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Irrational beliefs in conduct-disordered, anxiety/mood-disordered and educational groups of children: Validation of the Common Beliefs Survey - Revised for Children

Lowery, Susan Ellen, Ph.D.
The Ohio State University, 1989

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IRRATIONAL BELIEFS IN CONDUCT DISORDERED, ANXIETY/MOOD
DISORDERED AND EDUCATIONAL GROUPS OF CHILDREN:
VALIDATION OF THE
COMMON BELIEFS SURVEY - REVISED
FOR CHILDREN

Dissertation

Presented in Partial Fulfillment of the
Requirements for the Degree Doctor of
Philosophy in the Graduate School of
The Ohio State University

By
Susan Lowery, B.Mus., M.A.

***************

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CHAPTER I
INTRODUCTION

This research is designed to examine the role of beliefs in the emotional and behavioral adjustment of children and adolescents. A newly revised instrument, The Common Beliefs Survey - Revised for Children, will be evaluated in terms of its validity in discriminating between children who are disturbed, and those not identified as disturbed. In addition, the ability of the instrument to differentiate between distinct groups of children (behaviorally disordered as compared to anxiety/mood disordered) will be explored.

The Cognitive View of Psychological Adjustment

self-efficacy (Bandura, 1977); self-instructional training procedures (Meichenbaum, 1977); and attribution therapy (i.e., Schachter & Singer, 1962; Kelley, 1967; Lowery, Denney & Storms, 1979); is noted. Despite the increased evidence for the efficacy of these therapies (e.g., Bernard & DiGiuseppe, 1989; Boutin & Tosi, 1983; Di Guiseppe, Miller & Trexler, 1979; Moleski & Tosi, 1976; Reardon & Tosi, 1977; Reardon, Tosi & Gwynne, 1977; Rudy, Tosi & Reardon, 1977; Tosi, Judah & Murphy, 1988), the efforts to extend these approaches to explaining and treating childhood behavioral disorders is still only beginning. Cognitive behavioral or experiential forms of therapy may be of particular value because these therapies emphasize specific focusing on the cognitive processes associated with various emotional disturbances.

There appears to be one reason why the cognitive view has, perhaps, the greatest utility for conceptualizing and treating psychological maladjustment. Many scholars have arrived at the conclusion that significant improvements in client functioning results from fundamental changes in the way the clients view themselves and their world (Bernard & Joyce, 1984; Schwarzer, 1986). Many have indicated that therapeutic changes result from the client learning how to redirect and modify their self-talk. Frank (1961) in discussing therapeutic change, accords a major role to changes in client's perceptions and assumptions. According to Strupp (1969), a client acquires a new set of beliefs as a result of traditional therapy. Murray and Jacobson (1978) in summarizing Strupp's work indicate that the general lessons to be learned in therapy "amount to giving up immature beliefs and strategies in favor of more mature, realistic, and responsible patterns." (p. 65)
The different cognitive-behavioral approaches have in common a consideration of verbal mediational factors (e.g., cognitive skills, self-instructions, irrational beliefs, attributions, and negative thinking). A variety of childhood disorders (e.g., aggression, hyperactivity, and impulsivity) are being increasingly analyzed in terms of mediational deficits. Inappropriate behavior (excessive or insufficient action tendencies) is seen as deriving from the child's inability to utilize effective mediational factors (Di Giuseppe & Bernard, 1983). The quest for the measurement of irrationality or cognitive distortion, is central to CBM, most notably RET theory, and is evident in the number of assessment instruments, primarily for adults (i.e., Bard, 1973; Bessai, 1978; Hartman, 1968; Jones, 1968; MacDonald & Games, 1972; Malouff & Schutte, 1986), which have been developed towards this end. The need for this kind of valid instrumentation remains largely unmet for use with children and adolescents.

Relationship Between Beliefs and Adjustment

Irrational beliefs as a cause of maladjustment, depression and anxiety were first formulated by Albert Ellis (1962, 1973; Ellis & Bernard, 1985; Ellis & Dryden, 1987). Ellis set forth an A-B-C model of one's experiencing and interpreting events in one's life. Rational beliefs are cognitions, ideas and philosophies that aid people in fulfilling their basic or most important goals. Irrational beliefs sabotage and block this striving to fulfill goals. Within the RET framework that therapist helps the client identify, examine and redefine beliefs in order that the client pursue a more rational lifestyle. Based on clinical observation, Ellis has
listed 12 basic irrational beliefs (see Appendix A) that he contends underlie emotional disturbance (Ellis, 1962, Ellis & Harper, 1975).

Not only is there an interest in examining general irrational beliefs and maladjustment, but a further step involves the exploration of relationships between beliefs and specific disturbances. The specificity of attitudes hypothesis (Grace & Graham, 1952) provides a model for the investigation of the relationship between attitudes or beliefs and disturbance. Grace and Graham's hypothesis of the attitude specificity of psychosomatic disorders evolved from Alexander's (1950) psychoanalytic theory of psychosomatic conditions. They suggest that a specific relationship exists between the attitude towards a specific stimulus and the physiological changes which occur in response to that stimulus. Through their investigations (i.e., Graham, Kabler & Graham, 1962; Graham, Lundy, et al., 1962), it was found that different psychosomatic diseases are associated with different attitudes. This line of thinking has been further advanced in the RSDH literature (i.e., Forman, Tosi & Rudy, 1985; Howard, Reardon & Tosi, 1982; Tosi, Rudy, Lewis & Murphy, 1988), through the examination of the specificity of irrational attitude patterns in psychophysiological disorders, primarily in adult populations.

The relationship described in Graham's studies is supported by Ellis's (1962, 1973) RET theory of emotional disturbance. However, Ellis extends the effects of specific attitudes or beliefs from physiological changes to emotional responses and disturbances. In the A-B-C model provided by Ellis, A represents the event and C the consequences. Ellis states that it is not A which affects C, but the interpretations, attitudes
or beliefs (B) an individual holds in relation to that situation or event which effect the emotional state or response. Lazarus (1966) has noted that if one perceives the same stimulus as either harmful or innocuous, he/she will feel either anxiety or neutral about it, respectively. The hypothesis suggested by Ellis has received considerable clinical and empirical support (i.e., Bard, 1980; Beck, 1967; Boutin & Tosi, 1983; Gorman & Simon, 1977; Gwynne, Tosi & Howard, 1978; Hale & Strickland, 1976; Howard, Reardon & Tosi, 1982; Meichenbaum & Cameron, 1974; Moleski & Tosi, 1976; Reardon, Tosi & Gwynne, 1977; Thyer, Miller, Gordon & Papsdorf, 1982; Tosi, 1974). Therefore, research has identified a relationship between irrational beliefs and psychiatric symptomatology and emotional disturbance in adults, however, little research has been done on the relationship between irrational beliefs and psychological adjustment in children and adolescents (Spirito & Erickson, 1979).

The CBM working assumption that the irrationalities of children have similarities with those of adults needs to be investigated empirically. Researchers in the field (e.g., Bessai, 1977) suggest administration of instruments measuring irrational beliefs to groups along the dimensions of age and "mental health" to see if the groups differ significantly. The lack of a research base for validating the manifestations and consequences of the irrational beliefs of children is recognized.
Theoretical Background

A variety of theorists in the areas of personality and social
psychology have addressed the issue of beliefs. Ellis (1962, 1973) and
Karen Horney (1937, 1950) emphasize the functional role of beliefs,
whereas others have addressed the structural organization of beliefs.
Horney has emphasized the importance in the development of neuroses of
the irrational demands one makes on him/herself and the outside world.
She refers to these demands as the "tyranny of the should" (Horney,
1950). The role of the "should" for Horney was an attempt to maintain
an idealized self-image, which resulted in the central problem of
alienation from the real self. Ellis (1973) considers the "shoulds" to be
the main problem.

Rokeach (1973) has emphasized the importance of the structural
organization of the belief system. He distinguishes among three types of
beliefs: 1) descriptive or existential beliefs (those capable of being true
or false), 2) evaluative beliefs (the object of a belief is judged to be
good or bad), and 3) prescriptive beliefs (means or end of action is
judged to be desirable or undesirable) (Bessai, 1977). Rokeach also
distinguishes between an attitude, or organization of several beliefs
around a specific object or situation, and a value, or single belief around
a specific object or situation (instrumental value) or a desirable end-state
of existence (terminal value) (Bessai, 1977). Values guide attitudes across
specific objects and situations. Beliefs, attitudes and values are
organized to form an interconnected belief system. Terminal values are
more central than instrumental values, and instrumental values are more
central than attitudes. Ellis' approach to beliefs differs from that of Rokeach in his focus on the therapeutic implications of beliefs, and his emphasis on content and function rather than structure.

Tosi and Eshbaugh (1976) have examined the structure of an inventory measuring beliefs in adults and their study provides a key linkage between the structural organizations discussed by Rokeach and the therapeutic implications emphasized by Ellis. Results of a hierarchical factor analysis of the Personal Beliefs Inventory (PBI) (Hartman, 1968) revealed a general factor which implies self-defeating cognition, affect and behavior. This factor appeared to describe an individual's belief (evaluation) about self-worth. At a second level, the hierarchical solution revealed the two factors, depression and cognitive rigidity. The third level factors describe irrational attitudes associated with achievement, delay of gratification, moral control, and moral shame and guilt. A limitation of the PBI involves the fact that the above described factor analysis was able to account for only 32 percent of the total variance. The key contribution, however, remains. Beliefs as addressed therapeutically by Rational-Emotive therapists appear to lie within a hierarchical structure, as described by Rokeach. Therefore, a bridge between the functional role and structural organization of beliefs has been established. This hierarchical structure has been identified in the Common Beliefs Survey - III (CBS-III) (Bessai, 1978; Tosi, Forman, Rudy & Murphy, 1986), and its existence in the Common Beliefs Survey - Revised for Children (CBS-RC) (Wise & Lowery, 1988) will be explored.
The basic premise underlying the various forms of CBM addresses the relationship between cognition, as cognitive events, cognitive processes, and cognitive structures, and their accompanying affect, and the further relationship of cognition and affect with behavior. Cognitive theories, specifically RET, start with emotional and behavioral consequences (C), and seek to identify the activating event (A) that appears to have precipitated these consequences. It is, in fact, an individual's beliefs (B), which are evaluations about what happened at A, that may determine C. RET views problem behavior (and emotions) as symptomatic of an underlying belief system that constitutes the core of maladjustment (Ellis & Bernard, 1983). According to Ellis (1973), self-verbalizations of irrational beliefs are often phrased in the form of "shoulds," "oughts," and "musts," or other absolutistic demands. These irrational beliefs are learned during childhood development, and their acquisition and continued acceptance are facilitated by various inborn tendencies and social reinforcement (Ellis, 1973). A goal of treatment is to assist the client in challenging unsound assumptions and beliefs and to reformulate these irrational beliefs into rational self-statement. A key step in this process is the identification of dysfunctional beliefs held by the client.

Definition of the Problem

Cognitive behavioral theories describe the cognitive origins of different emotions, and how different clusters of dysfunctional ideas and beliefs lead to different types of feelings. Such theories hold that maladjustment can be best understood from an examination of the
thinking processes and thought content of an individual manifesting a problem (Beck, Emery & Greenberg, 1985; Bernard & Joyce, 1984; Schwarzer, 1986). Emotional distress appears to derive from a variety of cognitive errors and irrational ideas that are very much a part of the child's cognitive and personality make-up. Beliefs are understandings and assumptions the child holds of him/herself and the world.

The cognitive limitations of the early childhood period can often result in children's acquiring beliefs about themselves and their surroundings that are untrue or irrational (Bernard & Joyce, 1984). The inability to let go of these cognitive distortions may be fundamental to their problems. One of the most common and persistent attitudes that many children acquire early on is that of perfectionism and self-blame (Bernard & Joyce, 1984). They may come to believe that their self worth depends on the realization of unrealistically high standards and continuously put themselves down for mistake making. Hierarchical factor analysis of measures of irrational beliefs have identified a factor relating to self-worth (Tosi & Eshbaugh, 1976) or evaluation (Bessai, 1977; Tosi, Rudy, Forman & Murphy, 1986). Ellis' conception of ego anxiety relates to the irrational belief that one must do well and be approved of. Bernard and Joyce (1984) identify four classes of problems thought to be related to ego anxiety in children which include avoidance or withdrawal from people and/or tasks, attention seeking, and perfectionism.

The seeds of emotional disturbance in children and adolescents are "ideas, beliefs and assumptions they have acquired as a result of the interaction of their developing cognitive-affective characteristics with
social, cultural and familial influences" (Bernard & Joyce, 1984). Most attention has been directed toward the psychosocial or learned aspect of irrationality, however, Ellis' (1975) hypothesis concerning the biological bases of irrationality can not be ignored. Tosi, LeClair, Peters and Murphy (1987) summarize Ellis' work and identify key points which suggest a genetic predisposition for humans to respond irrationally. The grounds for consideration of the biological roots of irrationality include:

- Irrationalities to some extent exist in all people.
- Irrational behavior has been observed in all societies and cultures.
- Humans tend to be rebellious and go against authority.
- High intelligence does not preclude irrationality.
- Insight into one's irrationality rarely eliminates it.
- Even with hard work directed at overcoming irrational tendencies, people find great difficulty in changing.
- Making overgeneralizations appears to be a common human characteristic.
- Humans tend to be naturally hedonistic (pleasure seeking).

While most children and adolescents discard many of their irrational ideas as they grow older, some continue to hold onto these beliefs. It is this group which has the propensity for reality distortion and irrational thinking. These clients are likely to brought into the offices of mental health professionals.

Bernard and Joyce (1984) identify two basic types of beliefs:

1) Beliefs concerning the child's needs, how others and themselves should behave, the manner in which they characterize qualities of events, and the rules they apply and conclusions they draw in judging the worth of themselves and others (Ellis & Grieger, 1977). These beliefs may be considered tendencies toward evaluation and have been identified in factor analytic studies of existing measures of irrational beliefs (Bessai, 1977; Tosi, Rudy, Forman & Murphy, 1986).
2) beliefs a child holds concerning the extent to which they view themselves as being the cause of events which occur in their lives (internal locus of control), or whether they consider outside environmental factors as responsible for their successes and failures (external locus of control, Rotter, 1966). An internal-external locus of control dimension has also been identified in the CBS-III (Bessai, 1977; Tosi, Rudy, Forman & Murphy, 1986).

Research and clinical observation suggest factors important in determining whether a belief will lead to emotional problems include the number of beliefs held and the range of situations in which a child applies these beliefs or ideas. In addition, the strength of the child's beliefs and the extent to which reality is distorted contribute to determining whether such beliefs lead to emotional problems (Bernard & Joyce, 1984).

For purposes of this study, assessment will address the number of beliefs and strengths of beliefs held by children, and will include beliefs from both the evaluation and locus of control general categories of beliefs. The extent to which such beliefs are endorsed by children identified as disturbed, as compared to an educational sample will be explored.

Rationale for the Revision of the CBS-III

Cognitively-oriented theoretical systems have been identified in the literature as providing an explanation for various forms of psychological and psychophysiological disturbances. Clinical and empirical evidence for the efficacy of these forms of therapy is well documented. The
hierarchical structure as well as the functional role of belief systems has been identified in instruments used to measure change in beliefs following intervention. The gap in the literature occurs in regard to the development of dysfunctional beliefs, and the extent to which the relationship between irrational beliefs and disturbance in adults is replicated in a child/adolescent population.

In forms of cognitive-behavioral intervention, there is a need to identify the relevant mediational factors. Di Giuseppe and Bernard (1983) recommend targeting irrational self-statements and beliefs in cognitive assessment. There has as yet been little research on the most common types of logical errors or specific irrational beliefs associated with specific childhood disorders. This may be due, in part, to the lack of reliable and valid instruments which measure general belief patterns in children. Of the scales currently available (Hooper & Layne, 1983; Kassinove, Crisci & Tiegerman, 1977; Knaus, 1974), limited reliability and validity data are provided, and information related to norms is nonexistent.

In making decisions surrounding the development of an instrument to assess the irrational beliefs of children and adolescents, a primary decision is in the method of test construction. Kline (1986) describes methods of test construction which include criterion-keyed or empirical, and rational or factor-analytic. Important differences between these two methods of test construction are seen in item selection. In criterion-keyed tests, items are selected for inclusion based on the ability of each item to discriminate the relevant criterion groups from control groups.
Items may be utilized which have no obvious relevance to the criterion groups. There is no rationale, either theoretical or intuitive, for an item's ability to discriminate between groups. With a test of these type, the emphasis is on the discriminating power.

A problem with empirically constructed tests lies in the lack of psychological meaning. Items which are selected because they can discriminate between groups may well measure a variety of variables. Two scores which may appear identical can be psychologically different, and there is no way to clearly define what the scale actually measures (Kline, 1986). While tests constructed in an empirical manner may serve an effective role in selection, some problems remain.

The development of rationally constructed tests stresses the need for a strict rationale for item writing. Items are created based on a theoretical framework which attempts to explain behavior. Items selected for inclusion in a rationally constructed test are generally subjected to a factor analysis. Through the factor analysis, a construct emerges which accounts for the observed correlations. When a set of items loading a common factor has been produced, the factor must be identified. This becomes part of the study of the test's validity (Kline, 1986). A primary advantage to the rationally constructed test is its utility in providing implications for intervention, based on the underlying theory upon which the test was built. The test which is the subject for this study, the CBS-RC (Wise & Lowery, 1988), is revised from the CBS-III (Bessai, 1978), (see Appendix B) and both are rationally constructed instruments. Items were written to reflect the irrational beliefs posited by Ellis (1973).
The empirical work completed to date in the RSDH literature provides a model for examining the relationship of irrational beliefs to emotional and physiological disturbance. Additionally, RSDH research supplies evidence of the efficacy of instruments measuring irrational beliefs as indicators of client change. The CBS-III (Bessai, 1978) has been utilized in studies in the RSDH literature (e.g., Deutschle, 1986; Forman, Tosi & Rudy, 1985; Tosi, Judah & Murphy, 1988) and has been found to be sensitive to changes in irrational beliefs following cognitive intervention.

Structure of the CBS-III and CBS-RC

The structure of the CBS-III reveals six first order factors and two second order factors. The second order factors correspond to the two basic types of beliefs identified by Bernard and Joyce (1984).

Evaluation - This factor is a summation of the primary factors of (frustrating) perfectionism, self-downing and blame proneness. Bessai (1977) states that evaluation indicates a tendency to evaluate self, others and life, and to place great importance on the evaluations of others. This factor corresponds to the belief that general sense of self-worth, and worth of others can be rated based on specific performances.

(External) Locus of Control - This factor is a summation of the primary factors of Importance of the past, importance of approval and (lack of) control of emotions. This factor reflects the belief that individuals can do little to control their emotions, that the past will continue to effect a person's feelings and actions in the present, and that support and approval from others is necessary.

The summation of both second order factors provides a total score which is considered to be a general estimate of irrationality. Six primary factors under the rubric of the two higher order factors reported by the CBS-III are as follows:

(Frustrating) Perfectionism - This factor represents four of Ellis' irrational belief statements: the belief that one should be completely competent, the belief that one should be able to find
good solutions to life's difficulties quickly, the belief that everything should always go the way an individual wants them to go, and the belief that people should turn out better than they do.

Self-Downing - This scale reflects an individual's tendency to feel guilty, depressed or anxious about perceived personal failure.

Blame Proneness - This factor corresponds to the belief that people can be rated, based on their actions.

Importance of the Past - This factor corresponds to the belief that those things which have happened in the past are all-important, and that past events which have influenced a person will continue to have an effect on the way that person currently feels and behaves.

Importance of Approval - This factor reflects the belief that approval is not only desirable, but is a necessity.

(Lack of) Control of Emotion - This factor corresponds to the belief that unhappiness comes from external sources and that individuals have little control over the way they feel.

The CBS-III was chosen as a basis for revision because it was developed to address weaknesses in other instruments used to assess irrationality, and appears to have statistical and theoretical validity (Tosi, Forman, Rudy & Murphy, 1986). Additionally, the CBS-III has been found to be sensitive to changes occurring in response to intervention (e.g., Deutschle, 1986; Tosi, Judah & Murphy, 1988).

Revision of the CBS-RC

The CBS-RC (see CBS-RC, Appendix C) was revised according to Cattell's (1973) considerations for age adaptation of a psychological test. Following rewriting of items, the Dale-Chall readability was reduced from tenth grade reading level for the CBS-III to fifth grade reading level for the CBS-RC. Due to reduced attention span, test length was reduced to 42 items from 54 items. The likert-response format was retained with higher numbers associated with stronger degrees of belief.
Although Bessai's (1978) CBS-III had approximately equal numbers of rationally and irrationally stated items, each factor was not evenly divided between items stated one way or the other. This resulted in some factors being comprised of almost all rational or irrational statements. The CBS-RC has approximately equal numbers of rational and irrational statements on each of the factor scales. Each of the six primary factor scales on the CBS-RC is comprised of seven items, three or four of which are stated rationally, and three or four of which are stated irrationally.

Attention was devoted to rewriting items to be as clear and unambiguous as possible. Examples from Bessai's (1978) CBS-III and related items from the CBS-RC are provided.

Items from CBS-III:

There is invariably a right, precise and perfect solution to human problems, and it is terrible when this perfect solution to human problems, and it is terrible when this perfect solution isn't found.

One can't help getting down on oneself when one fails at something.

Certain people are bad or wicked and should be severely blamed and punished for their sins.

Something that once strongly influenced one's life determines one's feelings and behavior today because one's past remains all-important.

It is better to obtain one's own self-respect, rather than securing other people's approval.

Human unhappiness not externally caused, and people have the ability to control their sorrows and disturbances.

Related items from the CBS-RC:

For most questions there is one right answer.
People don't have to put themselves down when they fail.
No person is bad, even if he/she does bad things.
The present is more important than the past for how a person acts today.
People need to be loved by others to like themselves.
People can not control their feelings.
The possibility exists that item loadings based on responses by school-aged children may differ from those found by Bessai (1977) with an adult population. Exploration of this possibility represents an important contribution to be made by this study.

Rationale for Population Selection

Criticisms of some of the research in the field is directed toward the focus on the relationships between global measures of irrationality and various forms of psychopathology, and extensive use of nonclinical populations (Denoff, 1987). In order to address such limitations, this investigation proposes to explore the relationship between the endorsement of general irrational beliefs to specific emotional and behavioral disturbances in a clinical population of children.

The study of childhood psychopathology involves the examination of abnormal behaviors:

"That persistently deviate from cultural and developmental norms in either extremes of frequency and intensity, and that are evidenced by impairment in one or more of the following areas of human functioning: intellectual and cognitive, emotional expression and control, and interpersonal relationships." (Knopf, 1979, p. 32)
The populations selected for inclusion into this investigation include the following diagnostic categories: children identified as exhibiting disruptive behavior disorders, and children identified as having anxiety or mood disorders. In addition, an educational group will be utilized for comparative purposes. In order to maximize differences between groups, the anxiety/mood disordered group was drawn from a primarily physician referred outpatient mental health service. The behavior disordered group was drawn from adolescents placed in a juvenile detention facility.

In making decisions surrounding selection of clinical populations to be utilized, two broad classifications of childhood disturbance were used. These include an internalizing - externalizing dimension, and a behavioral - emotional categorization of childhood problems. Achenbach and Edelbrock (1983) describe the results of factor analytic studies utilizing the Child Behavior Checklists (Achenbach, 1978; Achenbach & Edelbrock, 1979) which reveal that the dimension of internalizing - externalizing appears to be a basic structure of childhood emotional disorders. Bernard and Joyce (1984) suggest that the two major categories of interest to persons involved in the treatment of school age children are behavioral and emotional difficulties. In utilizing these classifications, the disruptive behavior disorder group would be considered externalizing and behavioral, and the anxiety and mood disorder group would be considered internalizing and emotional.

One would hypothesize that children differing along the dimensions of internalizing - externalizing and behavioral - emotional difficulties would also differ in the beliefs or mediational factors which underlie
these behaviors. Di Giuseppe and Bernard (1983) suggest that childhood disorders associated with excessive action tendencies (i.e., aggression, hyperactivity, impulsivity) are analyzed in terms of mediational deficits. This might suggest a belief which would not inhibit acting out of impulses. Children who are seen as possessing insufficient action tendencies may hold beliefs which are more likely to over-inhibit their tendency to act. The results of this study will provide information on the extent to which the general irrational beliefs of children can discriminate between two clinical groups, and between clinical and education groups.

**Purpose of the Study**

This study proposes to accomplish two things. Primarily, this study is being conducted as a measure of the validity of a newly developed instrument which purports to measure the general irrational beliefs of children. Extensive research and general field samples have been utilized in the development of the revision of the CBS-RC (Wise & Lowery, 1988), however this study will provide the opportunity to examine the utility of the CBS-RC in differentiating between distinct clinical populations of children.

Cronbach (1984) states that no aspect of the test is more important than the validity, or the soundness and relevance of the proposed interpretation of scores. The end goal of validation is explanation and understanding. Should this project provide evidence of construct validity for the CBS-RC (Wise & Lowery, 1988), individuals who score high on the test should behave as the theory on which is test is constructed (RET)
predicts they will. In the case of this instrument, higher scores are predicted to be associated with greater maladjustment.

Additionally, this study will examine the general irrational beliefs of children and the relationship of childhood maladjustment and the endorsement of irrational beliefs. If levels of general irrational belief endorsement are different in children identified as maladjusted, this measure may prove to be a valuable screening instrument for use in identifying children at risk. The rationale for early identification of childhood dysfunction relies on the evidence that childhood difficulties may be predictive of more severe adolescent and adult maladjustment. The treatment of childhood disorders may serve a preventive mental health function. Additionally, if specific patterns of endorsement are differentially associated with differing populations, this instrument may serve as a starting point for identifying target beliefs to be addressed in interventions.

Research Question

Is the endorsement of specific groups of irrational beliefs, different in male and female children identified as behavior disordered, or anxiety/mood disordered, when examined in relation to an educational comparison group?

Theoretical Hypotheses

Based on descriptions of clinical populations of children found in the literature, it is expected that children who differ along the line of externalizing versus internalizing, and behavioral versus emotional dimensions will differ in the way in which they endorse irrational beliefs.
Children who are characterized as exhibiting excessive action tendencies (behaviorally disordered) are hypothesized to score higher on the external locus of control factor, and on the more specific dimensions of lack of control of emotions and blame proneness.

Children who are considered to be over-controlled (anxiety/mood disordered) are hypothesized to also score higher on both the external locus of control factor, and on the evaluation factor. The more specific dimensions of self-downing and importance of approval are also anticipated to be elevated.

Based on information related to the effects of socialization and gender role stereotyping, as well as prevalence rates for the different clinical syndromes, it is hypothesized that females will score higher on the dimensions of self-downing and importance of approval, and males will score higher on the dimensions of lack of control of emotions and blame proneness.

**Statistical Hypotheses**

The null hypotheses to be investigated in this study follow:

**Main effect for A:**

Multivariate mean vectors reflecting dimensions of irrationality on the CBS-RC from groups of children diagnosed as behaviorally disordered, and anxiety or mood disordered, will not differ from those obtained by children in an educational comparison group.

**Main effect for B:**

There will be no difference in the multivariate mean vectors on dimensions of irrationality measured by the CBS-RC across male and
female children belonging to behaviorally disordered, anxiety and mood disordered, and comparison groups.

Interaction effect:

Multivariate mean vectors from groups of clients diagnosed as behaviorally disordered, anxiety/mood disordered, or a comparison group, are not interpreted as a function of multivariate mean vectors reflecting sex.

Definition of Terms

In RET, the terms belief and belief system refer to that aspect of human cognition that is responsible for the mental health and the psychological well-being of the individual (Ellis & Bernard, 1983). Eschenroeder (1982) wrote that the ABC scheme is a simplification of the complex processes of the perception, interpretation, and evaluation of events and the activation of emotional reactions and behavioral responses:

"The B-element of the ABC refers to rather different phenomena: (1) thoughts and images, which can be observed through introspection by the individual; (2) unconscious processes, which can be inferred post hoc from the individual's feelings and behavior ("unconscious verbalizations"); (3) the belief system underlying the person's thoughts, emotions, and behavior." (p. 275)

Beliefs - Ellis and Bernard (1983) define beliefs as our appraisals and evaluations of our interpretations of reality.
Irrationality - Di Giuseppe and Bernard (1983) identify irrational beliefs as distortions of reality, expressed unconditionally and absolutistically, which lead to inappropriate feelings that often block goal attainment.

Rationality - Rationality is defined by Tosi and Marzella (1975) as a non-static concept based upon logically correct thinking relative to a given set of facts.

The clinical populations will be defined utilizing the Diagnostic and Statistical Manual III - Revised (DSM-III-R) (APA, 1987) criteria for the diagnosis of mental and emotional disorders.

Disruptive Behavior Disorders - This subclass of disorders is characterized by behavior that is socially disruptive. Specific DSM-III-R (1987) diagnoses included in this category are Attention Deficit Hyperactivity Disorder and Conduct Disorder.

Attention Deficit Hyperactivity Disorder (ADHD) - The essential feature of ADHD are signs of developmentally inappropriate degrees of inattention, impulsivity and hyperactivity.

Conduct Disorder - The essential feature of a conduct disorder is a persistent pattern of conduct in which the basic rights of others and major age-appropriate societal norms are violated.

Anxiety Disorders - Anxiety or excessive worry is the predominant clinical feature in this subclass of disorders which include DSM-III-R (1987) diagnoses of Separation Anxiety disorder, avoidant disorder and Overanxious Disorder.

Separation Anxiety Disorder - The essential feature seen in separation anxiety disorder is excessive anxiety concerning separation from those to whom the child is attached.

Avoidant Disorder - The essential feature in the avoidant disorder is excessive shrinking from contact with unfamiliar people which is sufficient in severity to interfere with social functioning in peer relationships.

Overanxious Disorder - The predominant disturbance in individuals identified as overanxious is excessive or unrealistic anxiety or worry.

Mood Disorders - The essential feature of this subclass of disorders is a disturbance of mood, accompanied by either a full or partial manic or depressive syndrome, which is not due to other physical or mental disorders. DSM-III-R (1987) diagnoses in this category include Bipolar Disorder and Depressive disorder.
**Bipolar Disorder** - The essential feature of a bipolar disorder is the presence of one or more manic or hypomanic episodes, usually with a history of major depressive episodes.

**Depressive Disorder** - The essential feature of a depressive disorder is one or more periods of depression without a history of manic or hypomanic episodes.

**Educational Comparison Group** - The comparison group was drawn from a population of middle school students participating in a pilot study involving the CBS-RC. A number equivalent to the clinical samples was randomly drawn from the total educational group. Students who were identified as receiving special classes or services were not included in the pool. Students involved in the pilot study were in the same age range and general geographic area as students in the clinical samples.

**Multivariate mean vector** - The multivariate mean vector, or centroid, is analogous to the mean utilized in a univariate analysis of variance. The mean vector is obtained by averaging scores across all variables.

**Assumptions and Limitations**

For purposes of completion of this research project, the following assumptions were made:

The children being seen in the mental health facilities were appropriately diagnosed and were more similar to other children sharing the same psychopathology than to children with differing pathologies.

The children reported their beliefs openly and honestly on the CBS-RC.

The following limitations need also to be considered in this study:

The populations of children were geographically specific and may not have adequately represented either the general child population or the specific total populations of all children identified as disruptive behavior, or anxiety/mood disordered.
The selection of extreme samples (incarcerated youth and physician referred clients) in order to maximize differences between populations needs to be considered.

The background, problem definition and rationale for this research project has been described. Chapter II will provide a review of the relevant literature, and Chapter III will involve a description of the methodology utilized in the study. Chapter IV will discuss the statistical analysis, followed by the summary and conclusions found in Chapter V.
CHAPTER II

LITERATURE REVIEW

A review of the relevant literature will entail an exploration of the empirical work which provides evidence of the link between endorsement of irrational beliefs and psychological and psychophysiological symptomatology, as well as documentation of the use of cognitive methods of intervention aimed at altering maladaptive beliefs. The development of the CBS-RC from the CBS-III will examined, as will literature relating to the populations selected for this study. Literature searches were conducted utilizing materials listed in Psychological Abstracts.

Empirical Work

Cognitive-Behavioral Treatment

Methods of teaching children and adolescents to talk more sensibly to themselves and thereby to make themselves individually and socially more effective were pioneered by Adler (1927). Within the last 10 years, behavioral scientists have directed increased attention toward studying the extent to which psychological problems of school age children can be modified by psychoeducational and therapeutic programs designed to teach them new ways of thinking about themselves and their environment (Bernard & Joyce, 1984). More practitioners are applying cognitively-oriented techniques to help children and adolescents use their minds to help themselves overcome problems of adjustment and lead happier lives.
Forms of cognitive intervention are currently being used with elementary and secondary level students. When RET is applied in a school setting, it has been variously referred to as rational counseling (Wagner, 1965), rational behavior therapy, rational self-counseling (Maultsby, 1971, 1975), rational emotive education (Ellis, 1971; Knaus, 1974), rational thinking (Cangelosi, Gressard & Mines, 1980), and rational-emotive counseling (Protinsky, 1976).

During the past decade, cognitive strategies have been applied in other "child treatment" settings such as community mental health facilities, child guidance clinics, child psychiatric out-patient units attached to hospitals, social welfare agencies, and in private practice by a variety of practitioners (Bernard & Joyce, 1984). The different cognitive approaches have in common a consideration of verbal mediational factors (cognitive skills, irrational beliefs, self-instructions, attributions, and negative thinking) as central to understanding and modifying childhood maladjustment. No consistent manner of measuring such mediational factors has clearly emerged as the preferred method.

A number of review papers have examined the treatment effectiveness of CBM with children (i.e., Abikoff, 1979; Harris, 1982; Kendall & Finch, 1978; Meichenbaum & Asarnow, 1979). The results of CBM interventions appear to be most encouraging, however long-term improvements which generalize across settings have not been demonstrated. Meyers and Craighead (1984) note that programs which emphasize modification in thinking have demonstrated remediative effects with a variety of child populations. The CBS-RC represents an effort to measure such thinking in the form of beliefs.
Although there is a great deal of literature on the cognitive intellectual development of children, research on the role of cognitions in children's social and emotional development is small by comparison (Urbain & Kendall, 1980). DiGiuseppe and Bernard (1983) note the lack of research on the role of cognitions in causing emotions in children, although theoretical works advocating the use of cognitive forms of therapy with children have been developed (i.e., DiGiuseppe, 1981; Meyers & Craighead, 1984; Tosi 1974; Waters, 1982). The hypothesis that general irrational beliefs and emotional adjustment are related has led to a number of investigations with adults (i.e., Evans & Picano, 1984; Forman, 1979; Gorman & Simon, 1977; Himle, Thyer & Papsdorf, 1982; LaPointe & Crandell, 1980; Nelson, 1977; Newmark, Frerking, Cook & Newmark, 1973; Thyer, Papsdorf & Kilgore, 1983). It has been only recently that the utility of cognitive approaches for both preventing and treating the problems of childhood has begun to be realized.

**Irrational Beliefs and Adjustment**

Little research has been done on the relationship between irrational beliefs and psychological adjustment in children/adolescents. A summary of the findings currently available in the literature follows. A general relationship between overall rationality and positive adjustment has been identified (Kassinove, Crisci & Tiegerman, 1977; Sandry, 1974), as was a general trend toward rejection of irrational ideation with age. In addition, relationships between overall endorsement of irrational beliefs and scales measuring conduct disorder, depression, neuroticism and anxiety have been found (DiGiuseppe & Kassinove, 1976; Spirito & Erickson, 1979). Denoff's (1987) concern about the loss of information by
using only total irrationality scores applies here. However, a relationship between irrationality and psychological difficulties in children does appear to be clearly indicated.

Other research does provide evidence of relationships between more specific groups of beliefs and emotional/behavioral disturbances. Denoff's (1987) research reports that irrational beliefs were found to be differentially associated with adolescents in treatment for drug abuse as compared to runaways. Results suggested that different belief dimensions emerged as significant predictors to criterion measures of both clinical populations. Beliefs reflecting avoidance and (lack of) control of emotions were significant for runaways, while catastrophizing beliefs were the most important predictor of drug use, and blame proneness was significant for males but not females.

These studies, while few in number, document the existence of a relationship between irrationality and emotional/behavioral problems in children/adolescents. The need for a reliable instrument which can be used in research is evident, to provide consistency in the beliefs being examined in different studies. In order to explore developmental trends and the development of dysfunctional beliefs, the first step would be to examine the endorsement pattern of children and adolescents on the beliefs which have already been utilized in studies with adults. As the relationship between irrational beliefs and psychiatric symptomatology in adults has been well documented, the literature examining results following cognitive forms of intervention will now be summarized.
Cognition and Intervention

Cognitive Experiential Therapy (CET) or Rational Stage Directed Hypnotherapy (RSDH) (Boutin & Tosi, 1983; Tosi, 1981; Tosi & Baisden 1984) has been developed from a variety of theoretical constructs which focus on the relationship between cognition, affect and behavior. Thus, RSDH may be conceptualized as an expansion of the concepts introduced in RET (Tosi & Black, 1981). In expanding the concepts of RET, RSDH incorporates the concept of attitude specificity (Grace & Graham, 1952), especially in the work directed toward the identification of irrational beliefs associated with psychopysiological disorders (i.e. Forman, Tosi & Rudy, 1985; Tosi, Judah & Murphy, 1988). RSDH proposes that as cognition is modified or restructured, other systems including cardiovascular (Rudy & Tosi, 1980; Tosi, Rudy, Lewis & Murphy, 1988), musculoskeletal (Howard, Reardon & Tosi, 1982), and gastrointestinal (Tosi, Judah & Murphy, 1988) systems are influenced in their operations (Friday, 1987). RSDH is a dynamic systems model which recognizes the reciprocal influence of social and physiological forces in the production of behavior within a developmental context.

This field has been introduced as it constitutes the major source of empirical work on the effects of intervention on cognition (irrational beliefs). The effectiveness of intervention utilizing RSDH on irrational beliefs has been studied with reference to a wide variety of physical, psychological and behavioral disorders including hypertension (Rudy, Tosi & Reardon, 1977; Tosi, fuller & Gwynne, 1980), nonassertion (Gwynne, Tosi & Howard, 1978), migraine headache (Howard, Reardon & Tosi, 1982), and depression (Reardon, Tosi & Gwynne, 1977; Fuller, 1981).
Although the majority of these studies have been conducted utilizing adult populations, some preliminary work with children and adolescents has been completed. Deutschle (1986) has conducted an initial study utilizing RSDH with a group of children identified as impulsive, and Tosi, Fuller and Gwynne (1980) have described the effectiveness of RSDH in the treatment of a hyperactive and learning disabled population. Additionally, Reardon and Tosi (1977) have worked with adolescent females addressing the concerns of self-concept and psychological stress. Research presented thus far seems to indicate that irrational beliefs are associated with a variety of psychological symptoms, and that cognitively-oriented interventions can alter these beliefs. The identification of dysfunctional beliefs may be facilitated by the use of effective instruments. The development of the instrument utilized in this study will now be described.

Development of the CBS-RC

One of the major areas of RET research has been the development of instruments to assess irrationality. In reviewing the literature, Bessai (1977) noted several inadequacies in existing measures including insufficient number of items, inadequate sample sizes, and inappropriate use of items dealing with feelings and symptoms rather than beliefs.

CBS-III

Bessai (1977) worked to construct a self-administered, objectively scored diagnostic instrument to be used to measure specific levels of irrational thinking based on Ellis' (1962, 1973) theoretical framework of irrationality (see CBS-III, Appendix B). Bard (1977) suggests that Ellis' construct of irrationality may be conceptualized in terms of two major
components. The content domain to be sampled was defined by Ellis' 12 irrational beliefs (Ellis, 1962, 1975). The process component, irrational reasoning processes, was not addressed by this instrumentation. Items from nine existing measures were pooled and refined into a 54-item inventory, The Common Beliefs Survey-III (Bessai, 1978). The instrument consists of 54 items set in a 5 point likert-scale response format ranging from strongly agree to strongly disagree. Approximately one-half of the items are stated as rational (25) and one-half as irrational (29).

The original pool consisted of 419 items which were reviewed by a panel of judges familiar with scale construction and/or RET. The following evaluation of the factor analysis on the 189 selected items (CBS-I), yielded 10 first order factors, 9 of which were easily interpretable. The next revision (CBS-II) utilized 100 items and resulted in a 10 factor solution, 9 of which were replicated from the CBS-I. These factors accounted for 76% of the common variance. Four of these factors were judged to be artifactual, due to either similar wording, or based on non-normal response distributions. The changes which were made at this stage resulted in a 49-item matrix yielding a 6 factor solution accounting for 82% of the common variance. To obtain the 54 items on the CBS-III, Bessai (1977) added 5 new equivalent items which resulted in 9 items for each of the six first order factors.

Following this series of revisions, six replicable first order factors based on Ellis' (1962, 1973) irrational ideas emerged. These factors include: perfectionism, self-downing, blame proneness, importance of the past, importance of approval and control of emotions. Replicable second order factors which accounted for 100% of the common variance included
evaluation and locus of control. The factor structure of the CBS-III has been replicated (Bessai, 1978; Tosi, Forman, Rudy & Murphy, 1986). The amount of variance accounted for in the CBS-III (Bessai, 1978) is a substantial improvement over the variance accounted for in the PBI (Hartman, 1968).

Revision of the CBS-III

The CBS-RC was revised following Cattell's (1973) recommendations for age adaptation of a psychological test. Five chief matters to address, identified by Cattell, include: 1) reduction in size of vocabulary and grammatical complication; 2) psychological translation of the same styles of behavior into new domains of interest; 3) adjustment in the form of presentation to the cognitive attention span; 4) alteration in style of presentation; and, 5) respect for attention and fatigue spans in the areas of item length and test length.

The above concerns were addressed by making the following changes. The first consideration was to reduce the readability and grammatical complexity levels. Bessai's (1978) CBS-III was calculated via the Dale-Chall readability formula to be at the tenth grade level. Following rewriting of the items, the Dale-Chall readability for the CBS-RC was reduced to the fifth grade reading level. Additionally, the overall test length was shortened by 12 items to accommodate possible reduced attention span. Finally, children were given an option to have the test administered orally, or receive assistance in understanding items, as needed.

Cattell (1973) describes two ways of expressing extremity in behavior, by intensity and by frequency. Intensity, or strength of belief,
was selected for use in the CBS-RC, although evidence suggests these choices are not independent of each other. Items were limited to six to a page, and an enlarged visual representation of the likert scale was included on each page to facilitate understanding of the strength of belief concept. Directions provided with each survey included an example on which to practice responding. The directions also requested that children complete all items, and informed subjects that there were no right or wrong answers.

**Analysis of the Revision Effort**

The results of the revision effort were administered to a group of approximately 400 middle school children. Children were able to comprehend and respond to the items with minimal assistance. Responses gathered from the pilot study were submitted to the item homogeneity method of analysis (D’Costa, Winefordner, Odgers & Koons, 1970). Pearson correlation coefficients were also obtained. Results from item homogeneity analysis and correlation coefficients supported the six scale structure ([Frustrating] Perfectionism, Self-Downing, Blame Proneness, Importance of the Past, Importance of Approval, [Lack of] Control of Emotion) of the CBS-RC. Items were found to load on the anticipated factor scales, and scales appeared to be reasonably independent from one another. The structure which emerged based on analysis of the educational group data replicated Bessai’s (1978) CBS-III. Item loadings and correlation coefficients follow.
Table 1
Item Homogeneity Analysis Loadings

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### Scale 6 - Lack of Control of Emotions

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Table 2

Pearson Correlation Coefficients

Middle School Group

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<td>0.494</td>
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A multivariate analysis of variance (MANOVA) was completed on the responses from the middle school sample examining scores on the six scales of the CBS-RC across age, race, grade and sex. No significant differences emerged based on grade or race. Effects were found for age, with level of endorsement declining with increasing age. Means and standard deviations for the middle school group are indicated in table 3.
The CBS-RC appears to have retained the positive qualities which made the CBS-III an advantage over other available measures of irrationality. Results of the pilot study suggest the instrument is appropriate for use with children. Literature describing the populations selected for participation in this project will be shared in an effort to predict possible endorsement patterns.

**Disruptive Behavior Disorders**

**Conduct Disorders**

A behavioral assessment of conduct disorders is likely to encompass a broad spectrum of problems - from seriously antisocial acts to moderately troublesome behaviors. In utilizing the two main symptom clusters identified by Achenbach and Edelbrock (1978), conduct disorders
would fall into the undercontrolled type. Undercontrolled behaviors are characterized by aggressive externalizing and acting out. Early work by Peterson (1961) suggested that conduct disorder is a constellation of problems characterized by noncompliance, restlessness, irresponsibility, boisterousness and aggression. A common theme of these problems is their antisocial disruptiveness and social disapproval (Herbert, 1982).

Quay and Werry (1979) identify several frequently found characteristics defining conduct disorder including:

- fighting, hitting, assaultive;
- temper tantrums;
- disobedient, defiant;
- destructiveness of own or other's property;
- impertinent, "smart", impudent;
- uncooperative, resistive, inconsiderate; and
- disruptive, interrupts, disturbs.

Aggressive behaviors or conduct disorders are probably the most common presenting problem among youngsters classified as emotionally and behaviorally disturbed, and may be the most stable of all childhood psychiatric problems (i.e., Epanchin, 1987a; Gersten et al., 1976; Rutter, 1977; Werry & Quay, 1971). Robins's (1966, 1978) classic work on antisocial behavior pointed to several major conclusions:

1) antisocial behavior in childhood is predictive of antisocial behavior in adulthood (replicated by Farrington, 1978; Wadsworth, 1979),

2) serious adult antisocial behavior usually is preceded by childhood antisocial behavior,

3) a majority of antisocial children do not become antisocial adults, and

4) antisocial behavior in childhood is also associated with maladaptive outcomes or disorders other than criminal activity (e.g., schizophrenia).
Such findings have provided strong evidence of continuity while at the same time indicating that there are many "turnarounds" among antisocial children. Children with antisocial behavior have a higher probability of subsequent antisocial behavior, and the search for factors that increase or decrease that risk are essential for improved methods of intervention (Master & Garmezy, 1985).

**Development of Conduct Disorder**

What separates problematic behavior from spells of behavior shown by all children is the frequency, intensity and persistence with which the behavior is manifested. Oppositional, aggressive and other forms of coercive behavior are common in toddlers and older children. A conduct disorder represents a persistence of normal behaviors beyond normal time span. Individuals may be arrested at a demanding (egocentric) stage of development, whatever their age (Herbert, 1982).

Patterson (1975) traces the developmental history of coercive behaviors. With increasing age, behaviors are no longer acceptable to parents who begin to intervene and modify. By age 5, most children use less noncompliance, negativism and negative physical actions than do younger siblings. Hartup (1974) reports a significant decrease in aggression from age 4 to 8 (classroom behavior).

**Cognition and Conduct Disorders**

Researchers are beginning to pay attention to social cognition and how it relates to aggressive behavior (Epanchin, 1987a). Investigators hypothesize that a developmental lag or deficit in social cognition causes much of behavior classified as deviant. For example, Dodge (1980) considers cognition an important factor in inhibiting defensive
aggression (the way an individual perceives an event). Camp (1977) studied verbal self-regulatory behavior of aggressive and normal boys, age 6-1/2 to 8-1/2. The results suggest a production deficiency, or failure to exercise linguistic control over one's behavior. This might also be interpreted as the holding of beliefs reflecting external locus of control.

Cognitive processes contribute significantly to general control mechanisms (Herbert, 1982). The notions of right and wrong are based on adult authority, which is gradually replaced by internalized principles of conscience. Much weight has been given to the development (or failure of development) of conscience, or the internalization of behavioral inhibitions and controls (Hoffman, 1979). These internal inhibitions and controls are hypothesized to reveal themselves in the endorsement of belief statements.

With regard to all externalizing (conflict with environment) behavior problems constituting the conduct disorder syndrome, boys show a higher incidence than girls (i.e., Eme, 1979). Achenbach (1966) suggests that the socialization process (including the stereotyping of gender roles) plays an important part in determining whether a child becomes an internalizer or an externalizer. Contemporary causes of problem behavior may exist in the client's environment, or in his/her thoughts and feelings (organismic variables) (Herbert, 1982). The thoughts, or more specifically, the general beliefs an individual holds will be the focus of this investigation.

Attention Deficit Hyperactivity Disorder

The attention deficit hyperactivity disorder (ADHD) diagnosis is used to describe children having difficulty complying in age-appropriate fashion
with situational demands for restrained activity, sustained attention, and inhibition of impulsive responding.

This disorder has generated a great deal of interest, justified in part by its high prevalence rates, estimated at 3-15% among school-age children (e.g., Bosco & Robin, 1980; Evans & Gualtieri, 1987; Lambert, Sandoval & Sassone, 1978). Hyperactivity or attention deficit disorder with hyperactivity has become the most studied psychological disorder of children to date with more than 2000 articles published on the subject (Barkley, 1982; Weiss and Hechtman, 1979). Hyperactivity is a serious disorder with long term consequences for about 50% of children diagnosed during the primary school years (Evans & Gualtieri, 1987). Hyperactivity is more prevalent among boys than girls with ratios ranging from 6:1 to 10:1 (Evans & Gualtieri, 1987).

There is substantial agreement on the most frequently observed symptoms of the disorder: poor attention span, fidgetiness and restlessness, hard to manage, can not sit still, easily distracted, poor frustration tolerance and poor impulse or self control (Barkley, 1982). Quay & Werry (1979) identify several frequently found characteristics defining an immature behavior pattern including:

- short attention span, poor concentration;
- daydreaming;
- clumsy, poor coordination;
- inattentive;
- lack of interest, bored; and
- lacks perseverance, fails to finish things.

Hyperactivity is not a transient or situation specific behavior disorder. The symptoms tend to be present for several months, are chronic in nature, usually develop in early childhood and affect the child's behavior in many different situations (Douglas, 1972).
Attentional Abilities

There have been attempts to quantify the daily motor activity utilizing behavior rating scales (i.e., Werry, 1968). Early investigators believed the excess activity level was the hallmark of the disorder. Evidence accumulated by others (i.e., Douglas, 1972) on attentional problems suggests the core problems of the hyperactive child are inability to sustain attention and control impulsive responding. This deficit is thought to account for the majority of associated problems.

Studies comparing groups of hyperactive children with normal or conduct disordered are consistently found to differ primarily on measures of attention (Firestone & Martin, 1979; Sandberg, Rutter & Taylor, 1978). Equally consistent differences are found between hyperactive and normal on measures of impulse control. Those identified as hyperactive experienced greater problems with attention and behavioral inhibition or impulse control (Kinsbourne & Caplan, 1979).

Self-Speech and ADHD

Self-control is based on a child's ability to observe his/her own behavior, evaluate it, and appraise the results/consequences (Barkley, 1982). Self-speech and self-instruction are recognized as critical to this process (Kendall, 1977; Skinner, 1954). Copeland (1979) found more immature patterns of self-speech in hyperactive children. As described in the section on conduct disorders, an alternate explanation for this deficit may be the endorsement of a belief system in which an external locus of control for reinforcement predominated.

Luria (1959) and others suggest it may be language, especially the ability to respond to self-directed speech, that permits children to sustain
attention and control impulsive responding beyond the point where a task becomes boring. Some hyperactive children have been found to improve in class behavior and task performance when trained in self-instruction, problem-solving, self-control strategies and cognitive principles (Barkley, Copeland & Sivage, 1980; DiGiuseppe, 1983; Douglas, 1980; Meichenbaum & Goodman, 1971).

**Similarities in Conduct Disorder and ADHD**

There is a controversy as to whether hyperactivity and conduct disorder are essentially the same psychopathological disturbance. Shaffer and Greenhill (1979) point out that both disorders occur more in males than in females, have similar etiologies and are likely to lead to later maladjustment. Lahey, Green and Forehand (1980) using factor analytic methods found separate factors for inattention and excessive motor activity in addition to a conduct disorder factor.

The successful distinction of hyperactivity from general behavior disorders is inconsistent (Lahey, Green & Forehand, 1980; Sandberg, Wieselberg & Shaffer, 1980). While it is beyond the scope of this study to pursue further the rationale of separate versus combined classifications for conduct disordered and attention deficit disordered children, there appears to be enough similarity in behavioral styles (both would be considered undercontrolled, and behavioral rather than emotional) to justify grouping them for purposes of this project. In order to address possible overlap between the use of these diagnostic labels, both categories have been described.
Anxiety and Mood Disorders

Anxiety and mood disorders are classified as internalizing following the dimensions identified by Achenbach and Edelbrock (1979), and as emotional as opposed to behavioral in the categorizations of Bernard and Joyce (1984). Puig-Antich and Gittelman (1982) suggest the possibility that separation anxiety and depressive disorders may represent different forms of affective disorders. In a study involving depressed children, they found that all of the children had pathological levels of separation anxiety. Enough similarity appears to exist in the overcontrolled nature of these disorders to group them for purposes of this study. Quay and Werry (1979) identify the following frequently found characteristics defining an anxiety-withdrawal pattern of behavior:

- anxious, fearful, tense;
- shy, timid, bashful;
- withdrawn, seclusive, friendless;
- depressed, sad, disturbed;
- hypersensitive, easily hurt;
- self-conscious, easily embarrassed;
- feels inferior, worthless;
- lacks self-confidence;
- easily flustered;
- cries frequently; and
- reticent or secretive.

Anxiety Disorders

It is probable that the various anxiety experiences differ in several ways, such as developmental sequence, their pathophysiology, their long term history and perhaps their treatment responsibility (Gittelman, 1985). It is not only the severity of behaviors which is a key criterion in defining abnormality in children, but also the timing of such behaviors. Some characteristics of no psychodiagnostic relevance early in life may be viewed as symptoms later on. Although many forms of anxiety are
appropriate developmental responses in early childhood, they may be considered abnormal, even when not severe, when they occur in middle childhood and beyond.

Considerable attention has been paid to the developmental aspects of anxiety in children. The results are consistent in documenting a pattern in the types of fears present at various ages (i.e., Bauer, 1976). However, there is very little information as to whether there is a developmental pattern to anxiety disorders.

In studies conducted in the U.S. and elsewhere, the average prevalence of fears in children is about 10% (Gittelman, 1985). It is difficult to come up with a stable estimate of the rate of anxiety disorders since studies differ in the fears or worries they inquire about, and in the ages of children which are examined. A number of investigators report that girls are somewhat more fearful than boys (Abe & Matsui, 1981; Bledsoe, 1973; Douglas & Rice, 1979), and have a greater rate of neurotic disorders (Rutter, Tizard & Whitmore, 1981). However, this sex difference is not consistently found (Miller, Barrett, Hampe & Noble, 1971). When this difference appears, it is not clear whether girls are more willing to admit to their fears than boys, or whether they really experience more anxiety (Gittelman, 1985).

Separation anxiety is involved when the stressor is separation from the person who cares for the child, and this particular anxiety may appear suddenly and remit spontaneously (Gardner, 1985; Gittelman, 1985). Avoidant disorder involves a deficit in social interaction and failure to develop age-appropriate relationships. There is a lack of clinical information regarding the characteristics of this condition.
Cognition and Anxiety

Research suggests that children with anxiety disorders are often most responsive to treatment (Epanchin, 1987b). Neurotic youngsters distort and misperceive situations, and overreact to their own thoughts and feelings (Epanchin, 1987b). These youngsters feel upset or fearful; they may know the feelings are unfounded, but they do not know what to do to make the feelings go away. The characteristics of when and how these feelings occur is important (i.e., intensity, duration and frequency). The identification of relevant general irrational beliefs endorsed by anxious children may provide a framework within which to explore these feelings.

Children who are chronically anxious across a variety of situations may be conceptualized as holding beliefs which result in negative self evaluations and overinhibition of behavior. Gittelman (1985) identifies perfectionism and a general self-conscious attitude as psychological concerns associated with overanxious disorder. The examination of the endorsement of general irrational beliefs by children identified as anxious may be a starting point for identifying and treating these dysfunctional beliefs.

Depressive (Mood) Disorders

Depression in children has inspired a significant amount of research. Childhood depression is frequently considered to be difficult to diagnose and to often coexist with other disorders (Brumback, Jackoway & Weinberg, 1980; Carlson & Cantwell, 1980; Cytryn, McKnew & Bunney, 1980; Kovacs & Beck, 1977; Leon, Kendall & Garber, 1980; Schultebrandt & Raskin, 1977). Frequently the coexisting disorder is diagnosed, leading
some researchers and clinicians to label the syndrome "masked depression" or depressive "equivalents" (Carlson & Cantwell, 1980; Glaser, 1967; Puig-Antich & Gittelman, 1982). A common symptom of depression in children is a drop in academic performance. Researchers such as Ambrosini and Puig-Antich (1985), Cantwell (1982), Earls (1984), Epanchin (1987c), and Kashani and Simonds (1979) found prevalence rates of 4 to 8% among preschool children, followed by a marked and significant increase in depressive symptoms from school age to adolescence. This escalating pattern is particularly true for girls who exhibit nearly twice the rate of depressed mood as boys. Additionally, the psychiatric literature reports the onset of manic depressive illness or bipolar disorder as beginning around puberty and possibly earlier (Sylvester, Burke, McCauley & Clark, 1984).

Researchers hypothesized that when young children do not have a warm and supportive relationship with their primary care givers, some of them may blame themselves (i.e. adopt an attitude of self downing) and feel depressed and inadequate (Mahler, 1966). Puig-Antich and Gittelman (1982) note that depressed children have markedly restricted relationships with both their primary care givers and peers. A significant relationship between level of self-reported depressive symptoms and an external locus of control has been identified (Mullins, Siegel & Hodges, 1985). Therefore, children identified as depressed are likely to endorse irrational beliefs including beliefs from both the evaluation and external locus of control factors.
Anxiety/Mood Disorders and Cognition

Cognitive theorists suggest that anxiety and depressive disorders may exist because the child has no coping self-statements to help deal with provoking incidents (Meichenbaum, 1977). This might also be conceptualized as the child utilizing the belief system which leads to the negative evaluation of self, or subjective expectation that one's actions can not have an impact on altering life events. Finch and Saylor (1984) have found that many children identified as depressed are unwilling to attempt a broad range of activities because they believe they "would not be any good at them." (p. 203) This suggests a tendency to evaluate themselves harshly and consider less than perfect performance as a sign of personal worthlessness and inadequacy. Such tendencies are hypothesized to be revealed in a child's endorsement of irrational or dysfunctional belief statements.

The major empirical work in the area of irrational beliefs, associated symptomatology, and treatment effectiveness has been reviewed, as has the development of the instrument which is the focus of this study, and the populations to be examined. The following chapter will describe the methodology.
CHAPTER III

METHOD

The question to be examined in this study was whether male and female children in three distinct diagnostic categories differed in their endorsement of irrational beliefs, as measured by the CBS-RC. This chapter will describe the methodology and structure of analysis.

Selection of the Samples

The clinical samples consisted of clients seeking out-patient services through a child mental health facility, and adolescents incarcerated in a juvenile detention facility participating in the research project. Multiple agencies (two) were utilized to ensure an adequate number of completed questionnaires, and to draw from populations which would represent clearly distinct examples of the diagnostic categories. Since specific populations were utilized to represent distinct groups, generalizability is therefore limited to similar groups (i.e., young adolescents placed in detention facilities and those referred for outpatient psychological services). At the child guidance agency, therapists taking part in the study selected clients from their caseloads who were age 11 to 16. This age range was consistent with the adolescents in the correctional facility. However, subjects in the behaviorally disordered group tended to cluster in the upper range of the 11 to 16 age range (14-16), with clients in the anxiety/mood group being more evenly distributed. Subjects for the
clinical groups were chosen on the basis that their presenting psychological difficulties conformed to those typically found in the target psychopathological groups (disruptive behavior disorders and anxiety or mood disorders). An educational comparison group was drawn using simple random sampling from the pilot study of the CBS-RC.

The sampling for the educational group and the behavioral group took place in the spring and summer of 1988. Following initial analysis of the pilot study data, it was decided to continue with the proposed examination of differences in distinct populations, and a clinical sample representing the anxiety/mood disorder group was collected in the winter and spring of 1989.

Procedure

The author conducted brief presentations and inservice trainings at the mental health facility to encourage therapist participation and to indicate proper procedures. The CBS-RC was administered to individuals presenting for services at the child mental health clinic by therapists who agreed to participate in the data collection for this study. Therapists presented parents with a written summary of their verbal description of the project (see Written Summary, Appendix D). This description indicated that: the topic of beliefs was the focus of the study; participation would involve approximately ten minutes; no risk was associated with participation; and questionnaires could be administered orally if the child so preferred. Subjects were selected to participate only if both the child and parent agreed to such participation, and the informed consent was signed (see Informed Consent, Appendix E).

The script for describing the study to participating clients follows:
"Our agency is working on a study with the Ohio State University. You have been asked to participate in this study which is looking at different kinds of beliefs students have, especially students about your age, between 11 and 16. In this booklet, there are a number of statements. You will need to read each statement and decide how strongly you believe it. The more strongly you believe a statement, the higher the number you will circle. Let's do the example together. The statement is "getting good grades is important." If you do not believe that statement at all, circle the number 1. The number 2 means you believe it, but not very strongly. The number 3 means you believe it somewhat strongly. If you strongly believe it, circle the number 4. If you very strongly believe it, circle the number 5. How strongly do you believe that getting good grades is important? (client responds) So you would circle a ... (indicate appropriate number). Any questions? (Respond as needed) Now you've got it.

It takes most students about ten minutes to respond to the statements. There are no right or wrong answers. We are only interested in what you think. Please be sure to answer every item. If you have any trouble understanding any of the statements, or would prefer to have me read the items to you, I would be glad to help."

Following verification that all items had been responded to, therapists forwarded the completed instrument to the Primary Investigator. This usually involved placing the completed questionnaires in a mailbox assigned to the author for the duration of this project. Each completed instrument was assigned a coded number which was placed on the written summary, informed consent and on the instrument
itself. These coded numbers were used to protect the confidentiality of participants. At no time were clients' names placed on the questionnaires, therefore, it was important that the participating therapists verified that the instrument had been completed prior to placing it in the investigator's mailbox.

At the correctional facility, the author and a number of graduate students participating in departmental research projects conducted all data collection. The procedures were the same as described for the anxiety/mood group, however administrators at the facility granted permission for subject participation, rather than parents. Subjects retained the option to decline participation. Graduate students verified that all items had been responded to, and collected the completed instruments. A roster was prepared by on-site personnel, and each participant was assigned a coded number.

The next step was to identify all questionnaires completed at both sites as belonging to the behavior disordered or anxiety/mood disordered group based on diagnosis of the subject and site of collection. The following information was entered into the computer for each completed instrument: assigned coded number; client age; sex; group membership; and item responses. Once the data had been entered, the questionnaires, written summaries and informed consents were placed in a secure file for safekeeping.

Data was collected for approximately two months at the middle school, for approximately three weeks at the correctional facility and for five months at the child guidance center. Both the educational and behavioral groups were captive, and therefore required less time to
obtain. Since a variety of presenting problems were seen at the child
guidance facility, more time was needed to select out those clients who
were diagnosed as anxiety or mood disordered.

**Description of the Sample**

A total of 46 subjects were utilized to create the clinical sample,
and 38 subjects for the behavioral sample, with an additional 40 randomly
selected for use as the educational comparison group. The breakdown of
completed questionnaires by sex and diagnostic group is summarized in
Table 4.

<table>
<thead>
<tr>
<th>Table 4</th>
</tr>
</thead>
</table>
| Population Totals  
by Sex and Group |
| Behavior | Anxiety/Mood | Education |
| Male      | 22           | 14        | 20        | 56        |
| Female    | 16           | 32        | 20        | 68        |
| N         | 38           | 46        | 40        | 124       |

For purposes of statistical analysis, a total of 18 completed
questionnaires was the target number for each cell. Two of the cells
had less than 18, which negatively impacts on the reliability of the
discriminant function and the solution of the MANOVA. Evaluation of
the effects for interaction between sex and group are most likely to be
impacted. These results will be interpreted with caution.
Examination of the characteristics of the samples indicates that a relationship exists between group membership and sex in the behavioral and anxiety/mood groups. Chi-square analysis dictates a rejection of the null hypothesis of no relationship between sex and diagnostic category. The degree of association as measured by the phi coefficient is 0.276. The extent to which this relationship may effect responses to the CBS-RC will be further evaluated in the next chapter.

In order to evaluate the generalizability of the data collected, the GENOVA (General Purpose Analysis of Variance System) program was utilized. This program, based on the theory of generalizability, calculated Cronbach's alpha for the data. Cronbach's alpha is a measure of internal consistency, which is a form of reliability. Reliability was calculated on the clinical (behavioral and anxiety/mood) groups, which contained an N of 84. With a total of 42 items, 7 per scale, a generalizability coefficient of .73 was obtained. Such a level of reliability is considered acceptable, and indicated participants responded to the items in a consistent manner.

**Statistical Analysis**

The analysis involved an exploration of patterns of endorsement by individuals belonging to differing clinical populations, and to clinical populations as compared to an educational group. Results which revealed differing patterns of endorsement would provide support for the theoretical hypothesis concerning the belief foundations of particular disorders. These same results would provide evidence for the validity of the CBS-RC, in terms of its structure, and its ability to discriminate between distinct populations. Results differing from those anticipated
would be useful in describing the dysfunctional belief patterns of a child/adolescent population, particularly how these might vary from patterns found in adults.

A 2 X 3 multivariate analysis of variance (MANOVA) model was used to examine the data. A factorial design was selected for the analysis in order to test for effects of group, sex and for interaction between group and sex. The six scale scores of the CBS-RC, identified in the item homogeneity analysis ([Frustrating] Perfectionism, Self-Downing, Blame Proneness, Importance of the Past, Importance of Approval, and [lack of] Control of Emotions) were examined across criterion variables. Age as a confounding variable was controlled by limiting participation in the study to subjects who were aged 11 to 16. The 95% confidence level was selected for all tests of significance.

The six cell model for the MANOVA is presented in table 5.

Table 5

<table>
<thead>
<tr>
<th>Model for MANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main effect for A</td>
</tr>
<tr>
<td>for B</td>
</tr>
<tr>
<td>B1</td>
</tr>
<tr>
<td>B2</td>
</tr>
</tbody>
</table>

A1 = Behaviorally Disordered group  
A2 = Anxiety/Mood group  
A3 = Educational comparison group  
B1 = Males  
B2 = Females
Follow up to the MANOVA involved use of appropriate discriminant function analysis (Kachigan, 1986; Tatsuoka, 1974). Results of the analysis are described in Chapter IV.
CHAPTER IV

ANALYSIS OF THE DATA

This chapter will describe the analysis of data and discuss the results.

Statistical Analysis

A box test of homogeneity of dispersion was conducted in order to evaluate the extent to which dispersion or variance was distributed in the different groups. The chi-square results ($p = 0.76$) did not achieve significance. Results of analysis appear to be a result of true differences between groups, rather than to unusual or uneven patterns of dispersion.

A MANOVA was conducted on the data collected from the behavioral, anxiety/mood and educational groups to investigate whether results would support overriding the null hypotheses. The hypotheses addressed relationship of group membership to belief endorsement, sex to endorsement patterns, and possible interaction between group membership and sex. Multivariate tests of significance found main effects for diagnostic group. No significant effect was identified as a function of subject sex, and no interaction between group and sex was found. Failure to identify interaction effects may not be trustworthy due to small sample size. Table 6 illustrates the MANOVA results.
### Table 6

Summary of MANOVA
Main Effects for Group

<table>
<thead>
<tr>
<th>Scale</th>
<th>DF</th>
<th>SS</th>
<th>F value</th>
<th>signif.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>200.17</td>
<td>8.66</td>
<td>** 0.000</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>278.08</td>
<td>11.09</td>
<td>** 0.000</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>29.24</td>
<td>0.79</td>
<td>0.45</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>106.24</td>
<td>3.32</td>
<td>* 0.04</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>92.63</td>
<td>3.72</td>
<td>* 0.03</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>48.55</td>
<td>1.79</td>
<td>0.17</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>Wilks'λ = 0.714</td>
<td>3.27</td>
<td>** 0.000</td>
</tr>
</tbody>
</table>

Main Effects for Sex

<table>
<thead>
<tr>
<th>DF</th>
<th>F</th>
<th>signif.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>6</td>
<td>Wilks'λ = 0.940</td>
</tr>
</tbody>
</table>
The finding of main effects for A (diagnostic group) indicate that individuals belonging to the three populations of children endorsed items on the CBS-RC in ways which differed, one from another. Stated another way, different patterns of endorsement of irrational beliefs do exist in subjects belonging to behavioral, clinical or educational populations. Significant differences were not found for sex, which indicates male and female clients responded to the items on the CBS-RC in a similar manner. Lack of interaction effects indicates that responses obtained by members of differing diagnostic groups are not a function of sex, however the caution based in small sample size needs to be noted.

Four scales (perfectionism, self-downing, importance of the past and importance of approval) were endorsed in significantly different ways by individuals belonging to each of the diagnostic groups. Table 7 reflects the means and standard deviations by groups for each scale, and indicates levels of significant difference.
Table 7
Effects for Group by Scale
Means and Standard Deviations

<table>
<thead>
<tr>
<th>Scale</th>
<th>Behav</th>
<th>Anx/Mood</th>
<th>Ed</th>
<th>signif.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-M</td>
<td>24.84</td>
<td>22.07</td>
<td>19.77</td>
<td>** 0.000</td>
</tr>
<tr>
<td>SD</td>
<td>3.23</td>
<td>3.48</td>
<td>3.44</td>
<td></td>
</tr>
<tr>
<td>2-M</td>
<td>24.97</td>
<td>23.97</td>
<td>19.64</td>
<td>** 0.000</td>
</tr>
<tr>
<td>SD</td>
<td>3.60</td>
<td>3.78</td>
<td>3.41</td>
<td></td>
</tr>
<tr>
<td>3-M</td>
<td>21.84</td>
<td>22.63</td>
<td>23.26</td>
<td>0.454</td>
</tr>
<tr>
<td>SD</td>
<td>4.62</td>
<td>3.68</td>
<td>4.51</td>
<td></td>
</tr>
<tr>
<td>4-M</td>
<td>22.74</td>
<td>21.50</td>
<td>19.10</td>
<td>* 0.040</td>
</tr>
<tr>
<td>SD</td>
<td>3.74</td>
<td>3.98</td>
<td>4.16</td>
<td></td>
</tr>
<tr>
<td>5-M</td>
<td>22.66</td>
<td>21.70</td>
<td>19.62</td>
<td>* 0.027</td>
</tr>
<tr>
<td>SD</td>
<td>3.35</td>
<td>3.93</td>
<td>3.31</td>
<td></td>
</tr>
<tr>
<td>6-M</td>
<td>21.87</td>
<td>19.46</td>
<td>20.08</td>
<td>0.172</td>
</tr>
<tr>
<td>SD</td>
<td>3.48</td>
<td>4.03</td>
<td>3.26</td>
<td></td>
</tr>
</tbody>
</table>

Findings presented thus far provide support for differences in responses on the CBS-RC based on classification into behavioral, anxiety/mood, or educational populations of children. Once it has been established that children belonging to differing groups do respond distinctly to items on the CBS-RC, the next step is to examine the patterns more closely to provide explanations for such differences which are consistent with the theoretical model upon which this project was modeled.
Univariate group comparisons were conducted. In examining group comparisons utilizing Tukey's studentized range (HSD) follow up analysis, a number of relationships between scales and groups were identified. Table 8 summarizes these comparisons.

Table 8

Univariate Group Comparisons

<table>
<thead>
<tr>
<th>Scale</th>
<th>B vs A/M</th>
<th>B vs Ed</th>
<th>A/M vs Ed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfectionism</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Self Downing</td>
<td></td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Blame Proneness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Imp. of Past</td>
<td></td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Imp. of Approval</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack Control Emotions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results of group comparisons identify the belief dimensions which discriminate between behavioral, anxiety/mood, and educational groups of children. Examining the mean values in light of the relationships identified by analysis (Turkey's HSD) provides a method for interpreting the results to responses to the CBS-RC in a way which is clinically meaningful.

On scale 1, Frustrating Perfectionism, all groups differed significantly with individuals in the anxiety/mood disordered group endorsing items from scale 1 to a lesser degree than did the behavioral
group, but to a greater degree than the educational comparison group. Although an attitude of perfectionism is frequently identified in the literature as being associated with children exhibiting anxiety/mood disorders, analysis of the data indicates this belief dimension is even more prominent in children identified as behaviorally disordered. The key difference between the expression of perfectionistic beliefs in these groups may be found in the clearly identified tendencies toward the internalizing as compared to the externalizing of behavioral and emotional impulses.

The patterns were consistent on scales 2, 4, and 5 (Self-Downing, Importance of the Past, and Importance of Approval), with the anxiety/mood and behavioral groups endorsing significantly more irrational items than did children from the educational group. On these scales, differences between the anxiety/mood and behavioral group were not significant. Importance of the Past items may tap a more general tendency toward maladjustment or neuroticism, which would be expected to discriminate between educational and clinical groups. Such a maladjustment suggests a tendency to repeat ineffective behaviors and feel trapped (i.e., unable to alter one's strategies or responses), and to resist change. Literature in the field documents both this resistance and its resulting repetition of previous (dysfunctional) behavior.

Elevated levels of endorsement of Self-Downing and Importance of Approval scales were anticipated in the anxiety/mood group. Their presence in the behaviorally disordered group appears consistent with analysis of the perfectionism dimension. The externalization of frustration associated with high levels of unmet needs for achievement of
unrealistically high self-standards, and approval (both from self and others) may distract observers from the underlying issues. It may be that impulse control mechanisms affect the expression of frustration in attempting to satisfy approval and achievement needs. Children identified as overcontrolled may turn such frustration inward and exhibit self-defeating ideation and behavior. Behaviorally disordered children who are undercontrolled may act out impulsively in the face of frustration and develop conflicts with the environment.

No significant differences were found between any of the groups on scale 3 (Blame Proneness), although it was anticipated that Blame Proneness would be elevated significantly in the behavioral group. The concept of externalizing blame is consistent with behavioral descriptions of conflict with the environment. However, one can conceptualize such conflict as a result of projected or externalized self-blame, which is consistent with results on other belief dimensions examined.

Scale 6 (Lack of Control of Emotion) was one of two scales which differentiated between the two clinical groups, with behaviorally disordered individuals scoring significantly higher than children with anxiety/mood disorders. This relationship was predicted from the literature and appears to capture the difficulties identified in behaviorally disordered clients with impulse control. Persons who typically overcontrol their emotions are seen as anxiety or mood disordered, and those who fail to exercise appropriate control of both emotions and impulses are viewed as behaviorally disordered. Since such over- and undercontrol can be conceptualized as being on a continuum, it is understandable that results of statistical analysis placed the educational
group as not significantly different from the behavioral or anxiety/mood groups, but as falling somewhere in the middle.

Follow up analysis to the MANOVA is directed at providing further explanations for the observed relationships between group membership and pattern of endorsement. The discriminant function analysis was utilized. The discriminant function coefficient uses a weighted combination of predictor variables (in this case, from the scales of the CBS-RC) to classify data into one of the criterion variable groups (i.e., distinct populations of children). The discriminant function weight for each of the six scales follows.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-.483</td>
</tr>
<tr>
<td>2</td>
<td>-.610</td>
</tr>
<tr>
<td>3</td>
<td>.419</td>
</tr>
<tr>
<td>4</td>
<td>-.152</td>
</tr>
<tr>
<td>5</td>
<td>-.278</td>
</tr>
<tr>
<td>6</td>
<td>-.139</td>
</tr>
</tbody>
</table>

The scales most contributory to the discriminant function are scales 1, 2 and 3. These scales (Frustrating Perfectionism, Self-Downing, and Blame Proneness) combine additively to form the Evaluation component
of the CBS-RC. Therefore, results of statistical analysis indicate that belief dimensions measuring Evaluation are most effective in discriminating between children identified as belonging to behavioral, anxiety/mood, or educational groups.

Each subject's discriminant score will depend on the scores obtained on the predictor variables (six scales of the CBS-RC). The discriminant function utilizes values on the predictor variables and weights associated with predictor variables to determine a discriminant score. When multiple predictor variables are used, as with the six scaled scores of the CBS-RC, the discriminant function becomes a derived single predictor variable.

Table 10

<table>
<thead>
<tr>
<th>Discriminant Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centroids and Dispersion Indices</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral</td>
<td>-24.80</td>
<td>3.27</td>
</tr>
<tr>
<td>Anxiety/Mood</td>
<td>-22.39</td>
<td>3.64</td>
</tr>
<tr>
<td>Educational</td>
<td>-17.35</td>
<td>3.96</td>
</tr>
</tbody>
</table>

![Discriminant Function Graph]
Since the discriminant function is negatively related to the scales which contribute most strongly to the observed differences in groups, the group which scores highest on the discriminant function (educational) is revealing less of the irrationality measured by those scales on the CBS-RC. For this study, the scales comprising the evaluation dimension (Frustrating Perfectionism, Self-Downing and Blame Proneness) were endorsed to a lesser extent among children in the educational group than among children in the anxiety/mood and behavioral groups. Children in the behavioral group endorsed these items to a greater extent than either of the comparison groups.

Discriminant scores are compared to a cutoff score which is utilized in the classification of each score to a criterion group. The weights associated with predictor variables and cutoff score for assigning subjects into groups are determined to minimize the number of classification errors. Larger differences between criterion groups result in fewer errors in classification.

The classification results indicate the extent to which correct predictions can be made for identifying whether a child belongs to one of the three identified groups, utilizing the child's responses to the CBS-RC, and the discriminant function. Table 11 provides a summary of the success of classification when the discriminant function is used. The overall percentage of correctly classified cases was 57%. These results represent a significant improvement over classification by chance, which would result in an overall percentage of 33% correctly classified cases. Use of the discriminant function on CBS-RC responses was most
effective in classifying children belonging to the behavioral and educational groups.

Table 11
Classification Results

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>No. of Cases</th>
<th>Predicted Group Membership</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>A/M</td>
</tr>
<tr>
<td>Behavior</td>
<td>38</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>(68%)</td>
<td>(24%)</td>
</tr>
<tr>
<td>Anxiety/Mood</td>
<td>46</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>(41%)</td>
<td>(37%)</td>
</tr>
<tr>
<td>Educational</td>
<td>39</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>(5%)</td>
<td>(26%)</td>
</tr>
</tbody>
</table>

Discussion

Results of statistical analysis result in rejection of the null hypothesis for the main effect for A (group membership). Endorsement of dimensions of irrationality did differ in groups of children diagnosed as behaviorally disordered, anxiety/mood disordered, and an educational comparison group. The hypothesis concerning main effect for B (sex) was retained, as well as the null hypothesis for the interaction effect. Small sample size was noted and therefore confidence in the results of the effects for interaction analysis is reduced.

Theoretical hypotheses based on descriptions of children in the literature suggested that differences would be found in endorsement patterns. It was anticipated that behaviorally disordered children would
score higher on the specific beliefs of lack of control of emotion and blame proneness. Beliefs revealing blame proneness (scale 3) did not differ significantly between any of the groups. Comparison with older adolescents or adults might suggest if the elevations obtained in this study were higher than might be expected. Such a finding would provide support for an immature pattern of evaluation regarding the behavior of others, with does not differ across populations of children. Another factor may interact with such a belief and influence the behavioral responding to it. The search for such a factor might be an appropriate topic for further research.

Scale 6, lack of control of emotion, was found to discriminate between distinct clinical populations of children, with those identified as behaviorally disordered endorsing such items to a greater extent than those identified as anxiety/mood disordered. This finding is consistent with the literature and appears to support the internalizing (low endorsement) versus externalizing (high endorsement) dimension used to classify childhood disturbances. It has been suggested that impulsivity may account for the higher levels of endorsement in the behaviorally disordered group.

Relationships which were not anticipated included the elevation in endorsement by behaviorally disordered children on the scales perfectionism, self-downing, importance of the past and importance of approval. As previously suggested, the importance of the past belief dimension may capture the tendency to become "stuck" in a pattern of ineffectual responding, combined with a resistance to change. Needs for approval endorsed by the behavioral group contradicts a common clinical
perception that such youngsters are detached, and lack empathy and connections to others. These youngsters may value such connections and desire approval from others, but lack the skills for attaining these goals. Impulsive tendencies and behavioral acting out negatively impacts on interpersonal relationships, and thus, on the source for obtaining approval.

Perfectionism is the setting of unrealistically high personal standards. Behaviorally disordered children may approach their standards in an all-or-none fashion. Some behavioral acting out may be due to frustration associated with the experience of never achieving one's goals. One solution by children whose goals are unrealistic may be to give up entirely, to appear to have no goals. This dynamic is closely related to one underlying the obtained elevation on the scale measuring self-downing. Although self-downing is usually conceptualized as more typical of children diagnosed as anxiety/mood disordered, self-downing on the part of behaviorally disordered children may be misunderstood due to its expression. Individuals diagnosed as behaviorally disordered may be more likely to project their self-downing tendencies outward, contributing to conflict in their environments. Projection is an immature form of defense mechanism, and literature in the field has described the behaviorally disordered pattern as an "immature" pattern.

Hypotheses derived from the literature concerning children identified as anxiety/mood disordered suggested the specific beliefs of self-downing and importance of approval would be elevated. Self downing was found to be significantly higher in children identified as anxiety/mood disordered, than in children belonging to that educational comparison group, as anticipated. No significant differences between endorsement
of items on this scale were found when comparing the anxiety/mood and behaviorally disordered groups. This same pattern holds true for the belief measuring importance of approval. Anxiety/mood and behavioral groups were not significantly different from each other, although they each endorsed these items to a significantly greater extent than did children in the educational comparison group. Theoretical hypotheses seem to be supported in children identified as anxiety/mood disordered when taken in comparison to children not identified as disturbed.

Theoretical hypotheses suggested that the scales which comprised the locus of control dimension would be expected to be elevated in both the behavioral and anxiety/mood groups. Two of the beliefs which comprise the locus of control dimension, importance of the past and importance of approval, were found to be more elevated in the behavioral and anxiety/mood groups than in the educational group. The third belief, lack of emotional control was significantly more elevated in the behavioral group than in the anxiety/mood group. These results do not seem to be inconsistent with expectations. The possibility exists that the locus of control dimension taps additional factors (i.e., lack of control of emotion may reflect impulsivity, most notably for the behavioral group). The comparison of locus of control scores in other populations of children/adolescents and adults would provide more information as to whether the obtained scores would be considered elevated.

The hypothesis involving effects based on sex could not be supported by this study. However, it is interesting to note the dependent relationship between sex and group identified by Chi-Square analysis.
Although the relationship was not large, (.28), there does appear to be some evidence for an association which is consistent with the prevalence rates among sexes for the two syndromes examined.

This chapter has presented the results of statistical analysis and discussed the findings in terms of theoretical understandings and conceptualizations of the syndromes represented in the study. The final chapter will summarize this research project and provide recommendations for future studies.
CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

This project has examined the utility of the CBS-RC for use in measuring irrational beliefs in children aged 11 to 16. Irrational beliefs as measured by the CBS-RC were found to be endorsed deferentially in behaviorally disturbed, anxiety/mood disordered, and educational comparison groups. The specific scales which differed between groups were identified. Irrational beliefs were selected as a target for measurement due to the increased influence and popularity of cognitive views of psychological adjustment, and due to evidence supporting the efficacy of CBM therapies.

Results of this study corroborate previous findings which have documented a relationship between irrationality and maladjustment, in that groups identified as disturbed endorsed irrational beliefs to a greater extent than did children in an educational comparison group. Therefore, the relationship which exists between rationality and adjustment in adults also appears to be valid for children/adolescents.

Literature in the field had identified a correlation between overall irrational beliefs and measures of conduct disorder, depression, neuroticism and anxiety. This study provides evidence that children identified as conduct disordered do endorse a higher level of irrational
beliefs than nondisturbed children. This study contributes the additional information that the more specific beliefs of perfectionism, self downing, importance of the past, and importance of approval differentiate between conduct disordered and an educational group of children. In addition, children diagnosed as anxiety/mood disordered also endorsed these same beliefs (perfectionism, self downing, importance of the past, and importance of approval) to a significantly greater level than did those in the educational group. Therefore, children who are identified as depressed and anxious were found to endorse irrational beliefs to a greater extent than nondisturbed children, and the beliefs which discriminated between these groups were identified.

An important contribution of this research is the finding that the beliefs of perfectionism and control of emotion further discriminated between children identified as conduct disordered, and to those diagnosed as anxiety/mood disordered. Such results appear consistent with Grace and Graham's hypothesis concerning the specificity of attitudes, and with Denoff's identification of beliefs which were deferentially associated with runaways and adolescents in drug treatment. This study contributes information regarding the beliefs which appear to be significant in the diagnostic groups studied. Such information provides implications for the focus of cognitive forms of intervention, as well as for the future exploration of the role of irrationality in child/adolescent maladjustment. In particular, similarities and differences in the endorsement of irrationality between diagnostically distinct groups needs to continue to be examined.
Literature has described most children and adolescents as discarding irrational beliefs with increasing age. Those who do not move beyond such beliefs exhibit an immature pattern of thinking. The concept of immaturity in the disturbed groups is consistent with literature which identifies the persistence of normal behaviors (conduct, anxiety and fears) beyond normal time spans as characteristic of these disorders. This study documents the elevated endorsement of immature (irrational) beliefs in children identified as disturbed. Therefore, results of this project corroborate previous findings suggesting a relationship between immature cognitions and psychological maladjustment.

More specifically, the beliefs perfectionism and self blame were identified in the literature as attitudes which are acquired early on in a child's development. These attitudes or beliefs were expressed to a higher degree in the disturbed groups, and in fact, were most contributory to the discriminant function (an evaluation dimension), which differentiated between the three groups of children studied. The presence of immature beliefs, and notably beliefs of perfectionism and self downing contribute to the increased likelihood of inappropriate behavior.

Many scholars have identified changes in beliefs, moving from immature to more responsible patterns, as key to therapeutic gains. Results of this study suggest that consideration be given in forms of intervention to the development of more age-appropriate belief patterns in disturbed youngsters. Challenging the irrational assumptions in the perfectionism, self downing, importance of the past, and importance of approval beliefs are indicated for children identified as conduct
disordered or anxiety/mood disordered. Contrary to contemporary practice, segregation of children into homogeneous diagnostic groups does not appear necessary as the core irrational beliefs appear to be the same. Differential treatment is indicated in addressing difficulties revealed by the conduct disordered group on the dimension lack of control of emotion. Further clarification of the level of endorsement in differing clinical groups is needed in order to make more comprehensive statements regarding treatment implications.

Based on findings of this research, it appears that the behavioral expression of irrational or immature patterns differs in conduct disordered (undercontrolled) as compared to anxiety/mood (overcontrolled) groups, however the underlying irrational demands on the self may be similar. In this project, beliefs measuring perfectionism, self downing, importance of the past and importance of approval were elevated in both clinical groups, as compared to the educational group. This is consistent with Horney's concept of maintaining an idealized self image and the central problem of alienation from the real self. If this is accurate, it may help to explain why treatment efforts aimed at altering self control strategies (without addressing the underlying self evaluation and self demands) reveal only short term and task specific gains. Acquisition of a more rational self image may be necessary for generalization and long term behavioral adjustment to occur.

Recommendations for Future Research

There is a need to explore a number of factors which may interact with general beliefs and impact on the behavioral responses to, and expressions of those beliefs. Several general relationships warrant
further exploration. Although the literature implicates social influences as contributing to the development and maintenance of irrational beliefs, studies which measure endorsement patterns in families have not been conducted. Following along this line of thinking, a comparison between the effects of individual cognitive therapy as compared to family therapy (which would be hypothesized to provide social support for the newly acquired, more rational beliefs) would contribute to our understanding of such social influences.

A number of other issues raised by this study warrant further elaboration. Uneven representation by males and females in the different diagnostic categories raises some important questions. Females were overrepresented in the anxiety/mood group, and males outnumbered females in the conduct disordered group. Whether this pattern reflects differences between the sexes in their vulnerability to these disorders, cultural influences affecting the manner in which beliefs are expressed, or a bias in the diagnostic practices of clinicians can not be answered. An important contribution of a future study in this area would be to gather samples with equal numbers of each sex in a variety of diagnostic categories to determine the extent to which effects for sex or interaction might exist. These same results would challenge clinicians' interpretations of behaviors exhibited by male and female clients.

In addition, the extent to which irrational beliefs as measured by the CBS-RC may be culturally specific could not be addressed by this study. The samples gathered in this study represented children drawn from lower middle class, urban settings. Ethnicity, socioeconomic status, and other demographic variables may influence how such beliefs are
interpreted by individuals. Exploration of this possibility would be an appropriate target for future research.

Information regarding developmental patterns of irrational beliefs has been lacking in the field. Administration of instruments which measure identical beliefs in child, adolescent and adult groups will contribute to the identification of such patterns. The CBS-RC is appropriate for use in such studies as it has been found to measure the same belief dimensions as the CBS-III which is appropriate for administration to adults. Studies have documented changes in irrational belief endorsement following intervention, and have suggested a general decline in the endorsement of irrational beliefs with increasing age. The extent to which intervention is able to produce reductions in irrational beliefs beyond what might be expected based on declines associated with development has not yet been quantified. Additional information related to these changes in irrationality with age are necessary to create an understanding of the development, maintenance and changes in irrational ideation.

To address the limitation of small sample size, and to evaluate whether interactions between sex and group would have been identified with a larger sample, it is recommended to replicate this study. A number of variations involving age, sex and diagnostic category are possible. The collecting of additional information on subjects may help in understanding and explaining errors in classification.

It is recommended that a study be conducted which separates individuals diagnosed as anxiety disordered from those identified as mood disordered. Although literature supported grouping these individuals for
purposes of this study, a field study which examines the appropriateness of such a grouping would help to identify differences which may exist in these diagnostic categories.

Results of this study suggest that scale 6, lack of control of emotion, may be bipolar and reflect an overcontrolled, undercontrolled dimension. Further research is needed to substantiate this possibility.

Useful information could be obtained by correlational studies which examined the relationship between clinicians' estimates of client resistance to change, and the client's obtained scores on the CBS-RC, in particular scale 4, importance of the past. Such a study would have implications for the behavioral expression of held beliefs.

Further evaluation of the blame proneness dimension is indicated. Although no significant differences were identified by this study, examination of groups which differ in age or diagnostic categories may elicit such results. Blame proneness was the third highest scale to contribute to the discriminant function, and must therefore provide additional discriminating ability which was not tapped by this study. In addition, blame proneness and other irrational beliefs may be functional at different times in development or in specific situations. The identification of such situations would be of use in assisting clinicians make decisions as to when cognitive forms of intervention are indicated.

Measuring the effects of intervention on the endorsement pattern of irrational beliefs in children and adolescents is needed. The CBS-RC's sensitivity to changes which occur as a result of intervention needs to be determined. Information evaluating the relationship between severity of disturbance and level of irrationality, and extent to which severity is
mediated by intervention and a reduction in irrational beliefs would be particularly useful to clinicians.

Conclusion

This study has provided evidence for the validity of a newly developed instrument, the CBS-RC for use in evaluating patterns of endorsement in distinct populations of children. The instrument was able to distinguish between clinical and educational groups, and further, between behavioral and anxiety/mood groups. Children identified as behaviorally disordered endorsed irrational beliefs to the greatest extent, followed by children identified as anxiety/mood disordered, and finally the educational comparison group.

Results of the analysis have identified four belief dimensions which distinguish between children identified as disturbed and those in an educational comparison group. These beliefs are perfectionism, self-downing, importance of the past, and importance of approval. In addition, the beliefs perfectionism and lack of control of emotion discriminated between behaviorally disordered and anxiety/mood disordered groups.

It is hoped that this study has served as an initial step in the more comprehensive examination of belief systems and the relationship of such systems to maladjustment in child and adolescent populations.
APPENDIX A

ELLIS' 12 IRRATIONAL BELIEFS
PLEASE NOTE:

Copyrighted materials in this document have not been filmed at the request of the author. They are available for consultation, however, in the author's university library.

These consist of pages:

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84-86
APPENDIX B

BESSATS (1977) COMMON BELIEFS SURVEY - III
APPENDIX C

WISE AND LOWERY'S (1988)

COMMON BELIEFS SURVEY - REVISED FOR CHILDREN
Common Beliefs Survey-RC
Wise and Lowery (1988)

Instructions:

The following statements will be used to help us learn about the kinds of beliefs students have.

For each statement you need to decide how strongly you believe it. The more strongly you believe the statement, the higher the number you will circle.

\[ \begin{array}{ccccccc}
\text{not at all} & + & \text{not very strongly} & + & \text{somewhat strongly} & + & \text{very strongly} \\
1 & + & 2 & + & 3 & + & 4 & + & 5
\end{array} \]

Here is an example:

Statement - "Getting good grades is important."

Remember to ask yourself - How strongly do I believe this statement? - before circling a number.

There are no right or wrong answers. We are only interested in what you think.

Please be sure to answer every item.
CBS-RC Survey

Wise and Lowery (1988)

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1. There is a right way to do all things.

2. Bad feelings are not caused by what happens, people can decide how they feel.

3. People can't help feeling down on themselves when they fail at something.

4. Criminals are bad people and should be punished.

5. No person is bad, even if he/she does bad things.

6. People's actions must be influenced by their past.
7. The way people think about an event does not affect how they feel.

8. Being approved of by others is very important.

9. Mistakes make people feel guilty.

10. A person can overcome the influence of things that happened in the past.

11. People need to be loved by others to like themselves.

12. It is not awful to make mistakes when trying to find answers to problems.

13. People who are unhappy or upset have usually made themselves feel that way.
14. A person's enemies can be forgiven.

15. The present is more important than the past for how a person acts today.

16. People don't have to put themselves down when they fail.

17. It is not important to always handle things in a perfect way.

18. People can not control their feelings.

19. Past events are so strong that they must still bother a person.

20. If a person wants to, he/she can be happy most of the time.
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21. Some people are bad and should be blamed and punished for the things they do.

22. People can't help feeling guilty about things they have done wrong.

23. People do not have to be good at all the things they do to feel good about themselves.

24. If someone treats us wrong, we should think less of that person.

25. The past is over and doesn't have to bother a person now.

26. People can like themselves even when many others don't like them.

27. A person doesn't have to think less of themselves if they don't do something well.
28. If friends ignore a person, that person doesn't have to be upset.

29. For most questions there is one right answer.

30. Having the respect of others is important but not necessary.

31. People who do wrong deserve what they get.

32. Past mistakes must greatly affect the present.

33. If people don't meet their goals, they will think less of themselves.

34. People pretty much cause their own moods.
35. It is awful when things are not the way a person would like them to be.

36. It is better for a person to get respect from others than to respect themselves.

37. It's not true that some people are just bad and should be blamed and punished.

38. The past is important to how a person acts today.

39. Feelings are caused by things that happen.

40. Any job should be done perfectly or else don't do it.
41. It is not necessary to be loved or approved of by every important person.

42. People don't have to feel guilty when they make a mistake.
APPENDIX D

WRITTEN SUMMARY OF INSTRUCTIONS
WRITTEN SUMMARY OF INSTRUCTIONS TO SUBJECT

This agency is participating in a research project which examines the beliefs of children. We are asking for your participation in the study. Your child will be asked to complete a survey by indicating how strongly he or she believes a number of statements. The questionnaire will take about ten minutes. Someone will read the statements to your child if he or she would prefer to take the survey orally. There are no right or wrong answers, we are interested in the kinds of beliefs students have.

Possible benefits of participating in the study for your child are increased awareness of his or her beliefs or attitudes. A summary of your child's responses will be made available to his or her therapist for future exploration and discussion, as appropriate. There are no risks or discomforts associated with participation. Most children find the survey interesting.

We need your permission in order for your child to participate in the study. Your child is free to withdraw from the study at any time with no prejudice. Your child's confidentiality will be protected and his or her name will not be connected with the study. You will receive a copy of this information, as well as a copy of the consent for participation. Your therapist will answer any questions you may have concerning this study. Any questions which your therapist is unable to address to your satisfaction should be brought to Susan Lowery, M.A., Psychology Intern, who is an authorized representative for Dr. Donald Tosi, Professor in the College of Education at The Ohio State University, and Principal Investigator of this study.

Your participation is appreciated.

Witness: __________________________________________

Representative: ___________________________________
CONSENT FOR PARTICIPATION IN
SOCIAL AND BEHAVIORAL RESEARCH

I consent to my child's participation in research entitled: An Examination of Beliefs in Children: Validation of the Common Beliefs Survey - Revised for Children.

Dr. Donald Tosi, Professor in the College of Education at The Ohio State University (Principal Investigator), or his authorized representative has explained the purpose of the study, the procedures to be followed, and the expected duration of my child's participation. Possible benefits of the study have been described as have alternative procedures, if such procedures are applicable and available.

I acknowledge that I have had the opportunity to obtain additional information regarding the study and that any questions I have raised have been answered to my full satisfaction. Further, I understand that my child is free to withdraw consent at any time and to discontinue participation in the study without prejudice to my child.

Finally, I acknowledge that I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me.

Date: ________________ Signed: ____________________

Signed: ________________ (Parent/Guardian)

Signed: ________________ (Investigation Representative)

Signed: ________________ (Witness)

HS-027 Authorized Representative: Susan Lowery, M.A.
REFERENCES


