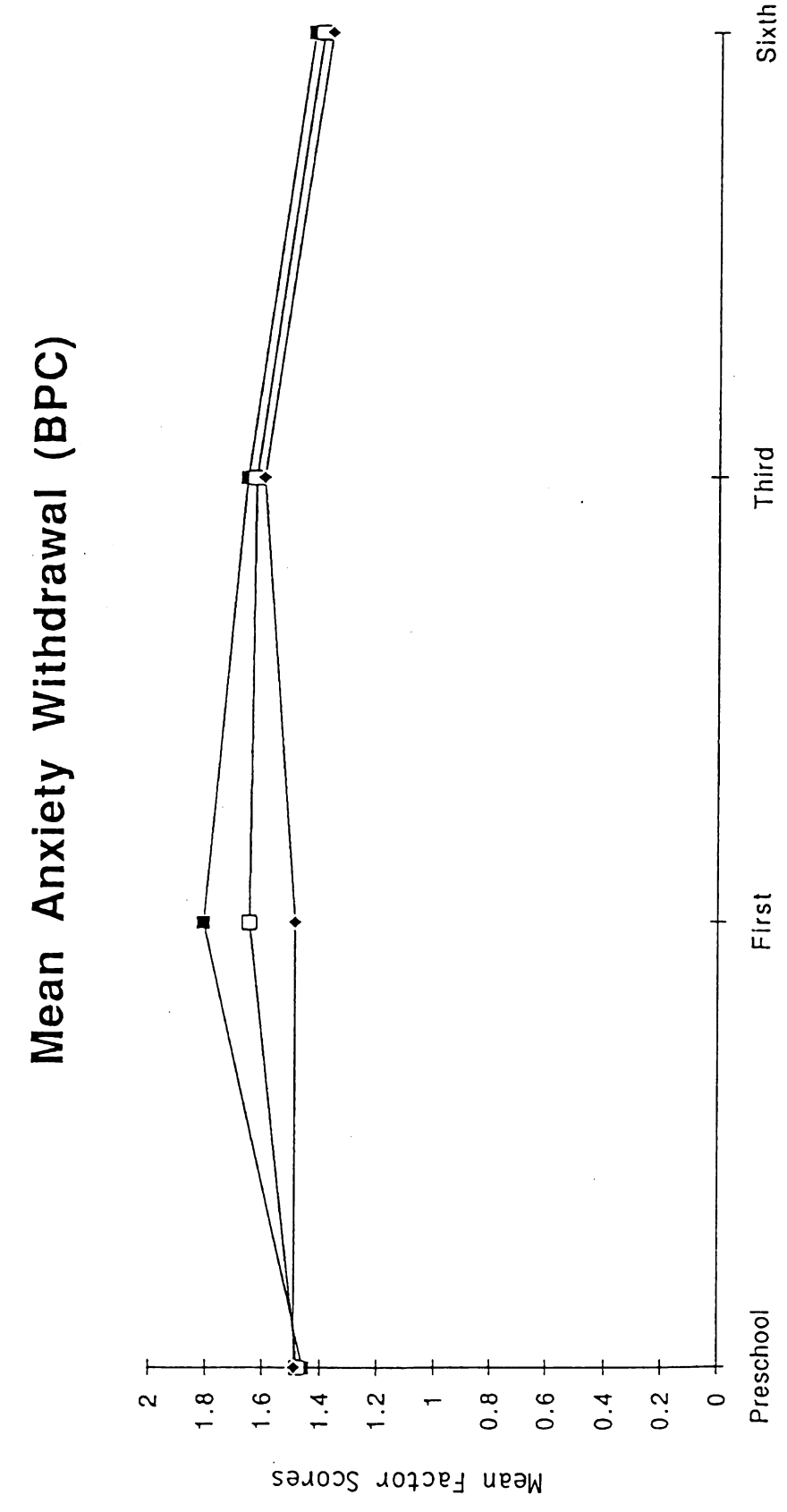


Figure 28 Mean Anxiety Withdrawal Subscale Scores (modified BPC)

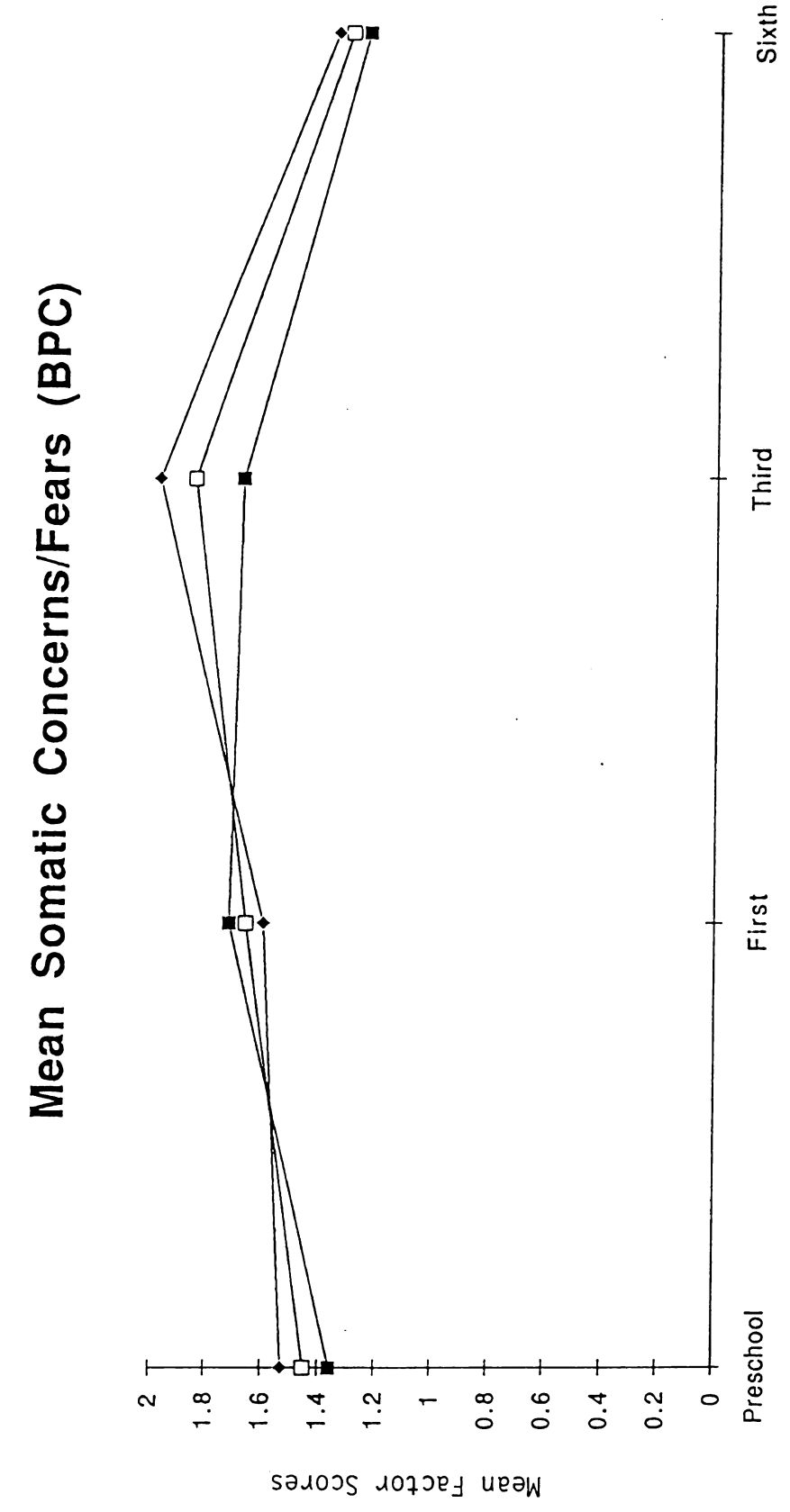


Figure 29 Mean Somatic Concerns/Fears Subscale Scores (modified BPC)

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