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THE DEVELOPMENT OF HOPE AND HOPELESSNESS: STRUCTURAL AND FUNCTIONAL ASPECTS

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THE DEVELOPMENT OF HOPE AND HOPELESSNESS:
STRUCTURAL AND FUNCTIONAL ASPECTS

BY
ANTHONY SCIOLI

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF
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IN
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ABSTRACT

Hopelessness was explored from a developmental perspective. The investigation focused primarily on the relative importance of structural vs. functional variables in determining levels of hopelessness in children and adolescents. The two secondary aims of this study were to further clarify the concept of hopelessness, and to assess the construct validity of the Hopelessness Scale for Children (HSC: Kazdin et al., 1983).

Sixty-four children and adolescents scoring either "high" or "low" on the HSC were interviewed. Thirty-two of the subjects were children, 6-10 years of age. One half of these subjects were clinically-involved. The adolescent sample also consisted of thirty-two subjects, who were 13-18 years of age. One half of these subjects were clinically-involved as well.

Functional aspects of hope and hopelessness were assessed from two perspectives; problem-solving skills and general information processing. Problem-solving skills were tapped by presenting conflict-filled scenarios and recording subjects' initial and final appraisals, and the number of alternative solutions they generated. General information processing was assessed with two concept association tasks. Subjects' reaction times were compared

on tasks involving processing of information in a negative-to-positive direction, as opposed to a positive-to-negative direction.

Structural aspects consisted of temporal and extra-temporal conceptions. Subjects were asked to recall or anticipate life-events, to estimate the time of occurrence of each event, its valence, and whether it was self-initiated, or imposed.

In general, high hopeless children and adolescents produced fewer initial and final outcomes, fewer alternative solutions, recalled fewer positive events, expected a greater improvement in the overall quality of their lives, and extended life-events further in time. In children, functional deficits were most critical in predicting levels of hopelessness, while among adolescents, structural alterations involving time conceptions, were the most powerful predictors.

The results suggest a state of hopelessness may be related to behavioral and cognitive-phenomenological aspects, even in children, 6-10 years old. However the relationship between hopelessness and human functioning appears to vary greatly with age. Finally, the results provide some evidence for the validity of the HSC.

DEDICATION

This effort is dedicated to a former mentor; the late Dr. Shula Sommers, whose promising career ended much too soon. Dr. Sommers was a good friend. Her advice and support were instrumental in my decision to pursue a career in Psychology.

Acknowledgement

A project of this kind requires many resources. In approaching such broad constructs as hope and hopelessness I have benefitted greatly from readings and discussions that helped clarify many vague and confusing issues that permeate this area. In this section I wish to acknowledge those who have assisted me in this respect, either through personal communications or their writtern work.

The actual study of individuals who are depressed and/or hopeless can be a formidable one, if only because such people, by definition, can be extremely reclusive and so energy depleted as to make interviewing extremely difficult. When one adds to this problem, the fact that many depressed and/or hopeless children and adolescents come from broken homes, and lead such disorganized lives, it is a wonder that any significant number of such children could actually be studied in a systematic fashion. To accomplish this task, I was able to depend, once again, on many individuals whom I will be mentioning in this section.

First, I would like to thank all the members of my present committee; Henry Biller, Albert Silverstein, and Lisa Harlow , from the Psychology department, and Galen Johnson from Philosophy.

Special thanks are due to my major professor, Henry Biller, who allowed me to pursue such a seemingly diffuse and difficult topic, and for providing support and encouragement throughout the course of this project. I would like to thank Al Silverstein for his help on some of the more difficult philosophical issues, for assisting greatly in the process of delimiting the focus, and for contributing to the methodology section. Lisa Harlow provided invaluable statistical consultation. She remained gracious and supportive, despite my frequent, and often unannounced calls for clarification. Another statistician, Joseph Rossi, who was an original member of the committee, should also be mentioned, for his valuable comments on methodological issues.

I would also like to thank Jim Loy from the Sociology/Anthropology department for allowing me to nominate him each time I needed "outside faculty" for a thesis or dissertation defense, or on the occasion of my comprehensive examination.

Several Psychologists who were not on my committee were nevertheless quite helpful at various phases of this endeavor. James Averill at the University of Massachusetts-Amherst, a leading researcher on the topic of emotion, has been a great help to me since my early days as an undergraduate. At the start of this project

he alerted me to some literature which was extremely useful. I would also like to thank David McClelland, currently at the Henry Murray Center, for taking an interest in this work, and for raising some interesting ideas concerning the findings. Although I have never met Herbert Haberland, I benefitted greatly from reading his dissertation on hope in the aged, and I would be remiss if I did not acknowledge his contribution.

From Bradley Hospital, I would like to thank W. Lexington Grapentine and Jim McGuire for carefully reading my proposal and offering helpful suggestions. Ronald Seifer provided some invaluable computer programming help. Gary Regan was extremely helpful in assisting in the process of obtaining data on the inpatient units. Douglas Robbins, Barry Plummer, Robert Hayden, Jim McGuire, W. Lexington Grapentine, and Greta Francis allowed me to interview children and adolescents on the units they supervised. Paul Kline and Vicky Swiss were instrumental in contacting adolescents who were outpatients. Alan Gordon and Mairin Doherty allowed me to introduce the project to their Day Hospital staff, when I was desperately in need of additional subjects.

In Worcester, Massachusetts many others helped me to find appropriate subjects. Shirley Saffy, principal of Adams Street School, deserves special mention. Shirley

gave me unlimited access to her children, helped me by phoning parents, provided additional contacts within the Worcester school system, and enlisting the help of her teachers, her Assistant Principal, Ms. Gaudette, and her secretaries, Ms. Borci and Ms. Jaworski .

At the Worcester Youth Guidance Center Susan Tritell went out of her way to contact clients she thought might be appropriate for the study. Judy Hahn also made phone calls and enlisted the help of several of her child and adolescent clients. Evan Graber answered numerous administrative questions and provided other contacts in the community. Stuart Fisher arranged for the project to be reviewed by the Institutional Review Board.

Brother Antonio Antonucci of the Catholic Youth Center allowed me to conduct interviews, read my proposal and discussed a variety of religious/philosophical issues, which I found quite interesting and helpful.

Andy Murray of the Woodward Day School and Edward Faron at Worcester South High School gave of their time to find appropriate subjects and arrange interviews.

Finally, I would like to thank my entire family for all their support, encouragement, and patience during my years as graduate student. And I would like to thank my good friend Martha for her warm support and encouragement during the completion of this project.

PREFACE

Can a psychological state be lethal? I believe it can. When animals and men learn that their actions are futile and that there is no hope, they become more susceptible to death. Conversely, the belief in control over the environment can prolong life. The evidence for this fact that I shall now lay out comes from a wide range of sources (Seligman, 1975, pp. 168-169).

The popular literature is full of testimonies of people who have overcome serious illness. Many of these individuals survived even though medical science had predicted their rapid demise. In stark contrast there are innumerable examples of the literally lethal effects of giving up in the face of adversity.

In many societies there exists a rather "pollyanish" view of childhood as an unencumbered and magical time. From this naive perspective children are thought to be immune from such painful states as depression or hopelessness. In academic circles, this view has been reinforced by many who claim that younger children lack the cognitive capacities to maintain or lose hope.

Nevertheless those who know children well, including teachers, child therapists, and parents, have noted for some time that even young children can often appear quite "hopeless".

The purpose of this investigation was three-fold. The primary aim was to explore whether structural and/or functional aspects of hopelessness were affected by development. The two secondary aims were 1) to demonstrate that a clearer, more "scientific" definition of hopelessness could be achieved by a systematic theoretical analysis, combined with an empirical study, and 2) to provide evidence pertaining to the construct validity of the popular and widely used Hopelessness Scale For Children (HSC: Kazdin et al., 1983).

Since states of hope and hopelessness are presumed to affect basic problem solving skills, as well as structural aspects such as time-conception, both possibilities were examined. The central hypothesis guiding this investigation was that hopelessness may indeed exist in younger children, but it's effects or manifestations might differ from those found in adolescents or adults.

The introduction begins with an overview of previous work on the topic of hope and hopelessness. The relationship between hopelessness and depression is explored, along with the question of whether children are susceptible to such feelings.

The latter half of this initial section concentrates on the development of hope and hopelessness, and the

possibility of analyzing these emotions in terms of functional and structural alterations. Recent speculations which have employed creative analyses of language and metaphors are used to introduce these two aspects. The analysis of functional aspects is presented mainly in the form of problem-solving abilities, with some attention given to the potential impact of hopelessness on general information processing. Structural aspects of hope and hopelessness are explored by addressing children's conceptions of past, present, and future time.

While the results and conclusions are presented in terms of "preliminary" or "tentative" findings, a strong case is made for viewing hope and hopelessness as complex, multidimensional emotions that affect different aspects of human functioning in the course of a lifetime.

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INTRODUCTION

Statement of the Problem

Hope and Hopelessness

A feeling of hopelessness is often a component of the depressive experience. Moreover, research suggests that an individual's likelihood of committing suicide is only loosely correlated with the severity of their depression. The real problem, for both children and adults, appears to involve a loss of hope.

The popular literature is full of accounts and testimonies of people who have overcome serious and life threatening conditions. Many cite the critical role of faith, optimism, or hope in their eventual recovery. The medical, psychiatric, and psychological literature abounds with references to the beneficial effects of a positive outlook, and the literally toxic consequences of giving up in the face of illness, trauma or other serious life stresses.

Despite compelling descriptions and powerful anecdotes suggesting that hope and hopelessness are significant moderators of human stress, there has been little empirical work done on these particular emotions, and few systematic analyses have examined their effect on health and illness. For example, while a number of studies

have attempted to relate some global index of "hopelessness" to other variables, such as depression or suicide, there has been little empirical work on the construct of hopelessness itself, and no work at all on whether the experience of hopelessness changes with cognitive development. This continues to be the case, even though research on stress and coping has been a popular concern among psychologists since the 1950's and an interest in Health Psychology, as a specialty area, has been on the rise since the beginning of this decade.

Development of Hope and Hopelessness

In Child Clinical Psychology there is currently a great deal of interest in stress-resistant children. These are children who early in their development have been exposed to multiple stressors and often horrifying experiences; prolonged separation from parents, hunger, poverty, chronic illness, even torture or war. A remarkable fact about many of these children is they grow into relatively healthy and well adjusted adults. Such findings have led investigators to search for stress "buffers", or factors which might lessen the impact of adversity. In many ways this line of inquiry represents a continuation of the work on coping and adjustment which became popular in the 1960's. However, an emphasis on the "development" of coping is a relatively new area of study.

Hopelessness and Development

The notion that children may suffer from experiences of hopelessness or depression is not a recent idea. Anthony (1977) cites the identification of despondent children in the Sixteenth Century and cases of Childhood Melancholia reported in the early 1800's. Nevertheless, in this century the issue of whether children may become depressed or hopeless has generated a considerable degree of controversy. Dramatic shifts in professional attitudes have occurred in a relatively short period of time. In Kanner's (1957) classic survey of child psychopathology there is no mention of depression. In sharp contrast to this, is the position taken in the last two editions of the Diagnostic And Statistical Manual of Mental Disorders (DSM-III; APA, 1980; DSM-III-R; APA, 1987). Both versions specify a single set of criteria for the diagnosis of major depression. These are to be applied to children as well as adults, and a claim is made for a core of symptoms that is relevant across the life span.

Most recently this latter view has come under attack from many who believe it ignores the important and manifold ways in which human development interacts with psychopathology. In the case of depression there is growing evidence of significant age differences in its generation, course, and treatment. At the present time

there is a great need for developmental studies of depressive symptoms and related phenomena such as hopelessness.

It is apparent that much of the flux in opinion which characterizes work in this area is attributable to the ever-changing status of theoretical frameworks, and by extension, the varying conceptions of depression as a "dynamic", "feeling", "cognitive set", "behavioral deficit", or "biochemical imbalance". While the present study does not focus on depression per se, but rather on states of hope or hopelessness as related phenomena of depression in children, some mention of the changes in thinking about depression seems in order. Hopelessness and depression are closely linked phenomena, and conceptions and criticisms regarding either construct carry implications for both. This issue will be taken up shortly. At this point it may suffice to note that while few continue to argue whether children are capable of suffering from hopelessness or depression, there continues to be a great deal of controversy about the degree of "isomorphism" across developmental levels. Stated differently, is the manifestation and/or experience of hope, hopelessness, or depression identical across the life span? Do children who feel hopeless, for example, exhibit the same pattern of thoughts, feelings, or behaviors as adults who are "hopeless?"

Here again, one could argue that achieving a consensus regarding this last issue of isomorphism will be difficult if not impossible due to varying approaches to classification or taxonomy, and biases regarding such terms as "syndrome", "disease", or "disorder". Moreover one must contend with the weight of tradition in the area of emotion, and the long-standing disputes over the meaning of terms such as "emotion", "feeling", "affect", and more recently, "cognition".

Notwithstanding these obstacles, it is this issue of structural integrity over time which continues to be raised at conferences, workshops, and in numerous review articles (Cf. Costello, 1980; Kazdin, 1978; Kovacs, 1975; Lefkowitz & Burton, 1978), and which constitutes the next logical step in the process of understanding states of hope and hopelessness in children.

Focus Of The Present Investigation

The study to be described here attempted to shed further light on these issues by exploring the relative contributions of functional aspects such as problem-solving, and structural aspects such as time conceptions, in predicting levels of hopelessness in children and adolescents. To a lesser extent, this investigation also attempted to provide a more scientifically based definition of hopelessness, and to obtain some further

evidence for the construct validity of the widely used Hopelessness Scale For Children (Kazdin, et al., 1983).

Before the details of this investigation are presented, a number of conceptual issues must be addressed, including the problem of operationalizing a construct such as hope or hopelessness, and the relationship of hopelessness to depression and development. This process begins with a review of previous work on hope and hopelessness.

Background and Significance: Hope and Hopelessness

In his Book, The Varieties of religious experience, William James suggested that "no fact in human nature is more characteristic than its willingness to live on a chance" (James, 1957). Since antiquity students of human behavior have been impressed with the critical role which hope seems to play in human affairs. Discussions of hope appear in the works of Aristotle, Plato, and Seneca (Godfrey, 1987). Hope was considered one of a few "basic" or "primary" emotions by Aquinas, Hume, Hartley, and Kant (Averill, Catlin, & Chon, 1990; Godfrey, 1987).

Historically, there have been two very different conceptions of hope. From the Greeks, we inherit a view of hope as an illusion, dream, or form of deception. Thus Plato refers to hope as an "irresistible affection" that

"leads one astray" (in Averill et. al. in press). Much later Nietzsche (1900) would call hope "the worst of evils, for it prolongs the torment of man." In contrast, within the Judeo-Christian tradition, hope was considered one of the three fundamental, theological virtues, i.e., faith, hope, and charity. From this perspective, hope is viewed as "a light", "a bridge from darkness to light", or a "form of support" (Averill et al., 1990; Breznitz, 1986).

More recently, Jerome Frank (1961), after reviewing 25 years of research on the process and outcome of psychotherapy, concluded that perhaps the common and critical ingredient found in most forms of psychotherapy is the hope it generates in the client. Menninger (1959) wrote of hope's role in promoting mental and physical well-being and expressed great concern that psychiatry and medicine would continue to remain largely ignorant of such a vital element in the recovery process. A sense of hope's importance in human life prompted one of Freud's (1927) last books, The future of an illusion. It was here that Freud explored the need for optimism, faith, and hope as a method of confronting the human condition. Tiger (1979), an anthropologist, has even argued that hope may be rooted in our biology and may be necessary for many human activities which essentially center around plans for the future.

Current explications of hope, as a form of coping may also be viewed against the background of recent interest in cognitive processes, and their role in emotional responses in general (Arnold, 1960; Ellis, 1957; Lazarus, Averill, & Opton, 1970) and in mediating stress reactions in particular (Averill, 1978; Bandura, 1985; Lazarus & Monat, 1968). In the 1960's and 1970's interest in the meaning of "giving up" psychologically gave rise to such ominous sounding titles as The Meaning of Death (Feifel, 1959), Giving Up as a Final Common Pathway to Changes in Health (Schmale, 1974), and The Phenomenon of Unexplained Sudden Death in Animals and Man (Richter, 1959).

Most recently, the significance of having, maintaining, or losing hope has been demonstrated in studies of depression and suicide. For years the tendency among both lay people and professionals has been to associate suicide with severe depression. Over the years numerous studies have linked depression and suicide (Lester, 1972; Stengel, 1964; Resnik & Hathorn, 1973). But recent investigations reveal a more complex picture in which the likelihood of suicide appears only loosely correlated with depth of depression.

The more recent work suggests that both adults and children may seek to end their lives when they become hopeless and believe their current plight is unalterable. Interestingly, Rosen's (1977) survey of the history of

suicide, which includes anecdotes of suicide among the ancient Romans, Greeks, and Jews is full of references to being trapped in an impossible situation.

A number of earlier studies identified hopelessness as a possible "link" between suicide and depression (Beck, 1963; Farber, 1968; Kobler & Stotland, 1964; Minkoff, Bergman, Beck, & Beck, 1973). Other studies mentioned hopelessness as an important predictor of completed suicides (Farberow, 1974; Motto, 1973; Schneidman, 1973). Bjerg (1967) for example, conducted a systematic content analysis of suicidal notes and found that in 81 percent of the notes the writer regarded himself "as having a desire...which could not, cannot, or will not be fulfilled". But many cite the work of Kovacs, Beck, and Weissman (1973) as a major turning point in thinking about the relative contributions of depression and hopelessness to suicide. Kovacs et al. (1973) found a measure of hopelessness did significantly better than a depression inventory in predicting suicidal risk. Further analyses revealed the correlation between depression and suicide was rendered nonsignificant when level of hopelessness was held constant. In essence, the authors demonstrated the relationship between measures of depression and current suicidal intent was primarily due to a common source of variance: hopelessness.

Similar findings were reported shortly thereafter by Beck, Kovacs, and Weissman (1975), who studied nearly 400 suicide attemptors and discovered that, in terms of both clinical ratings and psychometric relationships, hopelessness did indeed account for the association between depression and suicidal intent.

Hopelessness and Depression

A full discussion of the relationship between hopelessness and depression is beyond the scope of this dissertation. Nevertheless since this is an important issue in the context of the study to be outlined, a few words at this juncture may be in order.

It is difficult to offer any simple connection between hope or hopelessness, and depression, because of the diverse conceptions of each of these terms, particularly hope and hopelessness. Moreover at some fundamental level these issues may be conceptualized in terms of something as basic as one's capacity for "goal directed behavior" (cf. Melges & Bowlby) or "action plans" (Miller, Galanter, & Pribram, 1960), and it is possible to develop elaborate models at a variety of levels including biological, cognitive, behavioral, or social.

Most theorists discussing the links between hopelessness and depression view these as conceptually distinct but closely associated phenomena (Haberland,

1972). While some of the more biologically oriented theorists (cf. Piug-Antich, 1983) have conceptualized hopelessness as a consequence of depression, most writers view hopelessness as the more fundamental or basic construct. Lichtenberg (1957) considers hopelessness a necessary but not sufficient condition for depression. Melges and Bowlby (1967) view hopelessness as an underlying dynamic whose structure influences the form of psychopathological processes. A similar position is taken by Gaylin (1968) who believes that despair is the key ingredient in all depressive processes. Leshan (1961) has suggested that despair is a more severe or dangerous condition than depression, "more barren and hopeless". This last comment is interesting in light of the empirical evidence presented earlier which suggested a closer association between suicidal potential and hopelessness, relative to depression and suicidality. (Beck et. al., 1975; Minkoff et. al., 1973)

In short, while there is a presumed close association between hopelessness and depression, the precise connections are difficult to specify at this time and the task of developing a model is made more difficult by the broad nature of the terms employed and the various levels of analyses which appear relevant. For the purpose of the present study, the main point to note here is that historically many have criticized the capacity of children

to experience hopelessness because of its presumed connection on a conceptual level to depression, i.e., it had been (and still is) assumed that similar if not identical cognitive capacities were required for these two emotions to exist.

Hope and Hopelessness in Children

Initial work in this area focused on distressed children experiencing the loss of a parent or caregiver. The early studies of Spitz (1945, 1946) on hospitalized children highlighted the changes in mood that accompanied the grieving process. Bowlby's (1979, 1980) seminal work on separation and loss also described states of sadness, mourning, and grief in children separated from significant others. In the works of these and other early investigators (e.g. Freud and Burlingham, 1944) allusions were made to feelings of longing, or hope for reunion early in the separation process, and states of despair or hopelessness emerging with the passage of time.

Historically the notion of states of hope or hopelessness in children has been criticized by many of the same investigators who have argued against the notion of childhood depression (cf. Bemporad & Wilson, 1978; Rie, 1966). This point is made clearer if one considers the close association between feelings of hopelessness and depression, which was discussed in the previous section,

as well as the assumption that such (hopeless) feelings may play a contributing or even causal role in the generation of depression (cf. Beck, 1900; Minkoff et al, 1983).

Few continue to doubt the existence of some form of childhood depression. The current debate is over the structure of depression in children and the extent to which that structure is isomorphic with the adult form. The same question may asked with respect to hope and hopelessness, i.e., is the experience of hope and hopelessness identical over the life span or are there developmental trends which may be observed?

An important finding which could stimulate further work on this topic was recently reported by Kazdin et al. (1983). This group found that negative expectations toward one self and the future could be assessed in children as young as eight years of age. Moreover they found a pattern of correlations among hopelessness, depression, and suicide, identical to that found in adults, i.e., suicidal potential was more strongly associated with levels of hopelessness than severity of depression. The authors reported no age differences but acknowledged a restricted range in this regard (8-13).

The work of Kazdin et al. (1983) suggests that children may in fact be able to conceptualize the future with enough clarity to generate feelings of hope or

hopelessness. Certainly the recent work on optimism and pessimism in children and adolescents would support this contention (cf. Fischer & Leitenberg, 1986; Saucier & Ambert, 1982; Stipek, Lamb, & Zigler, 1981). There is also an older body of literature on future time conception in delinquent vs. nondelinquent youth that demonstrates many adolescents and even children having rather well formed conceptions of time (Craig, 1964; Stein, Sarbin, & Kulik, 1966; Siegman, 1961).

In contrast, Siomopoulos and Inamdar (1979) have argued that young children may not be subject to experiences of hopelessness because they are incapable of what Piaget (1960) labelled "formal operational thought". Stated differently, these investigators reason that since children are incapable of generating, evaluating, and ultimately rejecting possible solutions to life's problems, they may be immune from painful states of despair or hopelessness.

In anticipation of what is to follow, there are two points that should be made at this juncture; One is that emotions are complex phenomena and hope and hopelessness are no exception. From antiquity to the present, keen observers of emotion have illustrated their multidimensional nature. Perhaps the two most famous examples of this are found in Aristotle's (1941) Rhetoric, and Seneca's (1963) detailed analysis of anger

empirical studies have been conducted to test these ideas. It has also been suggested that an analysis in terms of "structures" and "functions" may be a helpful way to begin to more clearly define what is meant by "hopelessness".

What exactly is meant by the "structure" and "function" of hopelessness? Both of these terms are used in many different and confusing ways by psychologists (cf. Reber, 1985). Typically, functional aspects of behavior refer to its adaptive features, or practical utility.

Functional aspects of hopelessness thus may refer to the fact that individuals in this state do not believe that satisfactory solutions to important problem exist, and because of this, may be deficient in certain problem-solving situations. For instance, recall Melges and Bowlby's (1969) definition of hope and hopelessness in terms of "estimates of the probability of achieving certain goals".

Structural analyses tend to be used when focusing on the organizational features of a phenomenon and when highlighting these aspects as its most salient characteristic. The structural aspects of hopelessness may refer to the way in which conceptions of the past and future are organized. In this respect, recall the frequent allusion to alterations in future time conceptions in the above definitions. For example, Frank's (1968) statement that hopelessness involved "the

inability to conceptualize a tolerable future."

The working model of hopelessness that emerges from this preliminary analysis may be presented in the following terms. Hopelessness is an emotion which is closely related to, but not synonymous with; depression, helplessness, or pessimism. Structurally, hopelessness embodies a set of beliefs about the past and the future. Specifically, these beliefs appear to involve the idea that life has not gone well in the past, and will not improve in the future. Functionally, hopelessness results in problem-solving deficits, partly because individuals do not expect solutions to be found. In addition, it seems reasonable to suspect that such individuals have not had much recent experience with success, which in turn, may (or may not) be due to deficits in certain areas of problem-solving.

Finally, temporal conceptions may lend themselves to subjective reports of recalled or anticipated events, and evaluations of those events. However, the functional or problem-solving aspects of hopelessness require more overt measures of these behaviors, i.e., some index of problem-solving skills as these relate to levels of hopelessness is needed. What follows is a more detailed presentation of these functional and structural aspects, from a methodological standpoint, and in terms of specific hypotheses.

Functional Aspects: Metaphors of Hope

"Can only those who can talk hope? Only those who have mastered the use of a language. That is to say, the phenomena of hope are modes of this complicated form of life."

"One might observe a child and wait until one day he manifests a hope: and then one could say "today he hoped for the first time." But surely that sounds queer! Although it would be quite natural to say "today he said 'I hope ' for the first time."

Ludwig Wittgenstein, Zettel

Recently Lakoff and Johnson (1980) reported on the use of metaphors in reconstructing the cognitive models of certain emotions such as anger and love. From a social constructivist perspective (Averill, 1980; Berger & Luckman, 1979; Gergen, 1980) the way in which people think about emotions, ie., their implicit theories regarding particular emotions can be related to broader social systems (ie. the rules for anger, love etc.) and to individual experience and behavior (ie, emotional experiences and behaviors). According to Lakoff and Johnson (1980) aspects of experience that are poorly delineated are especially likely to become the target of metaphor. The metaphor may help describe, elaborate, explain, and evaluate such experiences. Averill (in press) notes how emotion metaphors evolving in the vernacular and embodying seriously held beliefs may exert considerable influence over the direction of thought.

Averill, Catlin, & Chon (1990), and Breznitz (1986) have begun to explore the metaphors of hope. Averill et. al. (in press) collected metaphorical expressions from books of maxims and folk sayings, thesauri, and dictionaries. In addition, a group of subjects were asked to list three slang expressions related to hope, and these expressions were screened for metaphors. Finally, a few metaphors were obtained from miscellaneous sources (political speeches, novels, etc.). A total of 108 basic metaphors were obtained. A series of informal reduction procedures yielded the following 7 highly abstract metaphors;

METAPHORS OF HOPE (Averill, Catlin, & Chon, in press)

1. A VITAL PRINCIPLE
2. A SOURCE OF LIGHT OR HEAT
3. ELEVATED IN SPACE
4. A FORM OF SUPPORT
5. A PHYSICAL OBJECT OR THING
6. DECEPTION
7. PRESSURE

Breznitz (1986) offers a more limited set of five metaphors culled from his own speculations, analysis of "hope talk", and previous investigations in the area of stress and coping. These are;

METAPHORS OF HOPE (Breznitz, 1986)

1. A PROTECTED AREA
2. A BRIDGE
3. INTENTION
4. PERFORMANCE
5. AN END IN ITSELF

For psychologists adopting a social constructivist perspective and philosophers of "ordinary language", the significance of these metaphors is two-fold; at one level they describe the social rules or norms that underlie hope, and on an individual level they help to structure the various ways in which hope may be experienced.

The present study focuses on two sets of metaphors, identified by both Averill et. al. (in press) and Breznitz (1986), which appear particularly relevant for clinical theory and practice. The first set, labelled "a source of light or heat" by Averill et. al. (1990) and "a bridge" by Breznitz (1986), appears to be tapping that (functional) aspect of hope which allows one to seek ways out of major misfortunes. Breznitz refers to this active, ongoing process as "the work of hope". In Godfrey's (1987) linguistic scheme, this corresponds to the verb form of hope, expressed by the statement "I was hoping". As Breznitz (1986) notes, the metaphor of a bridge lends itself to experimental simulations of directed cognitions through simple word association tasks that may be presumed to tap "the work of hope". Breznitz (1986) has reported a series of simple investigations in which he gives subjects an initial "start" word that carries a definite positive or negative connotation and asks them to arrive, by process of association, at a "goal" word which also carries a clear positive or negative association.

Breznitz (1986) suggests that associations from negatively to positively loaded terms simulates the process or "work" of hoping. In contrast, when thoughts are directed in the opposite direction, and associations flow from positive to negative concepts, this is akin to the process or work of "worrying". Hope, conceived of in these terms, is a process in which cognitions are directed away from that which is construed as negative and towards that which is construed positively. In this sense, it is similar to that (functional) aspect of hope implied by Averill et. al.'s (in press) metaphor of hope as "a bridge" that transports one from areas of darkness to light.

A second set of metaphors encompasses "a form of support" identified by Averill et. al. (in press), and Breznitz's (1986) hope as "a protected area". Both describe a (functional) aspect of hope which invokes the notion of a large or small area of experience that maintains positive features even when all else appears threatening. As Breznitz (1986) notes " 'the work of hoping' concentrates on efforts to protect "the island" (or ego) from being overwhelmed by the surrounding calamities." This aspect of hope is also subject to experimental manipulations through a simple paradigm which asks the child to imagine a protagonist (i.e., another child) in a very difficult situation.

In studies using normal children, Breznitz (1986) modified a simple question that is often a part of standard intelligence tests; Namely, asking the child "what would you do if you were left in the woods and there was no one around to help." Breznitz's (1986) modification involved "testing the limits" by encouraging the child to generate a series of possible solutions to this dilemma. He reports striking individual differences that appear unrelated to intelligence or verbal ability. Breznitz (1986) conceptualizes this task as one method of assessing the "ability to maintain hope." Such a task appears to be related to one aspect of hope which conjures up images of "holding on", "hanging in there", and remaining firm. In short, it seems to describe a facet of hope that could be explained in cognitive terms as a process of generating and maintaining a positive, cognitive set, and which is similarly represented in the metaphor of "a form of support" (Averill, et. al., in press), or "a protected area" (Breznitz, 1986). In the present study this aspect of hope was assessed by combining Breznitz's basic paradigm with a virtually similar coping skills task recently employed by Asarnow et. al. (1987), in which the child is asked to consider a protagonist (another child) who is confronted by three challenging situations, and must try to generate some possible solutions.

Two Sets of Hypotheses
Regarding Functional Aspects of Hope.

1. The work of hope

It was hypothesized that general levels of hopelessness would be related to speed in the process of hoping and worrying in word association tasks similar to the basic paradigm set forth by Breznitz (1986), and described above. Specifically, it was predicted that higher levels of (general) hopelessness would be related to relative ease of worrying (lower reaction time in associating from positive to negative concepts), and greater difficulty with the process of hoping (increased reaction time in the process of association from negative to positive concepts).

2. The maintainence of hope

It was also hypothesized that higher levels of (general) hopelessness would be related to poorer performance on the maintainence of hope task (i.e., the generation of fewer alternative strategies to the dilemma of finding oneself lost in the woods).

Structural aspects: Temporal and Extra-Temporal Conceptions

In both the philosophical and psychological literature there are references to an intimate connection between the hope-hopelessness continuum and conceptions of personal or psychological time. Haberland (1972) quotes Lain Entralgos (1957) who distinguished hope and "mere expectation" in terms of temporal experience. "hope stems from the peculiar temporality of man." ... It involves the perception of the future as "open time", as time which signifies the possibility of change, "In contrast to the closed time of mere expectation." According to Lain Entralgos (1957) in states of despair time is experienced as closed and akin to a prison, while "hope appears as piercing through time."

A number of psychologists and psychiatrists including Schactel (1959), Erikson (1959), and Bettelheim (1967) have commented on disorders in the sense of time and the experience of hopelessness. Both Erikson and Bettelheim have suggested that children who are hopeless experience time as fixed or standing still.

In the present study, a variety of hope-related tasks were used to assess two broad dimensions of time; conceptions regarding the extension of time itself, and one's conception of personal time. In addition, a number

of extra-temporal dimensions were assessed. Haberland (1972) has elaborated on the concept of "time extension" and its presumed relationship to hope:

"In order to hope, one must have the ability to symbolically extend the self beyond its present moment in time into the not-yet-lived future, and also, it would appear into the already-lived past, since hope for the future may partially depend on memories of past satisfactions. The dimension of extension taps this ability" (Haberland, pp. 45-46).

In part, the concept of time extension taps the influence of states of hope and hopelessness on conceptions of the Past and Future. As noted above, a state of hopelessness appears to result in a conception of the future as limited in scope, as "collapsed" in a sense, or "compressed." Feelings of hope and hopelessness are also presumed to affect conceptions of personal time, i.e., an individual's sense or view of how much time they, in particular, have left. Individuals who experience "hopelessness" often speak in terms of "my time is up", or "the end is near."

Haberland (1972) has explored the use of relatively simple tasks which tap conceptions of time's extension, as well as, conceptions of personal time. The former, time extension, is assessed by a procedure in which

subjects are asked to place situations or events in time, and an analysis is made of the distance one projects forward and backward. Conceptions of personal time were assessed by a task that utilizes a time line and invites one to subjectively locate one's point of birth and expected death, in reference to the present. (both tasks are described in further detail in the methods section).

Extra-Temporal Dimensions.

In addition, a number of extra-temporal dimensions were assessed. These are parameters presumed to be related to states of hope and hopelessness, and which have been folded into the time extension task described above. Through careful framing of the questions and post-test ratings it is possible to glean past and future locus of control (i.e., whether the events offered were initiated by them or incurred by them), past and future affect (are the recalled events positive or negative?), and past and future time "density". This last term, "density" was coined by Haberland (1972) as a way of capturing the idea of variations in conceptions of how densely packed or filled one's past or future has been with positive or negative events, and how these may be related to states of hope or hopelessness.

Finally, a slightly more qualitative aspect of personal time was included. This involved conceptions of

general quality of life through time, and was assessed by a self anchoring task originally developed by Kilpatrick and Cantril (1960) to assess self-actualization. The task is a simple one that presents the subject with a ladder and asks them to consider the "worst" and "best" life imaginable. These serve as endpoints on the ladder, and the subject must then locate their position on the ladder at the present time, two years ago, one year from now, and two years from now.

Three Sets of Hypotheses
Regarding Structural Aspects of Hope.

A number of hypotheses were advanced regarding structural aspects of hope. Each of these hypotheses relates general levels of hopelessness to temporal or extra-temporal aspects.

1. Time extension

It was hypothesized that higher levels of general hopelessness would be related to a conception of time as relatively closed or less extended, filled with more negative and less positive affect, less positively dense (fewer positive events over time), more negatively dense (more negative events over time), and involving events happening to the subject rather than self-initiated.

2. Personal time

It was also hypothesized that higher levels of general hopelessness, as well as a conception of time as less extended, would be related to a conception of one's personal time as more limited.

3. Quality of life

Finally, it was hypothesized that higher levels of general hopelessness would be related to lower estimates of quality of life across various time points, and that lower estimates of life quality would also be related to externality on a general measure of locus of control and less positive density on the time extension task (i.e., fewer positive events as a function of time).

Four Sets of Developmental Hypotheses.

Four sets of hypotheses were advanced regarding developmental aspects of hope and hopelessness. These were explored by testing for the presence or absence of age-related interactions, i.e., interactions involving level of hopelessness (high vs. low) and the various dependent variables (severity of depression, severity of psychopathology, the six temporal and extra-temporal variables, and the two functional variables).

To review, although there is a general trend towards recognition and identification of depressive and hopeless states in children, a strong tradition of skepticism and doubt continues. The claims that such states cannot be present in young children is typically based on one of two factors: Namely that children have an undeveloped conception of time, and/or they are incapable of hypothetical thinking (or what Piaget labelled "formal operations"), i.e., children cannot engage in the process of generating and ruling out options which many believe underlies the experience of hopelessness. As stated earlier one could argue that this position assumes a narrow or one-track path to hopelessness, and/or that it is too "cognitive". In any event, the following hypotheses were developed to assess precisely these kinds of issues.

1. It was hypothesized that the relationship between level of general hopelessness and both severity of depression and degree of external locus of control, would not vary significantly as a function of age. This is based in part on the adult literature reviewed earlier, which tended to support the close association among depression, locus of control, and hopelessness. Moreover, although the child literature revealed many arguments for and against the existence of states of depression and

hopelessness in children, there was no evidence suggesting that one of these emotions might evolve before the other.

2. It was hypothesized that the relationship between level of general psychopathology and level of hopelessness would vary significantly as a function of age. Specifically; an age x hopelessness x severity interaction was predicted in which higher severity scores were expected among the high hopeless children (relative to low hopeless children), but not among the adolescents. This expectation was based in part on the childhood stress literature cited earlier (e.g. Chandler, 1983; Rutter, 1985) which alluded to the generation of hopeless states in very young children due to repeated trauma.

This particular analysis offered a variety of possible implications, depending upon one's interpretation of the ultimate findings. For example, if "hopeless" children do not manifest altered time conception in the same fashion as adolescents who are experiencing "hopelessness", but there seems to be a much stronger connection, among children, between level of general psychopathology and hopelessness, this could help to illuminate a different (nontemporal) path or track to states of hopelessness in younger children.

3. It was hypothesized that the relationship between level of general hopelessness and scores on the structural variables involving temporal and extra-temporal dimensions would vary significantly as a function of age. Specifically; an age x hopelessness x structural variable interaction was predicted in which high hopeless adolescents (but not children) would demonstrate a less extended time frame, fewer positive past and future events, a conception of time as more limited, and lower estimates of the quality of life over time. This assumption is based in part on the traditional argument regarding children's immunity from states of hopelessness or despair, i.e., that prepubescent children have undeveloped time conceptions (cf. Bemporad, 1978)

Depending on the overall pattern of findings obtained for this series of analyses, one might be able to incorporate temporal aspects in a larger scheme that traces the various pathways leading to states of hopelessness.

4. It was hypothesized that the relationship between level of general hopelessness and scores on the two functional variables would vary significantly as a function of age. Specifically; an age x hopelessness x functional variable interaction was predicted in which in which high hopeless adolescents (but not children) would

be expected to generate fewer alternative solutions, fewer initial and final positive outcomes, and require more time to associate from negative to positive events, but less time to associate from positive to negative events. It is predicted that among adolescent subjects,

This particular set of hypotheses was based on the notion that such cognitive alterations may be more relevant to experiences of hopelessness among older children, and that younger children who experience feelings of hopelessness may not necessarily have engaged in the process of "exhausting all possibilities" in a cognitive (information processing) sense, or learned to process information in a "downward direction", i.e., continuously transforming positive ideas or images into negative associations.

II. Non-clinical groups

A. child groups

- 5. high hopelessness
- 6. low hopelessness

B. adolescent group

- 7. high hopelessness
- 8. low hopelessness

Child Groups

Four groups of children were compared. The two clinical groups each consisted of 8 children, ages 6-10 (5 males and 3 females in the "high" group and 6 males and 2 females in the "low" group), who were currently inpatients or outpatients of local child and family mental health facilities. The high hopelessness group included children scoring in the clinical range (seven or higher) on the Hopelessness Scale for Children (HSC; Kazdin, et al., 1983). The low hopelessness group consisted of children who scored in the normal range on the HSC (three or lower).

The two nonclinical child groups were drawn from local elementary schools and were restricted to children, ages 6-10, who were not receiving any mental health services at the time of the study (5 males and 3 females in the "high" group and 4 males and 4 females in the "low" group). Again the high hopelessness group

included 8 children who scored in the clinical range on the HSC, while the low hopelessness group consisted of children who scored in the normal range.

Adolescent Groups

As a means of assessing developmental aspects of hope and hopelessness, the study also included four groups of adolescents. The two clinical groups each consisted of 8 adolescents, ages 13-18 (2 males and 6 females in the "high" group and 3 males and 5 females in the "low" group), who were currently inpatients or outpatients at local child and family mental health facilities. The high hopelessness group consisted of adolescents who scored in the clinical range on the HSC, while the low hopelessness group included 8 adolescents scoring in the normal range.

The two nonclinical adolescent groups were drawn from local Junior High and High Schools, and were restricted to adolescents, 13-18 years of age, who were not receiving any mental health services at the time of the study. Again the high hopelessness group consisted of 8 adolescents who scored in the clinical range on the HSC, while the low hopelessness group consisted of 8 adolescents who scored in the normal range on the HSC (0 males and 8 females in the "high group and 5 males and 3 females in the "low" group).

Procedure

Following approval by the University of Rhode Island's Institutional Review Board (IRB), and analogous human subject committees of local school, clinics, and hospitals, the experimenter sought the cooperation of clinical directors, school principals, and/or other designated officials at local schools, clinics, or hospitals. Once this was achieved, child and parent consent forms were distributed to parents of children and adolescents who met the criteria for inclusion in the study (see appendices A. and B. for consent forms).

When consent forms were signed and returned, the experimenter arranged individual sessions for each child to conduct the various semistructured interviews and tasks, and to guide and supervise the completion of questionnaires.

All children and adolescents received the Hopelessness Scale for Children (HSC; Kazdin et al., 1983), The Nowicki-Strickland Locus of Control Scale (NS-LCS; Nowicki & Strickland, 1973), a depression measure, and a series of hope-related tasks to be described below. With the exception of the hope-related tasks, all the instruments were part of the routine battery of instruments given to children and adolescents upon admission to most child and adolescent mental health

facilities. The order in which subjects received these measures is presented in appendix P. A copy of all the instruments appears in appendices C-O.

Instruments

Children's Depression Inventory (Kovacs & Beck, 1977)

The Children's Depression Inventory (CDI; Kovacs & Beck, 1977) is the most commonly cited and thoroughly researched self-report measure of childhood depression (Kazdin, 198 ; Saylor, Finch, Spirito, & Bennet, 1984).

The CDI is a 27 item, self-report, paper and pencil measure that is a downward extension of the Beck Depression Inventory for adults (BDI; Beck & Beamesderfer, 1974). Preliminary versions released in 1975 and 1976 were modified with regard to language, number of items, and numerical coding of potential responses. The revised and final version with 27 items was released in July of 1977 (Kovacs, 1982).

On the current version of the CDI, the child or adolescent is asked to endorse the one of three descriptions that best applies to him or her during the past 12 weeks (e.g., "I feel like crying everyday," " I feel like crying many days," "I feel like crying once in a while"). Responses are scored on a 0-2 scale, with 2

representing the severe form of a depressive symptom and 0 representing the absence of that symptom. The CDI is worded for children between the ages of 8 and 16 and is easily administered in approximately 10 to 20 minutes.

Although a number of studies in the late 1970's and early 1980's presented encouraging findings on the reliability and validity of the CDI, Kovacs (1982) recently criticized many of these as "inaccurate" and "not immediately pertinent" since they employed earlier versions of the instrument (prior to July 1977) or an abbreviated, short form (the SCDI). Nevertheless, some more recent investigations have shown good to excellent reliability and encouraging validity for the CDI.

Saylor et. al. (1984) report test-retest coefficients of .87 for a one week time interval and .59 over a six week span. Split-half correlations ranged from .57 to .73. The Internal consistency of the CDI was also studied, and results from both clinical and nonclinical sample revealed excellent stability across items ($r = .80$ for the clinical group and .97 for the normals). Smucker et. al. (1986) report comparable findings. They discovered test-retest coefficients of .74 to .77 over a three week span, and internal consistency values ranging from .84 to .87.

Discriminant validity was demonstrated by Saylor et. al. (1984). In this study, the authors showed that CDI

means were significantly different for a group of nonselected child psychiatric patients ($M = 10.96$) vs. a control group matched for sex and age ($M = 6.29$). The difference was statistically significant ($t(46) = 2.48, p < .02$). Criterion related validity was also investigated by Saylor et. al. (1984), who classified independently rated children as depressed or nondepressed using a DSM-II based checklist and found that those children classified as depressed had significantly higher CDI scores.

CDI scores were compared with results from a structured interview conducted by a board-certified child psychiatrist. The relationship between CDI scores and the Psychiatric ratings approached significance $r(38) = .30, .05 < P < .10$. In addition, CDI scores were shown to correlate higher in a negative direction, with the Piers-Harris self-concept scale, $r(26) = -.64, P > .001$, indicating that negative self-concept was highly correlated to depression as measured by the CDI.

Finally, high CDI scores were found to correlate with externality, as measured by NS-LCS (Nowicki & Strickland, 1973) $F(.42) = 5.0, P < .05$, and with various childhood measures of anxiety, such as the Children's Manifest Anxiety scale (CMS; Castaneda, McCandless, & Palermo, 1956). $F(1, 34) = 1.24, P < .001$.

Kovacs (1983) has reported a CDI mean of 9.28 ($SD = 7.50$) for 860 normal, Canadian children ages 8 to 14.

Green (1981) reported a nearly identical mean of 9.72 (MN= 7.32) for 630, 12 to 15 year old school children.

Finch, Saylor, & Edwards (1985) administered the CDI to nearly 1200 school children in florida and found a mean of 9.65 (S.D. 7.3) which is remarkably consistent with both the Greene (1981) and Kovacs (1983) findings.

The CDI was used in the present study to provide an index of the severity of depression, i.e., It allowed the investigator compare the hopeless and non-hopeless groups in terms of the severity of their depression.

Children's Global Assessment Scale (Shaffer, et al 1982)

The Children's Global Assessment Scale (CGAS; Shaffer et al, 1982) is a rating scale which provides a unidimensional or global measure of severity of disturbance and adequacy of social functioning. Although a unidimensional global assessment cannot supply the detailed information provided by multidimensional rating scales, it does have advantages as a summary statement. A global assessment scale allows the rater to assimilate and synthesize his or her knowledge about many different aspects of the patient's social and psychiatric functioning and condense it into a clinically meaningful index of severity of disturbance.

The CGAS is an adaptation of the Global Assessment Scale (GAS) developed by Endicott et al (1976) and is designed to reflect the lowest level of functioning for a child or adolescent during a specified time period. As with the GAS, it's values range from 1, representing the most functionally impaired child, to 100, representing the healthiest . Scores above 70 on the CGAS are designated as indicating normal functioning. The instrument contains behaviorally oriented descriptors at each anchor point that depict behaviors and life situations applicable to children 4 through 16 years of age. A copy of the CGAS appears in appendix x.

Extensive work on the reliability and validity of the CGAS has been conducted by Shaffer and his associates (Shaffer, et al 1976). This group relied upon numerous case histories and multiple diagnostic categories in assessing inter-rater reliability, and found the intra-class correlation coefficient to be .84, a value denoting excellent agreement beyond chance. Test-retest reliability was examined over a six-month interval. Five different raters were employed, and paired comparisons of each rater's two different ratings were examined. The five coefficients were .87, .92, .93, .95, and .69., i.e., with one exception, all raters were highly consistent over time. Further evidence of stability over time came from a repeated measures ANOVA, comparing the rater's mean scores

obtained at the two periods. No significant differences across rater or time were found and no interaction effects were revealed.

Both discriminant and concurrent validity were assessed by Shaffer et al (1982). Discriminant validity was examined by comparing mean CGAS scores of a group of outpatient children with a diagnosis of Attention Deficit Disorder, and a group of inpatients with a variety of psychiatric problems. As expected, the mean score of the inpatient group was significantly lower ($P > .001$), indicating that the CGAS was sensitive to differences in level of impairment between inpatients and outpatients. Concurrent validity was explored by comparing CGAS scores with results for the Connors ten-item abbreviated parent checklist (Connors, 1969). The authors found a modest but significant correlation between these two scales ($r = .02$, $P > .05$). They suggest the modest correlation may have been due to the restricted range of scores on the Connors index in the outpatient sample.

The CGAS served as a global index of severity of disturbance for the clinical subjects in the study. This was a key variable to assess in terms of a potential confound which may override other factors in determining general levels of hopelessness.

Children's Locus of Control Scale (Nowicki & Strickland, 1972)

The Nowicki-Strickland Locus of Control Scale for Children is a 40-item paper-pencil test having a yes-no response format. The test was developed from an item pool of 102 items. These items were given to a group of nine clinical psychology staff members who were asked to answer the items in an external direction. Items were dropped for which there was not complete agreement among the judges, leaving 59 items. Item analysis reduced the test further to the present 40 items.

The test has been used with a variety of samples, ranging from third graders through college. The main sample consisted of 1017 children ranging from third through twelfth grade in four different communities.

A number of studies have demonstrated adequate internal consistency ($r = .63$ to $.81$) and test-retest reliability ($r = .63$ to $.71$) for the NS-LCS (Cf. Buros, 1983).

Both Convergent and divergent validity have been reported for the NS-LCS with encouraging results. The NS-LCS was found to correlate significantly ($r = .41$) with the Bialer-Cromwell Locus of Control Scale for Children (Bialer, 1961). In addition, Internality has been found to correlate significantly with various measures of school achievement in children, adolescents, and college students (Nowicki & Strickland, 1972).

Hopelessness Scale for Children (Kazdin, et. al. 1983)

The Hopelessness Scale for Children (HSC; Kazdin et. al., 1983) is a self-report questionnaire that assesses levels of hopelessness. The scale is based on the Hopelessness Scale for adults developed by Beck et al (1974) to tap negative expectancies. This earlier scale had been shown in several studies to correlate with depression and to predict suicidal ideation and attempt (e.g. Beck et al., 1975; Wetzel et. al., 1980).

The Hopelessness Scale for Children includes 17 items, each of which children identify as true or untrue of them. Higher scores (maximum = 17) reflect greater hopelessness or negative expectations toward the future. The direction of responding for the individual items varies (with 9 true and 8 false) for the total hopelessness score. The measure is phrased in relatively simple language. On the basis of syllable length and level of word passages, readability (Fry, 1968) falls in the range of First and Second-grade levels (children approximately 6-7 years old). Yet as presented, the items are read to the children to facilitate comprehension.

Evidence of the reliability and validity of the hopelessness scale has been presented in studies by Kazdin et al., 1983 and Kazdin, Rodgers, and Colbus (1986).

Kazdin et. al. (1986) demonstrated adequate test-retest reliability over a six week period ($r = .52$) and high internal consistency ($r = .97$) for the HSC. In addition, levels of hopelessness as measured by the HSC were positively correlated with two different measures of severity of depression, and negatively correlated with measures of self esteem and social skills.

Kazdin et al (1983) examined the reliability and validity of the HSC shortly after its developemnt. They found adequate internal consistency (Chronbach's Alpha = .75). Validity of the HSC was supported with significant positive correlations between HSC scores and three separate measures of depression. Finally, scores on the HSC were also positively correlated with suicidal ideation.

The HSC served as a global index of general levels of hopelessness. Scores on the HSC were compared to subjects' scores on measures of depression and locus of control, and were used in conjunction with other hope related tasks in the larger process of developing construct validity.

Hope related tasks

Six hope related tasks were used in the present study. Methods one and two were adapted from Breznitz's (1986) explorations of the effects of hope on coping among adults, and were used to investigate the

maintainence of hope (method one) and the work of hope (method two). The remaining four tasks are adapted from the work of Haberland's (1972) study of hope in the aged, and focus on past and future time conceptions.

Method one: Maintainence of hope task

The maintainence of hope task used in the present study requires the experimenter to present the child or adolescent with hypothetical "hopeless situations". It is based in part on Breznitz's (1986) study of coping in normal children. Breznitz (1986) asks the child to imagine that he or she is alone and lost in a forest. The subject is then encouraged to tell the experimenter what he or she will do. At first, the subject may suggest some simple coping behavior, such as, "I will shout". To this the experimenter will reply "you have already shouted many times, but nobody heard you." Next, the child or adolescent may come up with the idea of climbing a tree and looking for a way out of the forest. The answer to such a question would again be "you have climbed a tree and saw nothing but the forest all around. In this way, all of the subjects efforts to deal with the situation by active coping are systematically thwarted, until the point is reached when the subject realizes the protagonist is entirely helpless, and there is nothing more that he or

she can think of doing.

Breznitz (1986) notes that from the point of view of research on helplessness, this is the end of the story, but from the view of the present research on hope and hopelessness, the experiment proper is just about to start. Prior investigations by Breznitz (1986) have revealed that when the point of hopelessness is reached, some children quickly and confidently resort to hoping "I shall wait here until my dad comes to pick me up", although others may admit to "giving up". Breznitz (1986) reports remarkable individual differences but has yet to identify the correlates or antecedents of such differences.

The method used in the present study combined the above technique with an abbreviated form of the Coping Strategies Test (CPT) described by Asarnow, Carlson, and Guthrie (1987) which offers features similar to Breznitz's (1986) method.

The CPT (Asarnow, et al 1987) is a method of assessing children's responses to three imaginary stressful situations; a) a disciplinary crisis in which a child got into trouble in school and had to face his or her parents, b) a parental conflict in which the child's parents had a fight and the child's father left home carrying a suitcase, and c) a bereavement in which the child's mother died. The situation is read aloud to the child and after

insuring that he or she has understood the issue, a series of probes are employed to tap a variety of related parameters. These include expectancies (negative or positive), ultimate ending of the story, and number of solutions generated. The method which was adopted included the above three stories as well as Breznitz's (1986) "lost in the woods" scenario. These situations were read aloud and once it was clear that the subjects understood what was at stake, 3 sets of probes were used to tap 1) expectancies, 2) number of conceived solutions, and reaction to initial frustration of conceived solutions. More specifically, after each situation was read aloud to the subject, they were initially asked "how do you think this story ends?" Secondly the subject was provided with a happy ending for each story, and asked to generate as many as possible stories to account for how things came to be that way (alternative solutions). Finally, the subject was asked to consider the possibility of not knowing what the eventual outcome would be, and discovering that all the solutions previously mentioned by the subject would not work. What would they do next?

As noted earlier, the results of this task were used primarily to assess the relationship of maintenance of hope to age, sex, and levels of hopelessness as measured by the Hopelessness Scale for children.

Method two: Word association task ("the work of hope")

Breznitz (1986) has offered a method of experimentally simulating the metaphor of hope as a bridge; a paradigm for beginning to investigate the complex patterns of directed cognition that occur in states of worry and hope. Breznitz (1986) has referred to such processes as the "work of worry" and the "work of hope." Breznitz (1986) has begun to experiment with the following task;

The subject is presented with two words, a start word and a goal, taken from two unrelated contexts. One of the words has a clear positive connotation, and the other, a clearly negative one. The task for the subject is to start from the start word and, by a process of associating, reach the goal word in a minimum number of steps. For every task that starts from a specific positive word to a specific negative word, there is a symmetrically opposite task presented to a paired subject. Breznitz's (1986) initial results suggest that adults subjects are more efficient in the process of worrying, that is, transiting from positive to negative, than in the process of hoping, which requires the transition from negative to positive. Breznitz (1986) speculates that if it takes significantly more associative steps to cover the

distance from negative to positive than vice versa, this may suggest that many individuals have little experience with the "work of hoping".

The above procedure offers an exciting and potentially valuable method of tracking aspects of thought which seem especially relevant to hopelessness and depression. Nevertheless, in its current form, the method appeared too abstract and difficult to use with children and younger adolescents. For this reason, two analogous procedures, developed by adapting standard aptitude and achievement protocols, were used in an exploratory fashion in the present study. The first of these involved selected parts of the Picture Arrangement subtest of the Wechsler Intelligence Scale for Children (WISC-R ; Wechsler, 1974). The second method drew upon test plates from the Peabody Picture Vocabulary Test (PPVT; Dunn & Dunn, 1981), one of the most commonly used tests of receptive vocabulary. Both of these instruments are widely used with children and adolescents, and both offer stimulus materials which allow for the kind of positive to negative or negative to positive flow of ideas or concepts demanded by Breznitz's (1986) paradigm.

Since extensive psychometric data has been collected on both the WISC-R (Wechsler, 1974) and the PPVT (Dunn & Dunn, 1981), the following description will be limited to the parts selected for inclusion in the study.

material. The procedure used here was adapted from one used by Haberland (1972). It is designed to assess the future-length component of personal time through a self-report of perceived distance from death by means of a simple linear representation of the human life line. Similar techniques have been used by Cohen (1959) and his associates (Cohen, Hansen, and Sylvester, 1954) to study the relationship of linear representations of the past and future to each other and to the variable of age.

In the present study, the child or adolescent was presented with a line ten inches long and instructed to "imagine that this is your whole life here-this end is when you were born and this end is when you might die. The subject was then asked to indicate the point on the line "showing where you think you are now." The single future-length indicator derived from this task was the distance (measured in one-sixteenth inch units) from the respondents pencil mark to the end of the line.

Method Six: Self Anchoring-Ladder Task (SAL)

This instrument was used to assess the self actualizing goal dimension, the critical aspect of which is the experience of projecting the self into the future in a condition which is "improved" in terms of "personally significant" values. The basic device was designed by

Kilpatrick and Cantril (1960). The scale has been depicted as "one in which each respondent is asked to describe, in terms of his own perceptions, goals and values, the top and bottom, or anchoring points, of the dimensions on which scale measurement is desired , and then to employ this self defined continuum as a measuring device: (1960, p158).

In the present study, two "self-defined continuums" were used. The first question required the child or adolescent to describe, what for him or her "would be a perfect life" and also "the very worst life" he or she could imagine for himself or herself. The child or adolescent was then shown an 11 point (0 to 10) ladder rating scale and informed that his or her descriptions would define , respectively, the upper and lower most points of the scale, i.e., "the very top and bottom of the ladder", on which he or she would be asked to make 4 ratings; 1) where on the ladder he/she stands at present 2) where he/she stood last year 3) where he/she will be next year 4) where he/she will be in two years.

This instrument was used to assess estimates of quality of life through time, and the relationship of such estimates to hopelessness, general locus of control, and other aspects of time conception.

Design and Analysis

Cross-Sectional Design

It is important to note that the present investigation follows a cross-sectional design in that the child and adolescent groups consist of different subjects measured at the same time.

Sietz (1984) in reviewing methodologies in child research, notes there are advantages and disadvantages to any design. Longitudinal research offers the advantage of tracking the same individuals over some specified period of time, but is vulnerable to "cohort" effects or, i.e., the possibility that observed changes over time are specific to the population being studied. Time and cost is also a limiting factor, as is the problem of attrition, or subjects dropping out over the course of the study. Results from cross-sectional studies must also be interpreted with great caution. There is no guarantee that younger subjects in the study will resemble the older subjects over time. There are two possible reasons for this. The cross-sectional design is vulnerable to potential "period effects" or put simply, possible societal changes that might underlie any observed differences. Secondly, there may be a problem obtaining representative subjects at each age level.

The most salient issue from the perspective of this

study of hopelessness, may be that of possible "period" effects, or societal changes which might have impacted upon the amount of hopelessness a child experiences today as compared with 5 or 10 years ago, or the number of children who appear hopeless today vs. in the past. While this is a valid concern, it is not directly related to the focus of the present study, which is on the structure of hopelessness, i.e., the only way in which "period" effects could contaminate a study such as the present one, would be if societal changes altered the structure of hopelessness. While this is theoretically imaginable, it is not likely.

Statistical Analyses

The analysis of the data may be conceptualized in terms of three major sets of variables, and two separate but related statistical procedures. To review, the major variables that were explored in this study included; level of hopelessness (high and low), sex, age, severity of depression, locus of control, general level of psychopathology, six structural variables (temporal and extra-temporal conceptions), and two functional variables (maintainence of hope, and the work of hope). (See Appendix P. for a list of instruments and the sequence of administration)

Multivariate Analyses of Variance (MANOVA)

Two (2 X 2 X 2) Multivariate Analyses of Variance were performed, one for the structural variables and one for the functional variables. The three independent variables were; level of hopelessness (high vs. low), clinical status (clinical vs. nonclinical), and age (child vs. adolescent). The MANOVA is simply an extension of the Analysis of Variance (ANOVA) procedure, and allows one to measure two or more continuous dependent variables across several groups. The procedure is covered in greater depth in the results section which follows.

Discriminant Functions Equations (DFA)

Two one-way Discriminant Functions Equations (DFA) were employed, one each for the child and adolescent samples. A linear combination of functional and structural variables was entered to examine their individual and combined contribution to the separation or discrimination of high vs. low hopeless groups. Mathematically, the DFA is identical to the MANOVA. In another sense it represents the opposite of a MANOVA in that instead of comparing groups with respect to several dependent variables, these variables become predictors, used to assign or classify cases into one of two or more groups.

Finally the reader might wonder as to why a continuous range of hopelessness scores were not collected, which would have meant that a Multiple Regression Analysis could have been used instead of the Discriminant Analysis. The main reason was that precedent had been set in previous work using the hopelessness scale. Following this same procedure offered three advantages; First of all, there were relatively clear criteria available for dividing subjects into "high" and "low" groups. Secondly, results from the present study could be compared to this earlier literature in a more direct fashion. Thirdly, a close review of these earlier studies revealed that a relatively bimodal distribution of scores for the hopelessness scale, which again argues for a dichotomization or grouping of subjects on this measure.

RESULTS

Overview

The results of the data analysis are presented in three major sections. Part one presents preliminary analyses consisting of comparisons of means across associated variables such as severity of depression, locus of control, etc., for the various levels of independent variables (i.e., age, clinical status, and level of hopelessness). The second part contains the results of two separate Multivariate Analyses of Variance (MANOVA); one conducted for a set of functional variables, and a second performed on a set of structural variables. The results in part three involve a subset of structural and functional variables that were selected and incorporated into two separate Discriminant Functions Analyses, one for children ($n = 32$), and one for adolescents ($n = 32$).

Preliminary Analyses

The preliminary analyses involve comparisons of means for the eight groups with respect to; levels of hopelessness, age, severity of depression, locus of control, and general psychopathology (clinical groups only). These results are presented in Tables 1 through 5

below.

In Table 1, a comparison of the mean ages for the four subdivisions of: child-clinical, child-nonclinical, adolescent-clinical, and adolescent nonclinical are presented. As noted earlier it was not possible to match subjects by age and sex, but an attempt was made to balance age levels across high and low hopeless groupings.

Table 1

Preliminary Analyses: Comparisons of age levels

Group		M	SD	T(1,14)	p
Child-Clinical					
High	Hopelessness	10.34	1.05	1.41	0.18
Low	Hopelessness	9.56	1.18		
Child-Nonclinical					
High	Hopelessness	8.81	1.71	0.10	0.92
Low	Hopelessness	8.88	1.19		
Adol-Clinical					
High	Hopelessness	15.41	1.50	0.56	0.58
Low	Hopelessness	15.81	1.33		
Adol-Nonclinical					
Hi	Hopelessness	15.85	1.07	2.49	0.03
Low	Hopelessness	18.30	2.57		

As Table 1 demonstrates there were no significant age differences for three of the four "age groupings". The values are presented in terms of years and one

hundereths of years for statistical purposes. In terms of years and months, the first grouping, consisting of child-clinical cases, involves high and low hopelessness children whose mean ages are less than ten months apart (ten years, 4 months vs. nine years, seven months, approximately). The mean ages of the two child-nonclinical groups are less than one month apart (both of these groups are approximately eight yrs. and ten months). The adolescent-clinical groups are less than four months apart (fifteen years and five months as compared to fifteen years and nine months).

The only grouping in which significant age differences emerged was the adolescent-nonclinical group. The high hopelessness group averaged fifteen years and ten months, while the low hopelessness group averaged eighteen years and three months. The possible implications of this finding will be discussed in depth in the following section.

The differences between the high and low hopelessness groups on the Hopelessness Scale For Children (Kazdin et. al., 1983) are shown in Table 2. Although significant differences were expected due to the a priori decision to select subjects who scored above or below previously established cutoff scores, the following table provides a clearer picture of the differences across the various categories.

As anticipated, all of the high and low hopelessness groupings were significantly different. What is also apparent is a slightly higher mean score among the clinical cases. This pattern of higher average hopelessness scores for the clinical subjects held for both high and low hopelessness cases, as well as children and adolescents.

Table 2

Preliminary Analyses: Comparisons of Hopelessness scores (Hopelessness Scale For Children; Kazdin et. al., 1983)

Group		M	SD	T(1,14)	p
Child-Clinical					
High	Hopelessness	9.50	2.20	7.66	<.01
Low	Hopelessness	2.75	1.17		
Child-Nonclinical					
High	Hopelessness	7.50	0.92	11.59	<.01
Low	Hopelessness	2.25	0.87		
Adol-Clinical					
High	Hopelessness	9.63	2.93	6.98	<.01
Low	Hopelessness	1.75	1.28		
Adol-Nonclinical					
High	Hopelessness	8.25	1.49	12.24	<.01
Low	Hopelessness	1.13	0.64		

In Table 3, severity of depression, as measured by the Child Depression Inventory (Kovacs, et. al., 1983) is

compared across the eight groups. Although the results suggest higher mean depression scores for all the high hopelessness groups, the statistical analysis revealed a great deal of individual variability within groups, and nonsignificant differences among children. In contrast, mean depression scores within both adolescent groups were higher for the high hopeless subgroups.

Table 3

Preliminary Analyses: Comparison of Depression Scores
(Child Depression Inventory; Kovacs et. al., 1983)

Group	M	SD	T(1,14)	p
Child-Clinical				
Hi Hopelessness	12.13	4.97	1.29	0.22
Low Hopelessness	8.63	5.83		
Child-Nonclinical				
Hi Hopelessness	12.88	7.28	1.84	0.09
Low Hopelessness	7.38	4.34		
Adol-Clinical				
Hi Hopelessness	20.88	9.09	2.76	0.02
Low Hopelessness	8.88	8.29		
Adol-Nonclinical				
Hi Hopelessness	18.00	5.09	4.37	<.01
Low Hopelessness	6.13	5.74		

A comparison of locus of control scores is presented in Table 4. There were significant differences between the high and low hopelessness groups for both the clinical and nonclinical adolescents. Among children, the results indicate slightly higher mean scores among the high hopelessness groups. However, the differences in the child groups were obscured by the relatively large standard deviations among subjects in these groups. The findings also suggest slightly higher scores for the clinical groups, relative to the nonclinical cases.

Table 4

Preliminary Analyses: Comparison of Locus of Control Scores (Nowicki-Strickland Locus Of Control Scale For Children; Nowicki & Strickland, 1972)

Group		M	SD	T(1,14)	p
Child-Clinical					
High	Hopelessness	20.13	4.70	1.45	0.16
Low	Hopelessness	17.38	2.56		
Child-Nonclinical					
High	Hopelessness	17.63	3.99	1.42	0.18
Low	Hopelessness	14.88	3.75		
Adol-Clinical					
High	Hopelessness	18.25	6.07	3.54	<.01
Low	Hopelessness	9.50	3.46		
Adol-Nonclinical					
High	Hopelessness	16.88	3.36	3.95	<.01
Low	Hopelessness	8.38	5.07		

An analysis of general levels of psychopathology is detailed in Table 5. As noted earlier, a measure of general severity of disturbance was obtained for all clinical subjects, to provide a means of controlling for this potential confound. It was hypothesized that the relationship between level of hopelessness and general level of psychopathology would vary as a function of age. Specifically, a significant difference on this measure was predicted between high and low hopelessness children, with the high hopeless group expected to obtain a higher psychopathology score. The high and low hopeless adolescent groups were not expected to differ on this measure. As Table 5 shows, there was in fact a significant difference between high and low hopeless children on the general severity measure, with high hopeless children obtaining a higher severity score. Among adolescents, the findings suggested a higher average severity score for the high hopeless groups. However, as Table 5 demonstrates, there was considerable individual variation within groups, which rendered the difference between the high and low hopeless groups nonsignificant.

Table 5

Preliminary Analyses: Comparison of Levels of General Psychopathology (Children's Global Assessment Scale; Schaffer et. al., 1982)

Group		M	SD	T(1,14)	p
Child-Clinical					
High	Hopelessness	45.00	3.16	3.43	<.01
Low	Hopelessness	35.80	5.16		
Adol-Clinical					
Hi	Hopelessness	46.83	5.85	1.64	0.14
Low	Hopelessness	40.20	7.60		

Selection Of Dependent Variables

This section describes in detail the selection of sets of "dependent" or "outcome" variables that were analyzed by multivariate statistical procedures. The variables to be described and then analyzed were selected for their presumed association with states of hopelessness. Strictly speaking the present study is not an "experimental" investigation in which "independent variables" are manipulated and outcomes can be said to be "dependent" on those manipulations. Rather groups of high and low hopeless subjects were pre-selected and a variety of subsequent or "outcome variables" were assessed. Notwithstanding this subtle but critical

distinction, the terms "dependent variables" and "outcome variables" will be used interchangeably in this dissertation to refer to the latter "nonexperimental" or associative meaning of these terms.

The battery of interview questions and standardized questionnaires yielded a large set of variables. If one includes "composite" variables, i.e. variables constructed from the summation or averaging of other variables, there were 26 functional variables and nearly 30 structural variables generated. Since most writers recommend a lower limit of 4-5 subjects per dependent variable, it was necessary to pare down these larger sets of variables to two smaller sets to be used in two separate Multivariate Analyses of Variance (MANOVA) and two separate Discriminant Function Analyses (DFA). A total of five dependent variables were selected from the larger list of functional variables and a total of five structural variables were culled from the list of structural variables. Three factors were taken into consideration when deciding which of the variables would be excluded or included; these were: whether two or more variables contained redundant information, insuring that all of the major structural or functional aspects were covered; and choosing variables with reasonable distributional properties (e.g., skewness and kurtosis). What follows is a presentation of the findings pertaining

to functional and functional-development aspects; this will be followed by the findings that deal with the structural and structural-developmental hypotheses.

Functional And Functional-Developmental Results

Three variables related to maintenance of hope were selected and two variables pertaining to relative speeds of hoping vs. worrying were selected. These variables are briefly reviewed to refresh the reader's mind and to make the presentation of findings more meaningful.

MHTIO: The first variable deals with the initial outcome generated by the subject in response to conflict-filled scenarios presented to them (verbally and visually in the form of modified test plates from the Tasks of Emotional Development (TED; Cohen, 1959)). The MHTIO score is a composite obtained by summing up the subjects' scores across the three scenarios (a "1" was given for positive outcomes and a "0" for negative outcomes).

MHTSA: Once the subject had offered his or her initial outcome the investigator invited the subject to consider the possibility that a positive resolution had been found. The subject was then asked to generate as many solutions to the scenarios as possible. The MHTSA score is an average score obtained by summing the number of solutions provided for each of the three stories and

then dividing by three.

MHTFO: The next functional variable deals with the final outcome generated by the subject (positive or negative). Once subjects were asked for an initial outcome, and invited to offer solutions to the dilemmas posed, the interviewer told the subjects to consider the possibility that all of their generated solutions were either unavailable or ineffective, and inquired as to whether they believed the final outcome would be positive or negative.

CABNP: There were two basic types of measures of the relative speed required to process information in either a positive to negative direction (worrying) or a negative to positive direction (hoping). The CABNP variable was one of two measures taken by using pictures of the Peabody Picture Vocabulary (Dunn et. al., 1981) and requiring the subject to generate a story beginning with either a positive or negative test plate and ending with either a positive or negative test plate. The CABNP variable is a measure of the time (in seconds) required to generate a story beginning with a negative event and ending with a positive event (hence the -np initialized ending). A CABPN variable was also generated. This paralleled the CABNP variable but the trend was reversed, from a positive to negative flow. The problem with the CABPN variable was that it was extremely skewed and none

of the standard transformations yielded an acceptably distributed variable for analysis. When a composite (CABHW) variable was created by subtracting the CABPN variable from the CABNP variable, this was also skewed. Nevertheless, an exploratory analysis was run using the composite CABHW variable. To clarify, this provides a hope minus worry index, in which larger values will reflect a lower reaction time in associating in a positive to negative direction, relative to the negative to positive flow of ideas. To facilitate presentation of these results without obscuring the results of the main analyses, the CABHW findings are presented in table 10b below, and summarized before these main analyses are reviewed in depth.

DWF: The DWF variable is similar to the CABNP in that it also is an index of the time required to process information in either a positive-negative direction or a negative-positive direction. The DWF variable is a composite variable that combines two of the modified WISC-R cards. In this task subjects are asked to sequentially arrange the cards in either a positive to negative or negative to positive direction. The DWF score is the time (in seconds) needed to arrange a negative to positive sequence, minus the time required to arrange a positive to negative sequence. The initials DWF come from the the first letters of the labels on the particular WISC-R cards

employed. The negative to positive sequence is captured by the "wood" card which involves a boy initially trapped on one side of a crevice, who must discover a nearby woodpile and use a plank to cross over to the other side. The positive to negative sequence is captured by the "fire" card which involves a boy happily playing with a box of matches, who ultimately sets his house on fire. Two additional WISC-R cards, one involving a positive to negative flow, and the other a negative to positive trend, were also used. However, these represented the very end of the "spectrum" in terms of difficulty, and many of the children had such a hard time with one of these in particular that it seemed most useful to retain the two above mentioned cards that were both at the easier end of the spectrum, and to exclude both of the more difficult cards.

Tables 6 through 10b present the means and standard deviations for the five functional variables, and the results of the exploratory analysis of the CABHW variable. Comments on the differences between groups is reserved for the following section, except in the case of the CABHW variable, which is briefly summarized. The reasons for delaying this discussion will become apparent as the need for variable transformations is explored.

Table 6

Functional Variable One: MHTIO (initial outcome)

Group	M	SD
Child Clinical		
High Hopelessness	0.88	0.64
Low Hopelessness	1.75	0.71
Child Nonclinical		
High Hopelessness	1.00	0.93
Low Hopelessness	1.63	0.92
Adolescent-Clinical		
High Hopelessness	1.38	0.74
Low Hopelessness	1.38	0.74
Adolescent-Nonclinical		
High Hopelessness	1.25	1.28
Low Hopelessnesss	2.38	0.52

Table 7

Functional Variable Two: MHTFO (final outcome)

Group	M	SD
Child Clinical		
High Hopelessness	0.63	0.52
Low Hopelessness	1.00	0.93
Child Nonclinical		
High Hopelessness	0.73	0.71
Low Hopelessness	1.63	0.92
Adolescent-Clinical		
High Hopelessness	1.00	0.93
Low Hopelessness	1.00	0.93
Adolescent-Nonclinical		
High Hopelessness	0.63	0.52
Low Hopelessnesss	2.00	0.93

Table 8

Functional Variable Three: MHTSA (alternative solutions)

Group	M	SD
Child Clinical		
High Hopelessness	1.61	0.48
Low Hopelessness	2.09	0.77
Child Nonclinical		
High Hopelessness	1.46	0.62
Low Hopelessness	2.62	0.78
Adolescent-Clinical		
High Hopelessness	1.33	0.54
Low Hopelessness	2.12	0.76
Adolescent-Nonclinical		
High Hopelessness	2.13	0.77
Low Hopelessnesss	3.83	0.87

Table 9

Functional Variable Four: CABNP (time to hope)

Group	M	SD
Child Clinical		
High Hopelessness	26.63	12.42
Low Hopelessness	19.25	07.43
Child Nonclinical		
High Hopelessness	36.32	21.58
Low Hopelessness	22.20	08.56
Adolescent-Clinical		
High Hopelessness	25.40	15.34
Low Hopelessness	29.10	13.90
Adolescent-Nonclinical		
High Hopelessness	24.59	10.32
Low Hopelessnesss	23.37	19.00

Table 10

Functional Variable Five: DWF (Time to hope vs. worry)

Group	M	SD
Child Clinical		
High Hopelessness	-6.50	22.30
Low Hopelessness	3.23	15.18
Child Nonclinical		
High Hopelessness	9.75	28.12
Low Hopelessness	6.77	15.90
Adolescent-Clinical		
High Hopelessness	5.88	05.10
Low Hopelessness	-0.18	07.88
Adolescent-Nonclinical		
High Hopelessness	11.63	04.39
Low Hopelessnesss	-.90	08.87

Table 10b

CABHW: Time to hope vs. Time to worry

Group	M	SD
Child Clinical		
High Hopelessness	- .81	14.96
Low Hopelessness	.70	10.18
Child Nonclinical		
High Hopelessness	.99	16.08
Low Hopelessness	-10.89	18.92
Adolescent-Clinical		
High Hopelessness	- 8.27	17.85
Low Hopelessness	- 5.08	19.26
Adolescent-Nonclinical		
High Hopelessness	- 1.28	8.46
Low Hopelessnesss	6.69	17.97

In Table 10b above, the means and standard deviations for the CABHW variable are presented. The three-way, hopelessness x age x clinical status interaction was nonsignificant, $F(1, 61) = 1.30, p > .05$. In addition, all three of the two-way interactions were nonsignificant, i.e., hopelessness x age, $F(1, 61) = 1.83, p > .05$, hopelessness x clinical status, $F(1, 61) = .29, p > .05$, and clinical status x age, $F(1, 61) = 3.21, p > .05$.

Recall that scores on this variable involve time in seconds to associate from a negative to positive stimulus,

as opposed to the time required to process information in a positive to negative direction. Once again, this means that larger values reflect a longer reaction time in associating from a negative to positive direction, than vice versa.

The results from Table 10 b reveal that differences between the high and low hopeless, clinical groups on this measure were quite small. In comparison, the findings show much larger differences in the nonclinical groups. Interestingly, the pattern is reversed for children and adolescents. Among the nonclinical children, the high hopeless and low hopeless groups were nearly 11 seconds apart on this measure, and the direction of the signs indicates that the low hopeless group took much less time to work in a negative to positive direction, than a positive to negative direction, while the opposite was true of the high hopeless group.

In contrast, among the nonclinical adolescents, the findings reveal that the low hopeless group actually tended to take longer to process information in a negative to positive direction, than vice versa. Moreover, in a complete reversal of the child findings, the high hopeless group took less time while working in negative to positive direction, than vice versa.

Transformation Of Functional Variables

The distribution of three of the five functional variables were considerably skewed (MHTSA, CABNP, and DWF). All three variables failed to meet the basic assumptions of the mathematical model underlying the multivariate procedures to be used, i.e., linearity, multicollinearity, and homogeneity of variance. Transformations of these variables was undertaken to stabilize the variances, or stated differently, to reduce degrees of departure from normal distributions, and reduce the extent to which variances and covariances differed across the various dependent variables.

The SPSS/ PC statistical package (Norusis, 1989) offers six basic transformations (sine, cosine, logarithmic, arctangent, square root, and exponential). However several transformations are unacceptable for variables involving negative numbers, e.g., square root, logarithmic functions, unless a constant is added to the raw scores which renders the smallest value equal to at least one. Moreover, if the overall distribution is negatively skewed, a reflection of the values prior to transformation may provide the best path to a very nearly normal distribution (Tabachnik & Fidell, 1989). In addition, some transformations may actually magnify departures from normality. Despite these limitations, a

transformation of each of the three functional variables was possible, which reduced departures from normality. More importantly, the resulting transformations permitted the assumptions of linearity, multicollinearity, and homogeneity of variances-covariances to be met. Table 11. presents the overall means, standard deviations, and skewness of the three transformed variables; pre- and post- transformation.

Table 11

Comparison of functional variables: pre and post transformation

Variable		M	SD	Skew
MHTSA	Pre-transformation	2.15	1.01	.75
	Post (square root)	1.43	.34	.16
CABNP	Pre-transformation	25.86	14.36	1.08
	Post (sine)	-.09	.71	.19
DWF	Pre-transformation	3.71	15.80	.48
	Post (cosine)	.02	.75	-.14

A Note On Interpretation Of Transformed Variables

Tabachnick and Fidell (1989) note that when a distribution is normalized by transformation, the mean most closely resembles the median, i.e., the transformation affects the mean but not the median since the median depends only on the rank order of cases.

Tabachnik and Fidell (1989) thus encourage investigators to interpret conclusions about means of transformed variables in terms of the medians of the untransformed or pre-transformed distributions. Stated differently, with grouped data, the test of mean differences after transformation is a test of differences between medians in the original data.

The Issue Of Potential Covariates

One final analysis was required before running the MANOVA procedure on the dependent variables. If significant and large correlations (i.e., .45 to .50) were found between the variables of age, depression, or locus of control, and the dependent variables, these hopelessness related variables could be used as covariates in the MANOVA (Pedhazur, 1982). Stated differently, if age, depression, and locus of control appeared to be highly associated with scores on the dependent variables, their confounding effects could be statistically controlled by adjusting for differences on these variables in the context of the MANOVA by running a MANCOVA (Multivariate Analysis of Covariance). As Table 12 shows it was not necessary to use age, depression scores, or locus of control as covariates. Most of the

correlations are extremely small. A number of the correlations, while not large enough to warrant the use of covariates, were statistically significant. These associations will be explored in greater detail within the discussion section under the topic of validity of the hope related measures.

Table 12

Correlations among age, depression (CDI), locus of control, general psychopathology, and functional variables (transformed)

VAR:	AGE	DEP	LOC	GAS	MHTIO	MHTFO	MHTSA	CABNP	DWF
AGE	X								
DEP	.11	X							
LOC	-.42**	.48**	X						
CGAS	.31*	.39**	.08	X					
MHTIO	.21	-.23	-.20	-.25	X				
MHTFO	.14	-.20	-.16	-.33**	.15	X			
MHTSA	.26*	-.26*	-.42**	.07	.33**	.30**	X		
CABNP	.00	.11	.15	.39**	-.07	.09	-.09	X	
DWF	.02	.03	.21	.42**	.06	-.14	-.14	.07	X
<hr/>									
*	p < .05								
**	p < .01								

MANOVA: Functional Variables

A 2 x 2 x 2 between-subjects multivariate analysis of variance was performed on the five dependent variables: MHTIO, MHTFO, MHTSA, CABNP, and DWF. The three independent variables were hopelessness (high and low), clinical status (clinical or nonclinical), and age (child or adolescent). SPSS/PC MANOVA was used to perform the analysis. Three criteria are available in the SPSS/PC program for evaluation of multivariate effects; Pillias' Trace, Hotellings' Trace, and Wilks' Lambda. In very rare instances these three methods may yield different results (Tabachnick & Fidell, 1989). In the MANOVAS to be reported in this study there were no differences observed. In every case the results of the three methods were exactly identical. For sake of convenience, and because Wilk's Lambda may be the most popular of the three methods, this result will be reported in describing multivariate significance test results. It should be understood in every case that the results (i.e., significance levels) of the Pillais and Hotelling test were exactly identical to those generated by Wilk's Lambda.

Before the results of the MANOVA are presented, it may be helpful to summarize the hypotheses that were generated regarding the functional variables. In essence, it was hypothesized that high and low hopeless

adolescents would differ on all five of the dependent variables, but that high and low hopeless children would show little or no differences on most if not all of these variables. Specifically, it was predicted that high hopeless adolescents, as compared to low hopeless adolescents, would reveal fewer positive initial outcomes (lower MHTIO scores), fewer positive final outcomes (lower MHTFO scores), fewer alternative solutions (lower MHTSA scores), and longer reaction times when processing information in a negative to positive direction (higher CABNP and DWF scores). In the language of multivariate statistics, a hopelessness by age interaction was anticipated for all five dependent variables. The clinical vs. nonclinical distinction was not expected to influence scores on the dependent variables. As noted earlier, it was added for the same reason that depression scores were obtained, i.e., to rule out a potential confound.

From a classical experimental point of view, the first effects to consider in studies involving two or more independent variables are interactions between or among these variables. With three independent variables (hope, age, and clinical status), one three-way interaction and three-two way interaction are produced. The Multivariate Test of Significance for the hope x age x clinical status interaction was nonsignificant, Wilks' Lambda = .93, Approximate $F(5, 52) = .84$, $p = .53$. This indicates that

only 7 percent of the variability in the linear combination of the dependent variables was accounted for by this three-way grouping of subjects. Surprisingly, the hope x age multivariate test of significance was also nonsignificant, Wilks' Lambda = .94, Approximate $F(5, 52) = .69$, $p = .63$, as was the clinical status by age interaction, Wilks' Lambda = .82, Approximate $F(5, 52) = 2.31$, $p = .06$. The first of these two-way groupings accounted for approximately 6 percent of the variance in the linear combination of dependent variables, while the second accounted for approximately 18 percent. The hope x clinical status interaction was significant, Wilks' Lambda = .76, Approximate $F(5, 52) = 3.25$, $p = .01$. This two-way grouping accounted for nearly 25 percent of the variability in the linear combination of dependent variables. The results of Subsequent univariate tests of significance on this effect appear in Table 13.

Table 13

Univariate Analysis Of Variance (ANOVA)
Effect: Hopelessness by Clinical status

VARIABLE	F (1,56)	p
MHTIO	1.15	.29
MHTFO	5.30	.02
MHTSA	3.39	.07
CABNP	4.08	.04
DWF	4.41	.04

As Table 13 shows, MHTFO, CABNP, and DWF were all significantly affected by the interactions of the two levels of hopelessness with the two levels of clinical status. The MHTSA variable, although nonsignificant, approached the .05 level. The significant interaction effects on the three dependent variables were further analyzed via simple effects to isolate the levels of the independent variables where the significant differences occurred.

The hopelessness x clinical status effects for the three dependent variables (MHTIO, CABNP, and DWF) significantly affected by this interaction are presented in Tables 14 through 16 below. The reader may recall the earlier discussion concerning interpretation of the medians of pretransformed variables, in order to make sense of the mean differences on the transformed variables. For this reason, the (untransformed) medians and not the means for the two transformed variables (CABNP and DWF) are presented.

Note On Choice Of Critical Values And Alpha

When many comparisons are to be made across groups, individual error rates, which may be on the order of .01 to .05, for each comparison, accrue, comprising what is often labelled "group-wise" or "family-wise" error rates (Keppel, 1982). Most writers on this topic recommend a

correction of some form when many post hoc comparisons are to be done, as a means of adjusting for the "capitalization on chance" that would occur by making innumerable comparisons. More controversy surrounds the issue of whether some or all planned comparisons should be adjusted as well. Since all three of the independent variables in the present study consist of two levels (high vs. low, child or adolescent, yes and no) no "post hoc" tests in the traditional sense of the term were conducted. Once the source of the interaction was isolated, the only issue to report on was the relative magnitudes of the two groups in question.

Keppel (1982) offers a fairly conservative procedure for adjusting alpha levels when planned comparisons exceed $A-1$ (where A equals the number of groups in the study). Since the formula derives in part from the traditional Bonferroni procedure, Keppel (1982) has labelled this a "modified Bonferroni test". In essence what this procedure yields is a lower and thus more stringent alpha level. The modified alpha level is derived by first multiplying one's accepted alpha level for an individual comparison, e.g. .05, by $A-1$ (where A = number of groups). This value is then divided by the number of planned comparisons to be made to yield a lower, more stringent alpha level. The following is a demonstration of this procedure, using .05 as the initial

alpha level, assuming the eight groups in the study, and figuring a total of 12 planned comparisons:

(1) (A-1) Alpha

planned comparisons

$$\begin{array}{rcl} (1b) & (7) .05 & \\ & \hline & 12 \end{array} = .03$$

As this example illustrates the new alpha level for the planned comparisons would be .03.

Notwithstanding the above argument, one can make an equally strong case for leaving the alpha levels unprotected, or even raising them slightly to .10 on the grounds that 1) the present study is exploratory and involves some new constructs, and potentially useful methods of assessing hopelessness, particularly in younger children, 2) the relatively small sample size ($N = 64$) means this study could be characterized as a "low power" investigation in which the chances of failing to detect true differences, i.e., committing a type II error are magnified (Cohen, 1987).

The issue of critical values is therefore a complex one obscured by a traditional and somewhat arbitrary practice of setting a "cutoff" value. The approach to be taken in this study is two-fold; The initial results are

discussed in terms of unprotected alpha levels (e.g., .05 or .01). These same results are then reviewed in the context of the modified Bonferoni procedure mentioned above.

Table 14

MHTFO: Hope by Clinical Status Interaction Effects.

Groups	M	SD	F	p
Child Groups				
Nonclinical: High Hopeless	.73	.71	4.57	.05
: Low Hopeless	1.63	.92		
Clinical: High Hopeless	.63	.52	1.00	.33
Low Hopeless	1.00	.93		
Adolescent Groups				
Nonclinical: High Hopeless	.63	.52	13.44	<.01
Low Hopeless	2.00	.93		
Clinical: High Hopeless	1.00	.93	.00	1.00
Low Hopeless	1.00	.93		

In three of the four subgroups, there appears to be a trend for the high hopeless groups to present lower MHTIO scores, indicating they averaged fewer initial outcomes that were positive in nature. This trend did not persist among the clinically involved adolescents. Scores for the high and low hopeless groups in this population were

surprisingly, identical. The most obvious, (and also the only statistically significant results) occurred in the nonclinical subgroups. As can be seen, this was true for both children and adolescents. Application of the modified Bonferoni alpha level to these results would mean that the marginally significant difference among the high and low hopeless children would be rendered nonsignificant.

Table 15

CABNP: Hope by Clinical Status Interaction Effects.

Groups	Med.	SD	F	p
Child Groups				
Nonclinical: High Hopeless	41.83	2.58	1.13	.74
: Low Hopeless	21.48	8.56		
Clinical: High Hopeless	25.91	12.42	4.55	.05
Low Hopeless	18.02	7.43		
Adolescent Groups				
Nonclinical: High Hopeless	24.59	10.32	1.78	.20
Low Hopeless	19.02	19.00		
Clinical: High Hopeless	22.74	15.34	.62	.44
Low Hopeless	27.09	13.90		

The results generally suggest higher CABNP scores among the high hopeless groups, meaning that it took them longer to complete a task in which they were to associate

from a negative to a positive event. The differences between the high and low hopeless adolescent groups on this variable were more subtle, compared to the child groups, and only among the clinically involved children were the differences statistically significant. If the modified Bonferoni rule were applied, this result would also become nonsignificant.

Table 16

DWF: Hope by Clinical Status Interaction Effects.

Groups	Med.	SD	F	p
Child Groups				
Nonclinical: High Hopeless	2.50	.62	.30	.59
: Low Hopeless	.66	.78		
Clinical: High Hopeless	1.61	.48	2.91	.11
Low Hopeless	2.04	.77		
Adolescent Groups				
Nonclinical: High Hopeless	4.00	.43	5.35	.04
Low Hopeless	2.13	.86		
Clinical: High Hopeless	2.17	.54	.00	.97
Low Hopeless	1.33	.76		

At first glance it appears there was a general tendency for nearly all of the high hopeless groups to show a higher score on the DWF variable. On closer

inspection, the results indicate that a statistically significant difference was found only among high vs. low hopeless adolescents in the nonclinical subgroup. To review, the DWF score is derived by subtracting the time required to associate from positive to negative (worry index) from the time required to associate from a negative to positive event (hope index). Larger values on this variable thus reflect a lower reaction time for worrying as opposed to hoping. Stated simply, all but one of the high hopeless groups appeared to have taken longer to hope, compared to worrying. The statistically significant difference among the nonclinical children would fall just short of significance if the modified Bonferoni were used (.04 vs. .03).

It may be helpful to conclude this section with a review of the main effects for levels of hopelessness for all five dependent variables. The Multivariate Test of Significance for the hopelessness main effect was highly significant, Wilks' Lambda = .50, Approximate $F(5, 52) = 10.51$, $p = .00$. This indicates that 50 percent of the variance in the linear combination of the dependent variables was accounted for by this grouping alone. The results of the Univariate Tests of significance for each of the dependent variables are contained in Table 17.

Table 17

Univariate Analysis of Variance (ANOVA):
Hopelessness Main Effects

Dependent Variable	F (1, 56)	p
MHTIO	10.32	<.01
MHTFO	10.39	<.01
MHTSA	30.82	<.01
CABNP	01.16	.29
DWF	02.37	.13

As Table 17 demonstrates the variables of MHTIO and MHTSA, which were not significantly affected by the higher level interactions, do show a significant main effect for hopelessness. Table 18 presents the means or medians, and the standard deviations for the MHTIO and MHTSA variables. As can be seen, the high hopelessness group, on the average, generated fewer positive initial outcomes and fewer alternative solutions.

Table 18

Summary statistics: the variables of MHTIO and MHTSA

Variable	M	SD
MHTIO		
High hopeless	1.13	.90
Low hopeless	1.78	.75
MHTSA (Med.)		
High hopeless	1.66	.66
Low hopeless	2.66	1.04

Summary Of Findings And Comparisons
Of Results: Pre Vs. Post Variable transformation

The results suggest a number of general trends; The high hopeless groups tended to show fewer initial and final positive outcomes, took longer to hope, and generated fewer alternative solutions to problems.

Notwithstanding these general trends, there was evidence of great individual variability, even within groups, and particularly among children and clinically involved subjects. Partly for this reason, a closer examination of the findings revealed that significant differences among several variables were restricted to particular subgroups. For example, significant differences on the variable MHTFO (final outcome) were found for both children and adolescents, but only those who were not clinically involved. Similarly, there were significant differences on both of the time-to-hope variables (CABNP and DWF) but these were restricted to clinically involved children (CABNP) and clinically involved adolescents (DWF). In contrast, the number of alternative solutions (MHTSA) and initial outcome (MHTIO) were both "main effects", i.e., neither was affected significantly by higher-order interactions, and both were significantly affected by level of hopelessness.

To provide a more complete understanding of the effects of having transformed several of the dependent

variables, a second MANOVA was run using only untransformed variables. Of course several basic assumptions were violated, in particular normality and homogeneity of variance. For example, when both Cochran's C statistic and Bartlett-Box's F statistic were applied to the DWF variable, both were highly significant at the $p < .001$ level. Nevertheless, as table 19 below shows, the results are extremely similar. The only discrepancy concerns the clinical status by age interaction. When only untransformed variables were used, this interaction was statistically significant. By comparison, when three of the variables were transformed, this interaction was not significant. However on closer inspection, the actual differences in the alpha levels are minor, i.e., .057 vs .047. Moreover, when the univariate tests for this interaction were examined, only one of the five dependent variables was statistically significant. This exception was the MHTSA variable which reached a level of significance of .006 when all variables were untransformed, and a significance level of .004 when three variables were transformed, a subtle change of .002.

Table 19

MANOVA: comparison of pre- and post- transformation results

EFFECT	POST:	F	p	PRE:	F	p
Three-Way Interaction:						
Hope x age x cln.		.83	.529		.84	.530
Two-Way Interaction:						
Cln. x age.		2.31	.057		2.42	.047
Hope x age.		.69	.632		1.29	.282
Hope x cln.		3.25	.013		2.89	.023
One-Way (Main effects):						
Age.		1.25	.297		1.15	.289
Cln.		3.95	.004		4.27	.003
Hope.		10.51	<.001		11.05	<.001

Structural And Structural-Developmental Results

One temporal and four extra-temporal variables were selected for further analysis. As in the previous section, these variables are briefly reviewed to refresh the reader's mind and lend clarity to the present discussion.

EXT: The first and only temporal variable is Temporal Extension, denoted by the initials EXT. This variable seeks to capture how far back into the past and forward

into the future a person will place recalled events and anticipated events. EXT is a composite variable computed by adding together a subject's past and future median time frame (i.e., median time in yrs. for recalled and anticipated events).

EPEP: The first extra-temporal variable involves the total number of positive events a person expects in the future. The judgment of "positive" or "negative" was left to the subject by asking them to review the events they had generated for the future and to evaluate them as good or bad. The initial goal was to extract 10 recalled and 10 anticipated events from both children and adolescents. Since it was apparent from the start of the study that children were having great difficulty coming up with ten events, only five recalled and anticipated events were required of them. To allow a comparison across age levels, the EPEP number for adolescents was divided by two in the multivariate and univariate analyses to be described. The initial means and standard deviations for the adolescent group are presented in their original form.

RPEP: The RPEP variable is the second extra-temporal variable and concerns the total number of positive events recalled from the past. Values for the adolescent groups and decisions regarding "positive" or "negative" events were handled in the same manner as described for the EPEP

variable.

FACT: The third extra-temporal variable deals with the total number of active events anticipated, i.e., the number of future events in which the subject is initiating an act, as opposed to experiencing an event occurring to them. The FACT values for the adolescent group were treated in the same manner as described above for the RPEP and EPEP variables. The decision as to whether an event was active or passive was again left up to the subject. Subjects were asked to reconsider each event in terms of whether they conceptualized the incident as something they might do, or which might happen to them.

SALGD: The fourth extra-temporal variable, SALGD, is a measure of one's subjective assessment of changes quality of life over time. SALGD is a composite variable chosen for its inclusion of all four Self-Anchoring ladder (SAL) tasks. To review, the SAL task requires subjects to consider a ladder whose bottom and top end-points are to represent their own conceptions of "best" and "worst" possible lives. Subjects were then asked to rate their experienced or anticipated quality of life at present (now), last year, next year, and two years from now.

The SALGD variable was computed in the following manner;

$$\text{SALGD} = [(\text{now} - \text{past}) + (\text{future:1 yr.} + \text{future:2 yrs.} / 2 - \text{now})]$$

In essence, the SALGD variable adds subjects' estimate of the relative improvement in the quality of their lives from the past to now, to the projected improvement in conditions over the next two years.

Tables 20 through 24 present the means and standard deviations for the five structural variables.

Table 20

Structural Variable One: EXT (Extension in time)

Group	M	SD
Child Clinical		
High Hopelessness	6.29	4.17
Low Hopelessness	6.86	5.44
Child Nonclinical		
High Hopelessness	19.21	10.78
Low Hopelessness	4.95	4.36
Adolescent-Clinical		
High Hopelessness	8.70	8.09
Low Hopelessness	5.47	4.08
Adolescent-Nonclinical		
High Hopelessness	11.26	4.43
Low Hopelessness	10.24	5.66

Table 21

Structural Variable Two: RPEP (recalled positive events)

Group	M	SD
Child Clinical		
High Hopelessness	2.50	1.60
Low Hopelessness	3.00	1.60
Child Nonclinical		
High Hopelessness	2.38	1.77
Low Hopelessness	3.31	.37
Adolescent-Clinical		
High Hopelessness	4.38	2.38
Low Hopelessness	6.31	0.92
Adolescent-Nonclinical		
High Hopelessness	3.21	1.96
Low Hopelessness	6.50	2.92

Table 22

Structural Variable Three: EPEP (Expected positive events)

Group	M	SD
Child Clinical		
High Hopelessness	4.00	1.69
Low Hopelessness	5.25	.71
Child Nonclinical		
High Hopelessness	4.50	1.07
Low Hopelessness	4.25	.89
Adolescent-Clinical		
High Hopelessness	8.88	.90
Low Hopelessness	9.62	.75
Adolescent-Nonclinical		
High Hopelessness	7.62	1.10
Low Hopelessnesss	9.79	2.62

Table 23

Structural Variable Four: FACT (Future active events)

Group	M	SD
Child Clinical		
High Hopelessness	3.00	1.51
Low Hopelessness	4.13	1.64
Child Nonclinical		
High Hopelessness	4.25	.89
Low Hopelessness	3.00	2.00
Adolescent-Clinical		
High Hopelessness	7.62	2.32
Low Hopelessness	8.88	2.10
Adolescent-Nonclinical		
High Hopelessness	7.22	2.32
Low Hopelessnesss	9.22	1.38

Table 24

Structural Variable Five: SALGD (quality of life over time)

Group	M	SD
Child Clinical		
High Hopelessness	7.18	2.96
Low Hopelessness	1.13	1.43
Child Nonclinical		
High Hopelessness	.38	4.97
Low Hopelessness	2.94	3.54
Adolescent-Clinical		
High Hopelessness	1.80	.79
Low Hopelessness	2.81	2.53
Adolescent-Nonclinical		
High Hopelessness	4.06	1.18
Low Hopelessnesss	2.63	2.94

Transformation Of Structural Variables

The distributions of three of the five structural variables were considerably skewed (EXT, EPEP, SALGD). Moreover, individually, or in combination, they failed to meet the basic assumptions of normality, linearity, multicollinearity, and homogeneity of variance-covariance. Table 25 presents the overall means, standard deviations, and skewness of the structural variables, pre- and post-transformation. The transformations that were chosen permitted the assumptions of linearity, multicollinearity, and homogeneity of variance to be met.

Table 25

Comparison of structural variables: pre and post transformation

Variable		M	SD	Skewness
EXT	Pre-transformation	9.12	7.37	1.20
	Post (square root)	2.74	1.28	.05
EPEP	Pre-transformation	4.49	1.01	-1.93
	Post (reflected, sine)	-.11	.45	-.53
SALGD	Pre-transformation	3.04	3.47	-.22
	Post (reflect, sq.rt.)	1.75	.84	-.33

Issue Of Covariates

Table 26 presents the correlations among the variables of age, depression, general psychopathology,

locus of control, and the five dependent variables. As can be seen, most of the correlations were of modest size. There were a number of correlations, not large enough to warrant use of covariates that were nonetheless statistically significant. These will be explored in more depth in the discussion section under the topic of validity of structural measures.

Table 26

Correlations among age, depression scores, locus of control, and the five structural variables

VAR:	AGE	DEP	LOC	CGAS	EPEP	RPEP	EXT	FACT	SALGD
AGE	X								
DEP	.11	X							
LOC	-.43**	.44**	X						
CGAS	.29*	.42**	.06	X					
EPEP	-.06	-.07	-.12	-.14	X				
RPEP	.12	-.35**	-.38**	-.32*	.03	X			
EXT	-.01	.09	.08	-.07	-.11	-.05	X		
FACT	.22	-.04	-.31*	.18	.26*	.21	.24	X	
SALGD	-.08	.31*	.34**	.43**	-.14	-.21	-.18	-.34**	X

* p < .05

** p < .01

MANOVA: Structural Variables

A 2 x 2 x 2 between-subjects multivariate analysis of variance was performed on the five dependent variables: EXT, RPEP, EPEP, FACT, and SALGD. The three independent variables were hopelessness (high and low), clinical status (clinical and nonclinical), and age (child and adolescent).

The structural and structural-developmental hypotheses paralleled the functional and functional-developmental hypotheses. In short, it was hypothesized that high and low hopelessness adolescents would differ on all five of the dependent variables, but that high and low hopeless children would show little or no differences on these variables. Specifically, it was predicted that high hopeless adolescents, as compared to low hopeless adolescents, would recall past events and anticipate future events that were not as extended in time (lower EXT scores), recall fewer positive past events (lower RPEP scores), expect fewer positive events (lower EPEP scores), anticipate fewer active events (events initiated by them), and perceive less improvement in their quality of life over time (lower SALGD scores).

In terms of the multivariate procedures that were employed, a hopelessness by age interaction was expected for all five dependent variables. Once again, the clinical vs. nonclinical distinction was not expected to

influence scores on the dependent variables but was included to rule out this potential confound.

The hopelessness x age x clinical status interaction was highly significant, Wilks' Lambda = .70, Approximate $F(5, 45) = 3.91$, $p = .005$. This means that 30 percent of the variance in the linear combination of the dependent variables was accounted for by this three-way grouping. Table 27 presents the results of the subsequent univariate analyses on each of the five dependent variables.

Table 27

Univariate Analysis Of Variance (ANOVA):
Hopelessness x Age x Clinical Status Interaction

Variable	F (1, 56)	p
EXT	5.56	.02
RPEP	.04	.85
EPEP	5.50	.02
FACT	6.35	.02
SALGD	8.16	.01

As Table 27 shows, four of the five dependent variables were significantly affected by the three-way interaction: EXT, EPEP, FACT, and SALGD. The significant interactions involving these four variables were further

analyzed via simple effects tests to isolate the levels of the independent variables responsible for the significant differences.

The hopelessness x age x clinical status interaction effects for the four dependent variables are presented in Tables 28 through 31. The same process mentioned earlier, of using unprotected alpha levels, followed by a review of the findings in terms of Keppel's (1982) modified Bonferoni procedure was undertaken. Finally, the method of using medians rather than means for transformed variables, which was discussed in detail in the previous section, will also be employed in this section.

Table 28

EXT: (Extension in time)
Hope x Age x Clinical Status Interaction Effects

Groups	Med.	SD	F	p
Child Groups				
Nonclinical: High Hopeless	19.25	10.78	13.43	<.01
: Low Hopeless	5.10			
Clinical: High Hopeless	6.29	4.17	.03	.87
: Low Hopeless	7.13			
Adolescent Groups				
Nonclinical: High Hopeless	11.87	4.43	.23	.64
: Low Hopeless	9.78	5.66		
Clinical: High Hopeless	8.00	8.09	.41	.53
: Low Hopeless	5.54	4.08		

In contrast to what was expected, the results from Table 28 suggest that most of the high hopeless groups extended events further in time. The one exception was the clinically involved children. The medians of the high and low hopeless groups were very similar, and although the low hopeless group's median was slightly higher this difference was highly nonsignificant. The most dramatic and only statistically significant result involved the nonclinical children. The median for the high hopeless group was just under 20 years, while the low hopeless group's median was slightly more than five years.

Table 29

EPEP: (Expected positive events)
Hope x Age x Clinical Status Interaction Effects

Groups	Med.	SD	F	p
Child Groups				
Nonclinical: High Hopeless	5.00	1.07	2.29	.16
: Low Hopeless	4.50	.89		
Clinical: High Hopeless	4.50	1.69	1.81	.20
: Low Hopeless	5.00	.71		
Adolescent Groups				
Nonclinical: High Hopeless	4.00	1.10	7.29	.01
: Low Hopeless	5.00	.23		
Clinical: High Hopeless	5.00	.90	.58	.46
: Low Hopeless	5.00	.37		

As Table 29 indicates, the only statistically significant result involving expected positive events occurred within the nonclinical subgroup where high hopeless adolescents expected significantly fewer positive events. There was similar but nonsignificant difference between the high and low hopeless clinical child cases. Another interesting finding was that high and low hopeless, clinically involved adolescents had exactly the same median number of expected positive events (5.00).

Table 30

FACT: (Future active events)
Hope x Age x Clinical Status Interaction Effects

Groups	M	SD	F	p
Child Groups				
Nonclinical: High Hopeless	4.25	.89	2.61	.13
: Low Hopeless	3.00	2.00		
Clinical: High Hopeless	3.00	1.51	2.03	.18
: Low Hopeless	4.13	1.64		
Adolescent Groups				
Nonclinical: High Hopeless	3.63	1.16	4.39	.05
: Low Hopeless	4.63	.69		
Clinical: High Hopeless	3.81	1.31	1.11	.31
: Low Hopeless	4.44	.05		

Three of the four high hopeless groups demonstrated lower median numbers of expected active events. However, the results from Table 30 show that the differences were only significant within the nonclinical adolescent sample. The pattern was reversed in the nonclinical child sample, where the high hopeless group's median number of expected active events was actually slightly higher.

Table 31

SALGD: (Quality of life over time)
Hope x Age Interaction Effects

Groups		Med.	SD	F	p
Child Groups					
Nonclinical:	High Hopeless	1.25	4.97	1.52	.25
	: Low Hopeless	3.50	3.54		
	Clinical: High Hopeless	7.50	2.96	16.69	<.01
	: Low Hopeless	1.50	1.43		
Adolescent Groups					
Nonclinical:	High Hopeless	4.00	1.18	3.33	.08
	: Low Hopeless	1.50	2.94		
	Clinical: High Hopeless	1.87	.79	.64	.44
	: Low Hopeless	2.00	2.53		

Table 31 presents the results of the three-way interaction involving the SALGD variable (quality of life over time). Surprisingly this shows that in most of the subgroups, there was a tendency for the low hopeless

groups to actually report less overall improvement in quality of life over time. The most obvious and (the only statistically significant) difference of this kind involved high and low hopeless child clinical cases. The one exception to this pattern was the sample of nonclinical children where the low hopeless group recalled and/or expected greater improvement in quality of life. Note that the differences between the high and low hopeless nonclinical adolescents approached the .05 level of significance.

The multivariate clinical status x age interaction was nonsignificant, Wilks' Lambda = .99, Approximate $F(5, 45) = .99$, $p = .985$. This indicates that only 1 percent of the variability in the linear combination of the dependent variables was accounted for by this two-way grouping. Surprisingly, the hopelessness x age interaction was also nonsignificant, Wilks' Lambda = .91, Approximate $F(5, 45) = .92$, $p = .48$, as was the hopelessness x clinical status interaction, Wilks' Lambda = .81, Approximate $F(5, 45) = .81$, $p = .09$. This reveals that only 9 percent of the variance in the linear combination of the dependent variables was accounted for by the hopelessness x age grouping, while approximately 19 percent of the variance was accounted for by the hopelessness x clinical status grouping.

Finally the RPEP variable (expected positive events) was significantly affected only by the hopelessness main effect. The multivariate test of significance for this main effect (hopelessness) was highly significant, Wilks' Lambda = .64, Approximate $F(5, 45) = 4.99$, $p = <.01$. This indicates that 36 percent of the variance in the linear combination of the dependent variables was accounted for by this grouping alone. Table 32 presents the results of the univariate test of significance for the RPEP variable.

Table 32

RPEP:(recalled positive events)
Hopelessness Main Effect

Group	M	SD	F (1, 49)	p
High Hopelessness	2.17	1.37	11.29	<.01
Low Hopelessness	3.10	1.24		

As can be seen in this table, the high hopeless groups, on the average, tended to expect fewer positive events.

Summary And Comparison Of Pre- And Post- Transformation MANOVAS

The structural results are a little more difficult to summarize, given the number of significant three-way interactions. For three of the five variables (EXT, FACT, and SALGD) a relatively consistent trend was noticeable in that three of the four subgroups demonstrated the same pattern of results. Interestingly, there was always agreement among the adolescent groups, and the exception typically involved one of the child subgroups. For example, on the variable EXT (extension in time) most of the high hopeless groups tended to extend events further in time, but the opposite was true for the nonclinical children (low hopeless group extended further). Most of the high hopeless groups also expected fewer future active events (except nonclinical children), and greater improvement in their quality of life over time (except child clinical cases). The high hopeless groups of clinically involved children and nonclinical adolescents expected fewer positive events to occur. There was no difference between the high and low hopeless clinical adolescents on this variable, but among the subgroup of nonclinical children, there was a nonsignificant tendency for the high hopeless subjects to expect more positive events in the future.

A second MANOVA was run using only untransformed variables. There were major violations of basic assumptions, including normality and homogeneity of variance and covariance. Table 33 below presents a comparison of the MANOVA results obtained from the two methods (with and without transformations). Once again, the results are extremely similar. The one discrepancy which emerged involves the clinical status main effect. As can be seen from the table, this effect was statistically significant following variable transformations, but failed to reach significance when only untransformed variables were employed. Inspection of the univariate results from this main effect revealed that only one dependent variable was statistically significant at this level of analysis, i.e., the EXT variable. In the pre-transformation MANOVA the alpha level for this variable was .005, while the alpha for EXT in the post-transformation MANOVA was .002, a difference of .003. In short, differences between the two methods were again quite subtle.

Table 33

MANOVA: comparison of pre- and post-transformation results

EFFECT	POST:	F	p	PRE:	F	p
Three-Way Interaction:						
Hope x age x cln.		3.91	.005		3.95	.004
Two-Way Interaction:						
Cln. x age.		.14	.980		.69	.632
Hope x age.		.92	.475		1.05	.393
Hope x cln.		2.06	.088		2.11	.078
One-Way (Main effects):						
Age.		1.21	.321		.91	.483
Cln.		3.09	.017		2.17	.071
Hope.		4.99	.001		4.51	.002

Discriminant Functions Analysis (DFA): Combining Structural And Functional Aspects To Predict Level Of Hopelessness

Review Of DFA

SPSS/PC+ (Norusis, 1989) offers four basic methods of selecting variables for inclusion in a Discriminant Functions Equation (DFA). These four methods are; direct entry, forward selection, backward elimination, and stepwise. In a standard or direct DFA all predictors enter the equations at once and each predictor is evaluated in terms of its unique association with the groups. The remaining three methods vary in terms of the criteria used to select or reject additional predictors. To put it simply, these other methods decide which variables to include and which to exclude by systematically evaluating net changes in the overall F value due to addition (forward selection), subtraction (backward elimination), or a combined process of adding and subtracting predictors (stepwise). The last of these, stepwise DFA, is an especially helpful tool for investigators who do not wish to give any particular variable more initial weight, and wish instead to base the order of entry or removal of variables on purely statistical factors.

An important practical advantage gained by a stepwise approach is that it allows one to evaluate the

cost/benefits ratio of various numbers and kinds of predictors as these relate to the quality of prediction. The stepwise approach does this by explicitly demonstrating the results of including or excluding a particular variable. By comparison a direct method may allow one to review the contributions of an entire (limited) set of predictors and may be the method of choice when cost is not as critical an issue, and when theoretical understanding may be enhanced by allowing a wider set of variables, and their separate and combined contributions to be expressed. This latter issue was particularly relevant in the present study where a comparison could be made across age groups, in terms of which aspects predict levels of hopelessness. Both direct and stepwise discriminant functions analyses were performed to address each of these concerns.

Selection Of Predictors

When considering a Discriminant Function Equation (and other multivariate procedures), it is desirable to maintain as high a subject-to-predictor ratio as possible. Some investigators recommend as high as a 20 to 1 ratio (Cf. Pedhazur, 1982). Tabachnik and Fidell (1989) propose a more moderate rule of thumb of 8-10 subjects per predictor under most conditions. They also suggest a

lower limit of 4-5 subjects, and as an absolute minimum, that the number of predictors never exceed the number of subjects in the smallest group. In an effort to maximize the subject to predictor ratio, the clinical and nonclinical groups were combined. This yielded two larger groups; one composed of 32 children (16 high and 16 low hopelessness), and a second group of 32 adolescents (16 high and 16 low hopelessness).

Before the clinical and nonclinical groups were combined, the MANOVA results reported in the previous section were reviewed and only those dependent variables that were significantly affected by level of hopelessness but not significantly affected by either a clinical-nonclinical related main effect or interaction were selected as candidates for the DFA. Table 34 contains the 8 variables from the child data and the 8 variables from the adolescent data that satisfied these conditions.

Table 34

DFA: Potential functional and structural variables

Child Groups	Adolescent Groups
1. CDI	1. CDI
2. LOC	2. LOC
3. MHTIO	3. MHTIO
4. CABNP	4. CABNP
5. RPEP	5. RPEP
6. EPEP	6. EPEP
7. MHTFO	7. NFACT
8. MHTSA	8. SALGD

A closer inspection of Table 34 reveals that 6 of the 8 variables were identical for the two age groups (CDI, LOC, MHTIO, CABNP, RPEP, EPEP). These eight variables (8 for each group) were used to calculate 2 separate Discriminant Functions Equations, one for each age group (child and adolescent), consisting of matching sets of predictors. Both direct and stepwise approaches were utilized to allow a comparison, not only of the number of variables selected, but the relative importance of the various predictors for each age group.

Child Data: Direct Discriminant Function

An initial direct discriminant functions analysis was performed using CDI, LOC, MHTIO, MHTFO, MHTSA, CABNP, RPEP, and EPEP as predictors of level of hopelessness (high vs. low). An initial review of basic, underlying assumptions revealed no violations, i.e., assumptions of linearity, normality, multicollinearity, and homogeneity of variances-covariances. Table 35 below contains the group means for the eight predictors. The Asterisks denote the replacement of means for the transformed variables with (untransformed) medians to facilitate interpretation. Seven of the eight group differences were in the predicted direction: The high hopeless group was more depressed (CDI), had a more externalized locus of control, generated fewer initial and final positive outcomes (MHTIO, MHTFO), produced fewer alternative solutions (MHTSA), took longer to hope (CABNP), and recalled fewer positive events (RPEP). The only prediction that was not borne out involved the number of expected positive events (EPEP). It had been predicted that the high hopeless groups would anticipate fewer positive events. As Table 35 shows the medians of the two groups were identical.

Table 35

Group means for eight predictors: child data

Predictor	Group	
	High hopeless	Low hopeless
1. CDI	12.50	8.00
2. LOC	18.88	16.13
3. MHTIO	.94	1.69
4. MHTFO	.69	1.39
5. MHTSA*	1.64	2.05
6. CABNP*	26.63	20.26
7. RPEP	2.43	2.94
8. EPEP*	5.00	5.00

The association between the eight predictors and levels of hopelessness was highly significant, $\chi^2(6) = 21.37$, $p = .002$, allowing one to reject the null hypothesis that the population means on the various predictors, for the two groups (high vs. low hopeless), are equal. Table 36 presents those parameters which relate to the proportion of between-group variability accounted for by the discriminant function.

Table 36

Canonical Discriminant Function: child data (direct DFA).

Eigen	Percent Variance	Canonical Corr.	Wilk's Lambda	Chisquare	DF	Sig.
2.49	.71	.84	.29	32.52	8	<.01

As Table 37 reveals the discriminant function accounted for 71 percent of the between-group variability. The canonical correlation, from which the percent variance accounted for is derived, is equivalent to the Pearson correlation and reflects the correlation between the discriminant scores and the groups. The Wilks Lambda statistic for the two-groups case is the ratio of the within-groups sum of squares to the total sum of squares, and thus reflects the proportion of the total variance in the discriminant scores not explained by the between groups differences. Note that since this is the converse of the percent of variance accounted for, the values of these parameters added together equal 100 percent of the total between-groups variability.

Table 37 below displays the Discriminant Loadings which are the correlations between the predictors and the discriminant function. The variables are ordered in terms of their size within the function.

Table 37

Correlations between discriminating variables and Canonical Discriminant Function: child data (direct method)

Predictor	Correlation
MHTSA	.38
MHTIO	.33
CDI	-.27
MHTFO	.26
LOC	-.23
CABNP	-.21
EPEP	.14
RPEP	.11

As Table 37 shows, the best predictor of level of hopelessness, within this subest of variables, is MHTSA (number of alternative solutions). In general, the functional variables dominate, comprising three of the first four predictors, and five of the top seven variables. It is also noteworthy that number of expected positive events (EPEP) was slightly more powerful than number of recalled positive events (RPEP).

In Table 38, the within-group correlations among the predictors are presented.

Table 38

Correlations among predictors: child data (direct DFA)

	CDI	LOC	MHTIO	MHTFO	MHTSA	CABNP	RPEP	EPEP
CDI	X							
LOC	.20	X						
MHTIO	-.03	.25	X					
MHTFO	.13	-.02	.24	X				
MHTSA	.29	-.09	-.00	.22	X			
CABNP	.02	.33*	.08	.17	-.07	X		
RPEP	-.05	-.30*	-.73**	-.21	-.24	-.21	X	
EPEP	.08	.04	-.23	-.34*	-.20	.10	.31*	X

* $p < .05$ ** $p < .01$

Five of the correlations would have been significant if tested individually: An external Locus of control was negatively correlated with number of recalled positive events, but positively correlated with a longer reaction time in associating from a negative to positive event (CABNP). The strongest association involved a negative correlation between Initial outcome (MHTIO) and number of recalled positive events (RPEP). Finally, number of expected positive events (EPEP) was negatively correlated with final outcome (MHTFO) but positively correlated with number of recalled positive events (RPEP).

The matrix of classification results which is a relatively direct index of the quality of prediction offered by the discriminant function is contained in Table 39.

Table 39

Classification Matrix: child data (direct DFA)

Actual Group (N)	Correctly predicted	Misclassified
Low hopeless: 16	15 (93.8 %)	1 (6.3 %)
High hopeless: 16	15 (93.8 %)	3 (6.3 %)

Percent of "grouped" cases correctly classified: 93.75 %

As this demonstrates there were very few misclassified cases (only 4 of 32). Overall, nearly 94 % of the case were correctly classified. In one instance a low hopeless case was classified as a high hopeless case, and in three instances the reverse was true, i.e., high hopeless individuals were incorrectly indentified as low hopeless.

Child Data: Stepwise Discriminant Function

A stepwise discriminant functions analysis was performed using the same eight predictor variables: CDI, LOC, MHTIO, MHTFO, CABNP, RPEP, and EPEP. The stepwise procedure begins by selecting the single best predictor that leads to the smallest value for Wilk's Lambda; i.e., the smallest ratio of within to total variability. Additional predictors are added if they result in significantly lower values of Wilk's Lambda. As Table 40 demonstrates, this stepwise procedure resulted in the inclusion of five predictors: MHTSA, CDI, MHTIO, RPEP, EPEP. The number of alternative solutions (MHTSA) emerged as the most powerful predictor. Three of the original variables were excluded: MHTFO, LOC, and CABNP.

Table 40

Stepwise Discriminant Analysis: Summary of steps

STEP	Variable entered	Variables in	Wilk's Lambda	Sig.
1.	MHTSA	1	.73	.0024
2.	CDI	2	.57	.0003
3.	MHTIO	3	.49	.0002
4.	RPEP	4	.31	<.0001
5.	EPEP	5	.29	<.0001

Table 41 reveals that these five predictors accounted for 71 percent of the between-groups variability.

Table 41

Canonical Discriminant Function: child data (stepwise DFA).

Eigen	Percent Variance	Canonical Corr.	Wilk's Lambda	Chisquare	DF	Sig.
2.38	.71	.84	.29	33.49	5	<.01

As Table 42 below demonstrates the most powerful predictor of level of hopelessness remained the number of alternative solutions (MHTSA). The highly significant Chi-square result allows one to reject the null hypothesis that population means on the various predictors would be equivalent across the two hopelessness groups.

Table 42

Correlations between discriminating variables and Canonical Discriminant Function: child data (stepwise method)

Predictor	Correlation
MHTSA	.39
MHTIO	.34
CDI	-.27
LOC	-.18
CABNP	-.17
EPEP	.14
RPEP	.11
MHTFO	.09

The stepwise classification results appear in Table 43. As this demonstrates there was only one case misclassified, a high hopelessness subject was incorrectly identified as a low hopelessness case. Overall the "hit rate" was nearly 97 %.

Table 43

Classification Matrix: child data (stepwise DFA)

Actual Group	(N)	Correctly predicted	Misclassified
Low hopeless:	16	16 (100 %)	0 (00.0 %)
High hopeless:	16	15 (93.8 %)	1 (6.3 %)
Percent of "grouped" cases correctly classified: 96.8 %			

Adolescent Data: Direct Discriminant Analysis

The organization of the adolescent discriminant results is the same as that used to present the child results. The only difference lies in the slightly different list of predictors used. The direct discriminant functions analysis on the adolescent data was performed using CDI, LOC, MHTIO, CABNP, RPEP, EPEP, FACT, and SALGD as predictors of hopelessness (high vs. low). As noted earlier, the first six predictors are the same as those used for the child analyses.

Table 44 below contains the group means for the eight predictors. Again, the asterisks refer to the replacement of means with (untransformed) medians for the transformed variables to facilitate interpretation. Seven of the eight group differences were in the predicted direction. The high hopeless group was more depressed (CDI), had a more externalized locus of control, generated fewer positive initial outcomes (MHTIO), recalled fewer positive events (RPEP), expected fewer positive events (EPEP), took longer to hope (CABNP), and expected fewer active events (FACT). The only surprising result was that the high hopeless group actually expected a greater improvement in the quality of their lives over time (SALGD).

Table 44

Group means for eight predictors: adolescent data

Predictor	High hopeless	Group	Low hopeless
1. CDI	18.40		7.50
2. LOC	16.93		8.93
3. MHTIO	1.33		1.87
4. RPEP	1.80		3.28
5. EPEP*	4.50		5.00
6. CABNP*	24.59		22.49
7. FACT	3.77		4.53
8. SALGD*	5.00		5.00

The association between the eight predictors and levels of hopelessness was highly significant, $X(2) = 24.63$, $p = < .01$, allowing one to reject the null hypothesis that the population means on the various predictors, for the two groups (high vs. low hopelessness) are equal. Table 45 presents those parameters which relate to the proportion of between-groups variability accounted for by the discriminant function.

Table 45

Canonical Discriminant Function: adol. data (direct DFA).

Eigen	Percent Variance	Canonical Corr.	Wilk's Lambda	Chisquare	DF	Sig.
1.68	.63	.79	.37	24.63	8	<.01

The discriminant function accounted for 67 percent of the between-groups variability. Although this is a relatively high percentage of the total between groups variability, it is slightly lower than the 71 percent reported for the direct method using children.

The Discriminant Loadings or correlations between the predictors and the discriminant function appear in Table 46. What is most striking is the relatively large correlations for the first three predictors: LOC, CDI, and RPEP. Another interesting comparison to the child data emerges from the fact that when one ignores the strong influence of the CDI and LOC variables, it is the structural variables which dominate the picture, and not the functional predictors.

Table 46

Correlations between discriminating variables and
Canonical Discriminant Function:adol. data (direct
method)

Predictor	Correlation
LOC	.75
CDI	.65
RPEP	-.59
EPEP	-.35
NFACT	-.29
SALGD	.27
MHTIO	-.23
CABNP	-.08

Table 47 displays the within-group correlations among the predictors. Five correlations would have been considered statistically significant if tested in isolation: The strongest association involved a positive correlation between number of expected positive events (EPEP) and number of expected active events (FACT). An external locus of control was negatively correlated with the number of expected active events (FACT), and the number of expected positive events (EPEP). Surprisingly, an adolescent's tendency to perceive a positive initial outcome (MHTIO) was negatively correlated with their evaluation of the extent of improvement in the quality of

thier life over time (SALGD). Finally, severity of depression (CDI) was positively correlated with an external locus of control (LOC).

Table 47

Correlations among the predictors: adol. data (direct DFA)

	CDI	LOC	MHTIO	CABNP	RPEP	EPEP	NFACT	SALGD
CDI	X							
LOC	.43**	X						
MHTIO	-.15	-.06	X					
CABNP	.12	-.12	-.04	X				
RPEP	-.25	-.07	.13	-.07	X			
EPEP	-.12	-.34*	-.02	.12	-.13	X		
NFACT	-.03	-.32*	.04	.03	-.17	.59***	X	
SALGD	.13	.07	-.34*	-.05	.02	-.03	-.13	X

* $p < .05$ ** $P < .01$ *** $P < .001$

Table 48 displays the classification matrix for the direct discriminant analysis on the adolescent data. Four cases were incorrectly classified. Three subjects who were actually in the high hopeless group, were identified as low hopeless, while one subject, who was a high hopeless case, was put into the high hopeless (prediction) group.

Table 48

Classification Matrix: adol. data (direct DFA)

Actual Group	(N)	Correctly predicted	Misclassified
Low hopeless:	16	15 (93.8 %)	1 (6.3 %)
High hopeless:	15	13 (86.7 %)	2 (13.3 %)
Percent of "grouped" cases correctly classified: 90.32 %			

Adolescent Data: Stepwise Discriminant

The same eight predictor variables were used in a stepwise discriminant functions analysis, CDI, LOC, MHTIO, CABNP, RPEP, EPEP, FACT, and SALGD. As can be seen in Table 49, the stepwise procedure resulted in the retention of only three variables: LOC, RPEP, and CDI.

Table 49

Stepwise Discriminant Analysis: Summary of steps

STEP	Variable entered	Variables in	Wilk's Lambda	Sig.
1.	LOC	1	.51	<.0001
2.	RPEP	2	.41	<.0001
3.	CDI	3	.39	<.0001

As Table 49 shows, locus of control (LOC) emerged as the most powerful predictor. Five variables were excluded: EPEP, MHTIO, FACT, SALGD, and CABNP. The three predictors combined accounted for 61 percent of the between-groups variability. The Chi-square results, which appear below in Table 50, reveal a highly significant association between the three predictors and the two levels of hopelessness, allowing one to reject the null hypothesis of equivalent means on the predictor variables for the two levels of hopelessness. Unlike the child data, where functional variables dominated the direct and stepwise results, the adolescent stepwise solution contains no functional variables.

Table 50

Canonical Discriminant Function: adol. data (stepwise DFA).

Eigen	Percent	Canonical	Wilk's	Chisquare	DF	Sig.
	Variance	Corr.	Lambda			
1.53	.61	.78	.39	25.59	3	<.01

Table 51 presents the Discriminant Loadings or correlations between the various predictor variables and the discriminant function. As this shows, locus of control remained the most powerful predictor.

Table 51

Correlations between discriminating variables and
Canonical Discriminant Function: adol. data (stepwise
method)

Predictor	Correlation
<hr/>	
LOC	.79
CDI	.68
RPEP	-.62
EPEP	-.18
MHTIO	-.15
NFACT	-.13
SALGD	.07
CABNP	-.00

In Table 52 the stepwise classification results are displayed. Overall nearly 88 % of the cases were correctly identified. A total of four cases were missclassified: Two high hopeless cases were incorrectly labelled as low hopeless, while two low hopeless subjects were put into the "high hopeless" group.

Table 52

Classification Matrix: adol. data (stepwise DFA)

Actual Group	(N)	Correctly predicted	Misclassified
Low hopeless:	16	14 (87.5 %)	2 (12.5 %)
High hopeless:	16	14 (87.5 %)	2 (12.5 %)
Percent of "grouped" cases correctly classified: 87.50 %			

DISCUSSION

Overview

The present study found evidence to support a number of hypotheses advanced at the start of this investigation. The reader may recall that the primary purpose of this investigation was to explore the development of hopelessness and the extent to which it remains "isomorphic" over time. A secondary aim was to use the methods and results of this investigation to comment upon the construct of hopelessness, its nature and constitution, and its relationship to other closely linked constructs such as depression, helplessness, and hope.

Another secondary aim was to gather, if possible, data which might help in further assessing the construct validity of the Hopelessness Scale For Children (HSC: Kazdin et al., 1983).

This section begins with a review and discussion of the preliminary analyses, i.e., age and sex-differences, depression scores, locus of control, and general psychopathology. This is proceeded by a review of the pattern of functional and structural findings. Comments regarding theoretical implications are minimal in these first two sections, and are restricted, for the most part, to possible interpretations of some of the age-related

differences. This part of the discussion ends with a review of the limitations of the present study, and implications for clinical practice.

The third and final section of this discussion is largely theoretical and focuses on implications of the present findings for each of the three main issues that guided this investigation, i.e., hopelessness and development, the nature of hopelessness, and the validity of the HSC.

Preliminary Analyses

Issues Of Age And Sex

As noted earlier it was not possible to match subjects by age and sex. Significant age differences across levels of hopelessness occurred only among nonclinical adolescents. The low hopeless group was, on the average, two years and four months older than the high hopeless group. This raises two logical problems; one is the possibility that any observed differences across levels of hopelessness on the dependent variables might be attributable to age differences in these two groups rather than level of hopelessness. A second possibility is that a lack of differences across levels of hopelessness could be attributed to the obscuring effects of age differences.

Thirdly, when correlations between age and the ten dependent variables (five functional and five structural), are examined closely, it is important to note that most of the correlations are extremely small and only one of them is statistically significant. Moreover, the MHTSA variable (number of solutions), which was the only variable significantly correlated with age ($r = .26$), was not affected by a hope $\times$ clinical status interaction.

Fourthly, as mentioned in the previous section, it was possible to combine clinical and nonclinical subjects in a discriminant functions analysis to examine the role of various factors in predicting level of hopelessness. When this occurred, the mean age difference between the high and low hopeless groups was reduced to just slightly more than one year, and most importantly, many of the MANOVA differences were either replicated and/or amplified.

Sex-Differences

Meaningful analyses of sex-differences were not possible across the eight specific groups, given the relatively small number of subjects per group ($N=8$) and slight imbalances in the number of females and males across cells. An overall comparison of males vs. females across the five structural variables, and the five functional variables revealed no significant differences. A

breakdown by sex and clinical status also revealed no significant differences. Therefore further discussion of this topic will be postponed until the end of this section when it will be reviewed in a general manner under the heading of considerations for future research.

Depression

The results from Table 3 (p 71) reveal that depression scores were significantly higher for high hopeless adolescents, as compared to low hopeless adolescents. Although high hopeless children also had slightly higher scores, the differences were not significant in this latter group. Since this pattern was consistent for both clinical and noclinical subjects, it raises the issue of whether development influences the association between depression and hopelessness. Initially, it had been hypothesized that CDI scores would be higher for the high hopeless groups, regardless of age. Along these lines, several studies comparing level of hopelessness and depression in children and adolescents, have found that high hopeless groups tend to score significantly higher on self report measures of depression (Kazdin et. al., 1983; 1986; Spirito et. al., 1989). Spirito et. al. (1989) found that CDI scores for high hopeless adolescents, as compared to low hopeless

adolescents, were nearly three times higher. In direct contract to the present study, Kazdin et. al. (1983) found that high hopeless children also scored higher on the CDI. However the differences in this (child) study were more modest, suggesting a similar overall pattern, i.e., levels of depression appear to covary more strongly with hopelessness, in adolescents.

Locus Of Control

Several expected trends were noted in the results pertaining to locus of control. For instance, children's scores were a little higher, i.e., reflecting a more externalized locus of control with age. This is a consistent finding in the literature (Crandall, 1965; Lefcourt, 1982; Penk, 1969) and was one of the basic normative findings reported by Nowicki and Strickland (1972) when they introduced their locus of control scale in the early seventies. There was also a general tendency for the clinical groups to score in a more externalized direction.

As expected, the high hopeless groups, on the average, showed higher (more external) scores. However, the major finding was that significant differences between high and low hopeless groups occurred only among adolescents. Again this pattern held regardless of

clinical status, which raises the issue of whether hopelessness and passivity begin to merge in the adolescent years. Although a number of studies have demonstrated a close connections between depression and an external locus of control in children (e.g., Schwartz et. al, 1982), none of the studies thus far have have compared high and low hopeless children on a locus of control measure. Further discussion on this topic will be reserved for the section on discriminant function analyses.

General Psychopathology

Significant differences on the index of general psychopathology (CGAS) were found only among children. High hopeless children received higher scores on the Children's Global Assessment Scale (Schaffer et. al., 1982), relative to low hopeless children. It had been hypothesized that differences would emerge on this measure, when high and low hopeless children were compared, but not when similar comparisons were made using adolescents. This prediction had been based, in part, on the child stress literature (Chandler, 1983; Rutter, 1985), which alluded to the generation of hopelessness in children exposed to chronic psychosocial trauma, and in part on the more general notion that hopelessness in

younger children may be a less circumscribed state, and more of a general reflection of the level of disorganization and chaos within the child and his or her environment. This latter point will be developed further in this discussion.

The differences on the general psychopathology measure raise the same kind of issues discussed above in connection with age differences among nonclinical adolescents; namely, that differences between high and low hopeless children could be attributed to varying degrees of psychopathology, or that differences across groups may be obscured by different levels of psychopathology. The response to this issue is three-fold. First, while some of the correlations between CGAS and the dependent variables, were statistically significant, none were large enough to employ CGAS as a covariate. Secondly, in the four instances involving dependent variables significantly correlated with the GCAS measure (MHTIO, CABNP, SALGD, RPEP), the overall pattern of findings supported a level of hopelessness explanation rather than a level of psychopathology confound. For example, among the clinically involved children, the high hopeless group took longer to associate from a negative to positive event, generated fewer positive initial outcomes, and recalled fewer positive events. But these high vs. low hopeless differences were found to cut across both age

groups, and both levels of clinical status (clinical-nonclinical).

The one result that is not so easily dismissed, involves the SALGD differences observed. Recall that this variable measures subjects' own estimates of the relative improvement in the quality of their lives over time. Surprisingly, among the clinically involved children, the high hopeless group scored higher on this variable, implying that they either have experienced or expected a greater improvement in the quality of their lives. Could it have been that this difference was due to a higher level of general dissatisfaction among the high hopeless group? One might argue that children who are more "disturbed", and "disadvantaged", regardless of how "hopeless" they may appear, may expect at some level that "things will work out in the end", i.e., perhaps operating from what Lerner (1980) referred to as the "just-world hypothesis". The only problem with this analysis is that a similar difference was found between high and low hopeless, nonclinical adolescents, i.e., the high hopeless group reported higher SALGD scores. One possible conclusion is that in adolescence, level of hopelessness is more important in determining the degree of life improvement one believes has occurred or will occur, but that in childhood, degree of disturbance with respect to one's self and the surrounding environment is more likely

to influence perceptions of quality of life.

A second possibility is that in forming the SALGD variable from the four SAL tasks (now, last yr., next yr., two yrs.), some critical piece of information may have been lost in the process. This issue is explored in depth in the upcoming section on structural findings.

Thirdly, from a clinical and pragmatic perspective, practical differences on the CGAS involve scores below and above 50, and not in the 35 to 45 range that characterizes the mean difference between the high and low clinical group. For example, a score of 50 or lower is typically required by Medicaid to extend coverage of mental health services. Moreover, The CGAS itself ranges from 0 to 100 and is subdivided into ten gradations of ten points each. The scores 35 and 45 thus capture the midpoints of two adjacent gradations. A score in the 40 to 50 range should reflect moderate impairment in school, peer, or general social functioning, or major impairment in one such area. By comparison, a score in the 30 to 40 range should reflect major impairment in more than one of the above areas. In short, the mean differences on the CGAS do not reflect, in standard clinical or practical terms, major differences in levels of general psychopathology.

Functional Aspects

Validity Of Functional Measures

Patterns of correlations are frequently used to demonstrate the validity of relatively new or unstandardized measures. The classic example is the convergent-divergent validity matrix advocated by Campbell and Fiske (1959). In essence one strives to demonstrate that scores on a new measure are correlated with scores on one or more other measures which tap related constructs (convergent validity), and that scores on the new measure are not correlated with scores or measures that tap unrelated constructs (divergent or discriminant validity).

Table 12 (p. 90) presented the correlations among the five functional measures, and the degree of association between these measure and scores on the Child Depression Inventory (Kovacs, et al. 1982) and the Nowicki-Strickland Locus of Control Scale (Nowicki & Strickland, 1972). With respect to the Maintenance of Hope Task and its derivatives (MHTIO, MHTFO, MHTSA), the number of alternative solutions (MHTSA) was significantly and positively correlated with both initial outcome (MHTIO) and final outcome (MHTFO). Both of these variables (MHTIO, MHTFO) were negatively correlated with psychopathology, and essentially uncorrelated with each other. This suggests that conceptions of initial and final

outcomes may be relatively independent aspects, but that both of them are affected by degree of psychopathology. The number of alternative solutions (MHTSA) was positively correlated with age, but negatively correlated with severity of depression and an external locus of control. The results pertaining to level of depression converge with work done by cognitive theorists of depression who have long noted disruptions of problem-solving skills in depressed adults (Beck, 1967; Blatt & Allison, 1968; Rapaport, Gill, & Shafer, 1968) and children (Kaslow et. al., 1983; Klein & Seligman, 1976; Schwartz et. al., 1982).

The association between number of alternative solutions and an internal locus of control might best be interpreted in terms of repeated findings that individuals with a more internal locus of control strive to generate more options for themselves when confronted by stressful situations (Lefcourt, 1980).

The two time-to-hope variables (CABNP, DWF) were both positively correlated with psychopathology, suggesting that more disturbed children and adolescents may take longer to associate from a negative to positive concept. The fact that scores on these two measure were relatively uncorrelated implies that each may be tapping a slightly different skill. This possibility is explored in greater detail below.

Pattern Of Functional Findings

With respect to the MHTFO variable, which measures the number of final positive outcomes generated by subjects, there was a strong clinical-nonclinical pattern of findings. That is, among nonclinical subjects, both children and adolescents, the high hopeless groups generated fewer positive outcomes. However in both the child and adolescent clinical groups, the mean number of positive final outcomes were very similar. This suggests that in a nonclinical sample, the ability to maintain a positive outlook may depend on one's level of hope or hopelessness, but that clinically involved children or adolescents, regardless of their level of hopelessness, may be may be less able to perceive positive resolutions to conflictual situations. Related to this findings may be the results reported by Platt et al. (1974) in which adolescent psychiatric inpatients were less able to think in terms of step-by-step methods of reaching specified goals in interpersonal situations than a group of nonclinical controls.

It is interesting that number of positive initial outcomes (MHTIO) was not significantly affected by age and clinical status factors, while number of final positive outcomes was. A closer look at the group differences on the MHTIO variable revealed a very consistent pattern, in

which the low hopeless group generated a greater average number of positive initial outcomes. The only exception occurred in the adolescent clinical groups who displayed exactly identical scores on this variable.

Overall, the low hopeless group generated approximately twice as many positive final outcomes, and approximately thirty percent more positive initial outcomes. One possible interpretation of this pattern is that conceptions regarding final outcomes may be more affected by level of hopelessness than conceptions regarding initial outcomes. Some of the earlier work in the area of achievement motivation may be relevant here (McClelland, 1955; Atkinson, 1964). In a number of these studies, protagonists were depicted or acknowledged by subjects with high need achievement, who had persevered through initially difficult situations to achieve final success (see also Heckenhausen, 1977).

The results supported the initial hypothesis that level of hopelessness would affect time required for subjects to associate from a negative to positive event. While only one of the four subgroupings displayed a significant difference on the CABNP variable (child clinical groups), the general trend was for the high hopeless groups to take longer to associate from a negative to positive event than vice versa. The only exception was the adolescent clinical group where an

opposite trend was noted, i.e., the low hopeless group took longer to associate from negative to positive. While the difference was not statistically significant, it does raise the question of why the more hopeless, clinically-involved adolescents would require less time to generate scenarios that began with a negative events and ended on a positive note. One possibility is that low hopeless, clinically-involved adolescents, but not children, may be more apt to engage in more elaborate (time consuming) fantasies involving the transformations of negative events into positive ones. Recall that among adolescents, there was a much stronger connection between perceptions that one could not determine one's' fate, as measured by an externalized locus of control, and level of hopelessness.

The results pertaining to the DWF variable reinforce the CABNP findings. To review, larger scores on the DWF variables reflect a lower reaction time in associating from positive to negative than vice versa. In three of the four groups, the high hopeless subjects took longer to associate from negative to positive events than vice versa. Interestingly, the correlations (from table 12, p. 90) between CABNP and DWF were extremely small ($r = .07$), despite their apparent link on a conceptual level. One conclusion might be that any correlation was obscured by comparing a composite variable (DWF) with a raw score (CABNP).

A second interpretation, which is not mutually exclusive with the first account, is that the two methods of tapping associations differ in the kind of cognitive process which is engaged. Recall that the DWF procedure involves sequential processing of presented sequences, while the CABNP method requires subjects to generate their own sequence of events. The former, as a derivative of the WISC-R Picture Arrangement (Sattler, 1982), may be tapping a more stimulus-bound sequencing process (Lezak, 1983), while the latter, being less stimulus-bound and more creative in nature, may depend on more constructive or strongly memory-dependent, reconstructive, cognitive processes (Russell & Van den Broek, 1988). If one considers that fantasy is a form of constructive or reconstructive cognitive activity (Exner, 1988; Russell & Van Den Broek, 1988), this stimulus-bound and sequential vs. constructive and sequential distinction might lend further support to the previous suggestion that differences among clinically involved adolescents on the CABNP variable might be attributable to greater passive fantasy engagement among the low hopeless subjects. Nevertheless, what may be most important about these particular findings is that both stimulus-bound and more creative, sequential, cognitive processes seem to be affected by levels of hopelessness.

Thus far it has been suggested that generation of

positive outcomes, and speed of "hoping" vs. "worry" may be affected by level of hopelessness, in both children and adolescents. Results of analyses on the MHTSA variables suggest yet another functional dimension which may be significantly affected by a state of hopelessness, i.e, the number of alternative solutions one is able to generate when presented with a conflictual situation. Specifically, the low hopeless groups tended to generate an average of nearly three possible solutions, to each of three conflicts, while the high hopeless groups averaged slightly less than two alternatives per situation. In a sense then the low hopeless group was able, on the average, to generate one more option than the high hopeless group. This finding is particularly interesting if one considers Beck's (1967) cognitive approach, in which hopelessness leads to the perception that one's options have been attenuated.

Structural Findings

Validity Of Structural Measures

Correlations among the structural measures, and between these scores and the variables of age, locus of control, and severity of depression were presented in Table 26 (p. 113). It is interesting to note that number of expected positive events (EPEP) and number of recalled

positive events (RPEP) were relatively uncorrelated, and only the latter (RPEP) was associated with existing level of psychopathology (CGAS). This latter connection seems intuitively obvious, i.e., a fewer number of positive past experiences would seem to be the rule among more disturbed children and adolescents. However the findings suggest that neither of these factors significantly influences the number of positive events one expects to occur in the future.

Temporal extension (EXT) was surprisingly related only to the number of future active events (FACT). This association between extension in time and an active future orientation seems related to the strong connection that some writers have drawn between hope, a future orientation, and the uniqueness of man as a creature who constantly "plans" to do things (cf. Tiger, 1979).

An encouraging finding was that number of future active events (FACT), as tapped by the expected future events task (EFE), was positive correlated with a more internalized locus of control. One would expect that subjects who believe they may exercise a great deal of control over their fate, would envision more future events that were self-initiated.

Finally, expected or experienced improvement in quality of life over time (SALGD) was positively correlated with depression, an external locus of control,

a higher level of psychopathology (CGAS), and negatively correlated with number of future active events (FACT). (As will be seen, scores on the SALGD variable were strongly influenced by markedly lower ratings for past quality of life among the high hopeless group.) Taken together, what these findings suggest is that those subjects who perceived the past as significantly worse, were also more generally disturbed, were more depressed, and manifested a more external locus of control, which in turn may have been due to a sense that many negative events were imposed upon them.

Pattern Of Structural Findings

Extension In Time. (EXT)

It had been originally hypothesized that low hopeless adolescents, but perhaps not children, would extend recalled and expected events further in time. Surprisingly, the results suggested the opposite; in three of the four groupings, greater temporal extension was found in the high hopeless group. The one exception involved the child clinical cases. The high hopeless group extended events slightly further in time. This difference was nonsignificant but it does raise the issue of why it occurred. A partial answer may lie in the analysis of the SALGD variable which appears below.

Another piece of the puzzle may lie in the composition of the EXT variable itself. Recall that EXT was calculated by adding median future time-frame scores to median past time-frame scores. If high and low hopeless groups could be compared on both of these separate variables, one might be able to further discern whether these groups differ in terms of how far into the past they extend events, how far into the future, or both.

When high and low hopeless groups were compared on both (median) past time frame and (median) future time frame, the only significant difference involved future time frame. Overall, the (median) future time-frame for the high hopeless group was 7.98 years, while the (median) future time-frame for the low hopeless group was 4.56 years, $T(1, 60) = 2.19$, $p < .05$.

One interpretation of these findings might be that high hopeless children and adolescents need to look further into the future to envision a change for the better. Interestingly, Haberland (1972), who provided the most specific definition of hope reviewed in the introduction, asserted that hope involved "confident expectations.... of gratifying changes....in the intermediate future" (Haberland, 1972). In one sense the use of a median time point could be considered a personal "intermediate time zone". Another way to conceptualize the notion of "time zones", might be in a nonrelativistic

or absolute sense, in which an "intermediate zone" would be the same length of time for all individuals. In either sense, one could argue that what is most important is not the subjective or objective length of the "intermediate zone", but the expectation that positive change will occur in that time zone.

To get at this issue a little more directly, the future density variable, computed by dividing number of positive events by future (median) time frame, was compared across high and low hopeless groups. Although scores were, on the average, higher for the low hopeless group, there was great individual variability and the differences were nonsignificant, $T(1, 60) = .21, p > .05$.

Notwithstanding the above arguments regarding temporal density, Lain Entralgos (1957) wrote of "hope piercing through time" and Haberland (1972) insisted that to hope one must be able to "extend the self in time". Such statements imply that more hopeless individuals will demonstrate a reduction in terms of how far, objectively (relative to others), or subjectively (relative to themselves), they extended themselves, psychologically in time.

In an attempt to get at this issue a little more directly, high and low hopeless subjects were compared in terms of the farthest time points they generated. The results were statistically nonsignificant, $T(1, 60) =$

1.01, $p > .05$. Although the mean furthest time point was approximately seven years further for the high hopeless group than the low hopeless group (28.65 yrs. vs. 21.98 yrs., respectively), this difference was obscured by great individual variability within each group.

One possible interpretation is that even high hopeless adolescents are still young enough to put some form of faith in the future, and expect that, given enough time, things will improve. This particular hypothesis could be tested if a much older, adult sample of high and low hopeless subjects was included for comparison.

Positive Events Over Time. (EPEP and RPEP)

The results pertaining to number of recalled positive events were not significantly affected by higher-order interactions. The general findings that low hopeless children and adolescents recalled a greater number of positive events was mildly surprising. It had been hypothesized that this difference would emerge in adolescents. One interpretation might be that even if temporal changes do not occur as a result of hopelessness in young children, extra-temporal changes may still appear.

The results having to do with number of expected positive events (EPEP) are more difficult to interpret.

In both of the clinical subgroupings the differences between the high and low hopeless subjects were more subtle, and none were statistically significant. This was also the true for the child clinical cases. The only significant result occurred in the nonclinical adolescent sample, where the low hopeless group expected a greater number of positive events. One possible conclusion is that this extra-temporal aspect is not significantly affected by states of hopelessness until the adolescent years, and that its expression is sensitive to other clinical factors as well as level of hopelessness.

Future Active Events. (FACT)

The low hopeless group expected to initiate more events in the future in three of the four subgroupings. The one exception was the child nonclinical cases, where the opposite trend was found. The only significant difference occurred among nonclinical adolescents. One interpretation might be that the active-passive dimension is most relevant to states of hopelessness in later years, but that it does not distinguish levels of hopelessness in younger children.

Quality Of Life Over Time. (SALGD)

As noted in the previous section on general psychopathology, the SALGD results were quite surprising. In two of the four groupings, the trend was for the high hopeless groups to report greater experienced and/or expected improvement in their quality of life over time.

In an effort to shed further light on this issue a more fine-grained analysis of the SALGD variable was undertaken by reviewing group differences on the four constituent variables from which SALGD was derived, i.e., the four responses on the SAL task which invite the subject to assess the quality of his or her life; now, last year, next year, and in two years.

The low hopeless groups, regardless of age or clinical status, had slightly higher scores on ratings of "next year" and "last year". Interestingly, the high and low hopeless, child groups did not differ significantly on ratings of "now". However, among adolescents, the high hopeless groups rated "now" as significantly worse than did the low hopeless groups. But the most dramatic differences concerned ratings of "last year", where the low hopeless group rating was nearly twice as high as the high hopeless rating, $T(1,60) = 3.19$, $p < .01$. Dramatically lower ratings for last year among high hopeless subjects can translate into relatively greater improvement in overall quality of life (SALGD) if group

differences are more subtle on the other variables, which they were.

Ratings of "last year" were then examined in the nonclinical adolescent groups and the child clinical groups, the only two groupings in which SALGD score were actually higher for the high hopeless group. If the above argument is relevant, one should uncover marked differences on ratings of last year among these subjects. This was in fact confirmed. Among the nonclinical adolescents, the low hopeless group rated "last year" nearly three times higher than did the high hopeless group. Similarly in the case of the clinically involved children, the low hopeless group rated "last year" nearly four times higher than did the high hopeless group.

In short, it appears that the tendency for several of the high hopeless groups to report higher overall improvement in quality of life, was in fact due to much lower ratings for their past quality of life. While this may reinforce the notion of a "just-world" type of thinking (Lerner, 1980), it should not obscure the fact that both children and adolescents who reported a greater state of hopelessness believe they had experienced, and would continue to experience a lower quality of life. As far as net improvement in quality of life is concerned, the worn out cliché that "everything is relative" may still be the most accurate way to sum up the differences

here. It does seem that for some of the high hopeless subjects, a greater improvement in quality of life has, or is expected, if only because the the hill they have climbed has been that much steeper.

Combined Structural-Functional Analysis

The Discriminant Function Analyses (DFA) allowed a subset of variables, including functional and structural aspects, to be assessed for their relative importance in predicting levels of hopelessness.

The initial findings suggested that functional variables were most affected by levels of hopelessness in children, but that in adolescents, it was (two) structural variables that were most affected by level of hopelessness.

Child DFA Results

It was interesting to note that so many of the hope-related hypotheses and predictions, initially, conceptualized as more relevant for the adolescent sample, were borne out among children. The high hopeless children were more depressed, had a more externalized locus of control, generated fewer positive initial and final outcomes, produced fewer alternative solutions, took

longer to associate from negative to positive stimuli, and recalled fewer positive events. The only result that was somewhat surprising was that the high and low hopeless child groups expected the same number of positive events to occur.

By using the eight predictors available in the child sample (CDI, LOC, MHTSA, MHTIO, CABNP, EPEP, RPEP, MHTFO), 71 % of the variability between-groups was accounted for, and nearly 94% of the cases were correctly classified when discriminant scores were used to predict group membership. The number of alternative solutions (MHTSA) and number of positive initial outcomes (MHTIO) emerged as the two most powerful predictors.

The stepwise DFA revealed that a subset of only five variables, including CDI, two functional variables (MHTSA, MHTIO), and two structural variables (RPEP, EPEP), accounted for the same amount of between-groups variability (71%) and produced an ever higher hit rate of nearly 97% when discriminant scores were used to classify cases.

Adolescent DFA Results

The general findings of the DFA using adolescents, paralleled the child results. Seven of the eight differences between the high and low hopeless groups were in the predicted direction. The high hopeless group was

more depressed, had a more externalized locus of control, generated fewer positive initial outcomes, recalled and expected fewer positive events, took longer to associate from a negative to positive event, and expected fewer active events. The only unanticipated finding was that the high hopeless group reported they expected or experienced a greater improvement in thier quality of life over time (SALGD). This issue was exhaustively explored in the previous section and will not be discussed in any further detail.

The use of the eight predictors available in the adolescent sample (CDI, LOC, RPEP, EPEP, MHTIO, NFACT, SALGD, CABNP) accounted for 63% of the between-groups variability, and a "hit rate" of over 90% when discriminant scores were used to classify cases. Locus of control and severity of depression were the two most powerful predictors, followed by recalled positive events (RPEP), expected positive events (EPEP), intitial outcome (MHTIO), and future active events (FACT).

The adolescent stepwise procedure revealed that a subset of just three variables was retained: Locus of control, Severity of depression, and one structural variable (RPEP). These three predictors accounted for approximately 61% of the between-groups variability and correctly classified nearly 88% of the cases.

Comments On Structural-Functional Age Differences

Generally speaking, the results of the Discriminant analyses were encouraging. Between 60 and 70 percent of the between groups variability was accounted for by the designated predictors. This greatly exceeds the standard .20 percent of the variance, accounted for by the .45 correlations that typified work in the social sciences when single predictors were the method of choice. (Gheselli, 1970).

The percent of cases correctly classified on the basis of generated discriminant scores ranged from nearly 88% to nearly 97% and clearly exceeded the 50% rate expected by chance alone.

In children, the functional variables seemed most affected by level of hopelessness. When predictors were ordered in terms of their correlation with the function, two of the top three predictors, and four of the top six predictors were functional variables. A tentative conclusion may be that levels of hopelessness in children may manifest themselves primarily in terms of functional disruptions; in problem solving, and more specifically in the ability to generate alternative solutions, find positive aspects in an initial appraisal of a conflict, and maintain a positive outlook even when no immediate solution is at hand. At a more abstract level the finding that functional variables may be the key to understanding

hopelessness in younger children has strong theoretical implications in that a number of developmental theorists (Kagan, 1971; Uzgiris, 1989) have argued that one may uncover continuities in development is through a functional analysis of behavior.

It may also be worth noting that although number of expected positive events was forced into the child DFA, the high and low hopeless child groups hardly differed on this variable. In contrast the number of recalled positive events was affected to a greater degree by level of hopelessness. Moreover this variable was very highly, and negatively correlated with number of initial positive outcomes ($-.73$). This seems to suggest that children with more positive memories will not necessarily ignore or "filter out" perceptions of conflict in their initial appraisal of events. Indeed it may be that children who have a larger reservoir of positive past experiences may better able to tolerate and acknowledge the "stress" or conflict inherent in certain situations.

In adolescents, the emerging picture is quite different. Although many of the same functional differences continue to exist, it was locus of control, depression, and several structural variables that were most affected by level of hopelessness. After locus of control, depression, and number of recalled positive events, there was a noticable drop in the size of the

correlations associated with the rest of the predictors. Nevertheless the next three predictors, (in terms of size of correlations) were all structural variables. In fact, the functional variables were the two variables least correlated with the discriminant function.

Three tentative conclusions may be drawn from the adolescent DFA; One is that hopelessness may be more closely associated with passivity, or at least, an external locus of control, at this age. A part of Erikson's (1951) psychosexual stage theory may be relevant in this regard. According to Erikson (1951) successful resolution of the tasks associated with stages just preceding adolescence ought to result in such virtues as "initiative" and "will". A sense that one is not in control of many things in life may not be that unusual for a child who experiences parents, teachers, etc., making all of the important decisions which affect their lives. But an adolescent perhaps should not feel this way. Recall the general tendency for scores to move in an internal direction on the Nowicki-Strickland Locus of Control Scale (Nowicki & Strickland, 1972). Adolescents who do feel that life controls them rather than vice versa may be experiencing other things, including feelings of depression and hopelessness.

The other important finding concerning adolescents was that structural, rather than functional variables,

were more affected by level of hopelessness. In addition to number of recalled positive events, number of expected positive events, expected active events, and estimates of improvement in quality of life over time were all strongly affected by level of hopelessness. Interestingly, the number of expected positive events was a relatively good discriminator of hopelessness in adolescents, but was essentially irrelevant for children.

Limitations Of The Present Research And Implications For Future Work

It is sometimes noted that good research raises many questions while providing a few answers. In some instances these answers may seem rather trivial or "common sense" but the "facts" had never been empirically demonstrated. The advantage of multivariate statistical procedures, as used here, is that they seek to address the multi-determined nature of most natural phenomena, including human behavior. Of course, no one study can address all of the factors which might be said to "cause" a behavior. Thus while this study may have shed some light on the topic of hopelessness in children and adolescents, it has also revealed areas that remain obscured and untouched.

In future investigations, it would be interesting to see whether any sex differences emerged with respect to hopelessness and its related structural or functional

aspects. There has been little or no work done on this topic, even as it may relate to childhood depression.

It was not possible to match the high and low hopeless adolescents for age. While a strong case was made that the results were not confounded, it would be helpful in future work to see if the results could be replicated in samples of adolescents matched more closely on this variable. The inclusion of an adult sample would also make for an interesting comparison, particularly with respect to the temporal and extra-temporal variables.

As was noted in the methods section, the present investigation involved a cross-sectional design. Interestingly, the adolescents and children did not appear to differ in terms of average scores on the Hopelessness Scale. This could result from either an absence of a "period" effect with respect to levels of hopelessness, or the obscuring of existing developmental trends with respect to this state by such societal effects. The only way to address the issue more directly in the future is to include a longitudinal component in a study of hopelessness.

The two child clinical groups differed in terms of their scores on a general measure of psychopathology. Again a strong case was made that group differences did not have to be "explained away" as an artifact of these other differences. However this issue could also be dealt

with more directly in future studies if child clinical cases could be matched more closely on this variable as well. Of course there is always the possibility that general psychopathology covaries with hopelessness in children, and that high hopeless children will tend to be more "disturbed".

Statistically, this could be considered a "low powered" investigation (Cohen, 1982) in that the overall N was only 64 subjects, and that each of the MANOVA cells consisted of only eight subjects. Investigations of this kind are labelled "low power" since they run a greater risk of committing a Type II error, or i.e., failing to detect a true difference when one exists. Therefore it is especially encouraging for those interested in pursuing work in this area that some meaningful and potentially important differences still emerged.

As a result of the relatively small sample size, the subject-to-variable ratio was not as high as one would typically recommend. Fortunately it was possible to combine the clinical and nonclinical subjects, and this improved matters to a certain degree. However it is also a reality that obtaining valid and complete data on clinically-involved, depressed or hopeless children and adolescents is extremely difficult and may require enormous time and resources. Nevertheless with smaller samples there is always the risk of unstable correlations,

resulting from the capitalization on chance that occurs in the formation of statistical equations. For this reason alone it would be helpful to have another study with say, 100 to 160 subjects included to "cross validate" the correlations or weights assigned to the predictors.

Clinical Implications

The findings described here may prove to be of some help in assessing and/or treating hopelessness in children or adolescents. Assessment of hopelessness might be facilitated, for example, if clinicians or others working with children would screen for, or rule out hopelessness, if they note general deficits in problem solving, in the characteristic manner in which a child initially approaches a situation, negative patterns in the initial appraisals of situations, or an inability to resolve simple interpersonal differences. Conversely if a clinician, teacher, etc. suspects some degree of hopelessness in a child they might do well to assess some of the functional and structural aspects noted here, in an attempt to get a better understanding of the breadth, and depth of the hopelessness. In older children and in adolescents, it would seem especially prudent to screen for, or rule out, hopelessness when confronted by very passive, ambivalent, or apathetic youths, i.e., the types

who are often said to "fall through the cracks" of large systems because their types of problems are not highly annoying to those around them. And then there are countless other children and adolescents whose passivity is dismissed as "laziness" or lack of "motivation".

Treatments or interventions for children who experience hopelessness will depend on the nature of the underlying cause, the age of the child, and the family situation. In older children, those at least 11 or 12 years old, a modified form of cognitive restructuring in the tradition of Beck's (1967) cognitive therapy may prove useful. Young children will have great difficulty with such methods as they require one to think about "thoughts", i.e., "metacognition".

Older children and adolescents seem to benefit from a cognitive approach to such problems if new "self-statements" and other directives are made as concrete as possible, if they are generated with the therapist and child working together, and if the child is given the statements to take home and practice, e.g., on index cards, and reinforced for this practice (Leahy, 1988).

A particularly creative strategy in working with younger children is to create a "bad thought monster" and a "good thought monster" to represent the optimistic and pessimistic aspects of one's personality. Initially children are asked to play the role of the bad thought

monster who generates doubts, insecurities, self-deprecating remarks, etc., while the therapist plays the part of the good thought monster who redirects thoughts in a positive direction. Ultimately, child and therapist will switch roles when the child has acquired the tools to be his or her own "good thought monster".

With especially young children, a family level intervention is sought. Often children who are depressed and hopeless have parents who are suffering from the same malady, or live in a family that communicates the message that efforts will not go rewarded (either within or outside the family). Pittman (1989) writes of families that are "sitting" on a dilemma that is experienced by each and every family member as "unresolvable", and in which one member, often an adolescent, will become hopeless and suicidal to symbolize the "entrapment" felt by the family system as a whole. Treatment in such cases does not differ fundamentally from individual level interventions. The "unresolvable" dilemma must first be identified, and from there, options may be available that were not considered from the perspective of the family or individual who has or have become convinced that no workable alternatives remain.

Conclusions and Implications For Theory

In this final section the implications of the data are reviewed from the perspective of the three main issues which guided this investigation; hopelessness and development, the nature of hopelessness, and the validity of the Hopelessness Scale For Children (HSC: Kazdin et al., 1983). A tentative, hypothetical reconstruction of hopelessness and its development is also presented.

Hopelessness and Development

In the introduction to this dissertation, it was noted that many child researchers are beginning to challenge simple, downward extensions of adult models of psychopathology (Achenbach, 1983; Ullman et al., 1981). This fact alone provided much of the impetus for the present investigation. Along these lines, there was a definite expectation that age-related differences would emerge, especially with regard to temporal conceptions which have been assumed to be "undeveloped" and "limited" in children (Bemporad & Wilson, 1978; Rie, 1966).

Does hopelessness change with development? To explore this idea, it was hypothesized that high and low hopeless adolescents, but not children, would differ on a variety of functional and structural variables. As has

been shown, this was not the case. The high and low hopeless children differed on many of the functional variables, which involved aspects of problem-solving, as well as, a number of temporal and extra-temporal variables. In particular, the high hopeless children (as well as high hopeless adolescents) recalled fewer positive events. In addition, when asked to consider events or situations which might befall them or which they might initiate, the high hopeless children and adolescents tended to conceive of events or situations that were located further in the future.

Nevertheless, there were some interesting and potentially critical differences between the two age groups. For example, differences between children and adolescents were observed on two extra-temporal variables: number of expected positive events and number of expected active events. Both of these were associated with levels of hopelessness in the adolescent groups, but neither was associated with hopelessness in children.

Another fascinating difference between the child and adolescent groups involved the relative degree of association among level of hopelessness, and the functional, and structural variables. Although several of the temporal variables were significantly associated with hopelessness in children, the DFA results clearly demonstrated that in children it was functional variables,

such as number of alternative solutions, and number of initial positive outcomes one generated, that were most closely associated with level of hopelessness. In contrast, among adolescents, scores on the locus of control and depression measures were the most closely associated with level of hopelessness, followed by four extra-temporal variables. One obvious conclusion that emerged from these findings is that temporal and extra-temporal conceptions are very complex phenomena.

The fact that children with varying degrees of hopelessness differed on some of the temporal or extra-temporal variables but not others may not be that surprising if one considers what each of these tasks "require" in a cognitive sense. Specifically, it seems that high and low hopeless children were quite similar on tasks involving projection into the future. This appears to suggest at least two possible, contributing factors; One is that future projection is in some sense a better (developmental) test of the effect of hopelessness on time conception because, hypothetically, the ability to recollect, or review one's past may less affected by the age differences captured in this study, than one's ability to project into the future. Secondly, it is possible that hopelessness is more closely associated with future-time conceptions than past-time conceptions.

One might object that the above argument is weakened by the finding that levels of hopelessness in children were related to temporal extension and estimates of improvement in quality of life over time. However, with respect to the quality of life variable, recall that this was a "composite" variable that combined ratings of "last year", "now", and the future. Moreover, when this composite was decomposed, it was revealed that significant differences, in the child groups, were found only with respect to ratings of the past.

This still leaves the issue of why temporal extension was related to level of hopelessness in childhood, while no other future-directed variable was linked to degree of hopelessness in this age group. It may be that asking children and adolescents to simply estimate when in time they expect something to occur, is too gross an index of time conception. Indeed one might argue that such a question really does not get at future-time conceptions at all. Perhaps it merely taps ability to conceive of a future "point in time".

To address future-time conceptions one might have to ask subjects to articulate or elaborate upon events they expect to initiate, or to happen to them. In this sense it could be argued that a measure of number of positive future events or number of active future events, may be more closely connected to what are being referred to here

as, "future-time conceptions".

The differences being underscored here are not as subtle as they may appear. In fact these differential affects of hopelessness on time-conceptions may be the keys to a better understanding of age-related differences in the way hopelessness is experienced. This last issue will be explored again in the following section under the topic of "beliefs" which might underlie states of hopelessness.

What is hopelessness?

In delimiting the focus of this study, it was necessary to digress and comment on such issues as the relationship between states of hope and hopelessness and such closely-linked concepts as depression, despair, optimism, etc. It was also noted that a secondary aim of this investigation was to gather evidence that might help with the process of clarifying the nature, and constitution of hopelessness.

A working model of hopelessness was constructed to guide subsequent empirical analyses. These analyses led to some interesting findings. For the most part, the main features of the working model were supported by the obtained data. From a functional perspective, the more hopeless children and adolescents produced fewer initial and final positive outcomes, and alternative solutions

when presented with conflicted, interpersonal situations. The more hopeless subjects also took longer to process information in a negative to positive direction.

However, as the previous discussion revealed, several of the structural variables were strongly influenced by age, as well as, degree of hopelessness. The data supported the initial conception of hopelessness as a state in which one views the past in a less favorable light. But the assumption that hopelessness leads to negative conceptions of the future was supported only by the adolescent data. As was noted above, this may be partly due to developmental factors, and may be partly the result of the manner in which future-time conceptions were assessed in the present study.

In the following pages, this issue of what is hopelessness, is addressed by initially considering how hopelessness differs from several closely related constructs. With this completed, a tentative model of hopelessness and its development is offered.

Hopelessness and Depression.

Some theorists will use the terms "hopelessness" and "depression" as synonyms, or attempt to reduce one of these phenomena to a mildly interesting but insignificant by-product of the other. For example, some biologically

oriented theorists, view hopelessness as a result or by-product of a depression "caused" by changes in brain chemistry (Akiskal & McKinney, 1975). In sharp contrast, Beck (1967) and other cognitive theorists of depression (Ellis, 1982) have reversed this order and described the manner in which certain, faulty modes of information processing lead to a state of hopelessness, which in turn may precipitate states of depression. Most recently, Abramson, Alloy, and Metalsky, (1990) have begun to write about "hopelessness-depression", as a distinct type of depression brought on by states of hopelessness.

The data obtained in the present study cannot address the issue of which comes first, or which is more fundamental, hopelessness or depression. However, several findings reinforce the notion that hopelessness and depression are closely related, but distinctly different phenomena. One such finding concerns differences between the high and low hopeless groups on the measure of severity of depression. Recall that while both of the high hopeless adolescent groups (clinical and nonclinical) demonstrated higher depression scores, differences in the child groups were more subtle and none were statistically significant.

Another finding which strengthens the idea that hopelessness and depression are separate constructs comes from the Discriminant Analysis. Recall that depression

was not the strongest predictor of hopelessness for either the child or adolescent subjects. In the child group, severity of depression ranked third, after number of alternative solutions and number of initial, positive outcomes. The correlation between severity of depression and the function was .27, indicating that less than 8 percent of the between-groups (high vs. low hopeless) variability was accounted for by depression. In the adolescent group, depression was more closely linked to level of hopelessness. Severity of depression was the second largest predictor, after locus of control. The correlation between severity of depression and the function was .65, indicating that another 58 percent of the between-groups variability was not accounted for by depression.

With respect to this relationship between depression and hopelessness, the position taken here is a moderate one. This writer believes that in certain cases, depression may chronologically precede, and thus effect a state of hopelessness. For example, in the event of some biochemical change, involving perhaps dopamine or serotonin levels, an "endogenous" depression (Carlson, 1986) could result, which in turn could result in a sense of hopelessness.

If one defines "depression" in terms of a syndrome that includes hopelessness then the (preceeding) onset of

depression might be viewed as a simultaneous or sequential unfolding of a variety of symptoms, including hopelessness. Of course, one might also conceive of the state of hopelessness as an "associated feature" generated as a result of the onset of depression (Piug-Antich, 1978).

In other cases, perhaps a real, imagined, or impending loss, a sense of entrapment, or some other psychosocial event which leads one to conclude there is "no way out", may lead to a state of hopelessness, which in turn might precipitate a state of depression.

An interesting issue that one might raise at this juncture is whether the route or pathway to these states of depression or hopelessness would change the state in any significant way. In the opinion of this writer, the pathway should make a difference, if only because the individual will either be cognizant of precipitants, if they are clearly present, or he or she may generate attributions if these (precipitants) are unclear, but in either case, his or her knowledge and/or "theorizing" will influence the set of beliefs the person generates in trying to make sense of the experience.

Hopelessness vs. Helplessness

When Richter (1959) found that wild rats placed in water would quickly "give up" and die if they were

temporarily constrained or if their whiskers were trimmed, he attributed this to "hopelessness" or a "literal giving up" and presumed some awareness on the part of the rats to realize that "all avenues of escape appear closed and the future holds no hope". In the Sixties and Seventies, Seligman (1975) repeatedly demonstrated what could be described as essentially the same phenomenon, i.e., if an animal is immobilized and prevented from escaping an aversive event, even briefly, it may subsequently fail when escape is made possible. What is most relevant for the present discussion is that Seligman (1975) chose to label his findings examples of "learned helplessness" rather than "hopelessness", and initially wrote very little about hopelessness. Only recently has Seligman (1988) begun to address the relationship between these two constructs. While Seligman's (1988) comments on this issue have been cursory he does suggest that contact with larger belief systems, religious, or even sociocultural, may help in preventing helplessness from turning into hopelessness.

In humans with symbolic capacities, including time conceptions, instances of learned helplessness may lead to states of either hope or hopelessness. These subsequent emotions may be generated since "help" may (or may not) "arrive" or "appear" in many forms, many of them symbolic in nature.

In nonhuman animals with limited symbolic and time-related capacities, learned helplessness may lead to depression (in the sense of diminished replying), illness, and even death. Younger children may have limited conceptions of the future, but these may suffice to generate feelings of hope or hopelessness.

In Animals who cannot extend themselves even briefly in time, the danger of illness, or death as a direct result of giving up would seem far greater. Along these lines, it may be worth noting that the rats in Richter's (1959) experiments could "survive" the initial trauma of immobilization only if they could be taught immediately that their state of helplessness was not permanent by releasing them quickly after a very brief period of immobilization.

Hopelessness vs. Hope

This study encompassed both hope and hopelessness. Some might argue that the opposite of an emotion or feeling is not necessarily the failure to feel or experience that emotion. Averill (1990) has noted that in many cases, fear and not hopelessness, may be the opposite of hope. This point is made even clearer if one considers the "work of hope" metaphor used to introduce the functional aspects of hope. It would seem that part of

one's "work" while hoping would involve warding off fear that one's hope would not materialize. In essence, by hoping, one entertains an element of fear and risk, that ironically is avoided when one is feeling hopeless.

There are some other simple ideas which could shed further light on this issue of hope and hopelessness, and which relate directly to the present study. One factor to consider is the target or scope of the feeling. It may very well be that in hoping for a relatively specific event to unfold, one might also fear that it might not come to pass. In contrast it may also be possible to describe generalized states of hopefulness that alternate or take the place of generalized feelings of hopelessness. The reader might recognize in this distinction the more familiar comparison between emotions and moods. But this does not tell the whole story. Recall the metaphor of hope as a "protected area", i.e., an island or oasis, which was operationalized via the maintenance of hope paradigm. When hope is viewed in this light, i.e., as an isolated or defended area of consciousness, protected from threatening ideas, present in either the unconscious or other aspects of consciousness, it does seem more accurate to describe hope in a noun form, as something available or unavailable to the individual.

A Hypothetical Reconstruction: Hopelessness And Its Development

In the introduction to this dissertation, it was noted that "hope" and "hopelessness" are broad terms with diverse connotations. One of the secondary aims of this investigation has been to demonstrate that a thorough and systematic theoretical analysis, supplemented by empirical findings, can begin to provide a clearer, more scientific definition of "hope" and "hopelessness".

Hope is an emotion. It may not appear in the list of so-called "basic emotions" of more biologically oriented theorists (cf. Plutchik, 1980), but as Averill et al. (1990) have noted, it was considered a "primary" emotions by various philosophers, including Aquinas, Hume, Hartley, and Kant (see also Godfrey, 1987), and is typically rated as such by subjects asked to generated examples of emotions.

Averill et al. (1990) have begun to show ways in which hope resembles other emotions. These authors have conducted a series of studies of hope, including the analyses of metaphors described in the introduction, as well as surveys of the everyday experience of hope. In asserting that hope is an emotion they note that like other emotions, hope is a "passion", it is difficult to control. Hope affects the way a person thinks and/or

behaves. Hope motivates behavior, and is a common or universal experience.

While the authors are primarily concerned with hope rather than hopelessness, each of these qualities or features would seem to apply to hopelessness as well. A person typically does not wish to be hopeless and despite what readers of cognitive theorists such as Beck (1967) might conclude, it is not easy to use reason to rid a person of hopelessness.

It is noted time and again that people often achieve as much or as little as they believe is possible. Hopelessness affects behavior because it consists in part, of a set of beliefs which have "tagged" one or more behaviors as ineffective, irrelevant, or inadequate.

Hope is a socially constructed emotion. According to Averill (1980) and others who adopt a social constructivist view (cf. Harre, 1986), although emotions may be viewed as complex "syndromes" composed of biological, psychological, and social elements, they are principally, social constructions. Averill and his colleagues have begun to demonstrate how a variety of social "rules" help to define the object, occasion, and other aspects of hope. From their surveys they have gleaned, for example, that hopes should be directed toward "important" rather than "trivial" goals, one should not hope to complete acts which are immoral, and one must be

"prudent" in their exercise of hope (as opposed, for instance to one who is "blinded by hope").

A more biologically oriented theorist might object that hopelessness seems less of a social construction, and more of a by-product of some biological disorder in which the system shuts down (cf. Akiskal & McKinney, 1975). As noted earlier there may be more than one path to hopelessness. Moreover, it is not really that difficult to entertain a process by which a state such as hopelessness might be socially constructed, but one must shift one's perspective from the individual to the social level. If one thinks in terms of the functions of emotions at a social level, states which seem to be due to nothing more than an individual who is "disordered" in some fashion, may begin to take on a whole new meaning. Gaylin (1970) for example, discusses the profound social benefits of such (individually) painful states as guilt and shame, in limiting socially unacceptable behaviors.

Does hopelessness have a social function? Averill (1976) has written on the nature of grief, and how this emotion, along with mourning rites, may be beneficial to a group by promoting more togetherness and cohesion. Interestingly, Akiskal and McKinney (1975) alluded to depression in general systems terms, and offered the notion of a depressed person as an open system in the process of closing down. Beck (1967) had presented a

similar account and speculated that in terms of biological and sociocultural evolution, the "shut down" may be biological adaptive for it slows down the organism during a time of stress, which allows for energy conservation. On a social level it draws attention, and potential assistance from others.

Although it may be entirely speculative at this point, It seems reasonable to suggest that the role of hopelessness may be to call attention to states of helplessness that have persisted over time and have not succeeded in marshalling support. Certainly, the frequent labelling of suicidal gestures as "cries for help" is one example of how this notion is in some sense already "accepted".

Hope and hopelessness involve beliefs about the future. At least one writer (Tiger, 1979) has noted that the word "hope" is closely related to "hop" and thus seems to imply that in hoping, one may be springing forward (in time). The results of the present investigation highlight the need to clarify the exact nature of these time-related beliefs, especially if one is concerned with the development of hopelessness.

Temporal conceptions are very complex and numerous. While the findings suggest that both past recollections and future expectations may be affected by level of hopelessness, this does not appear to be true in younger

children. In children, simple temporal extension was the only future-directed conception or variable associated with degree of hopelessness. Moreover, the results suggest that in children, problem-solving skills and beliefs related to problem-solving may be more critical than alterations in future-time conceptions.

Taken together, the findings suggest that hopelessness does exist in children as young as 6-10 years of age. However the state of hopelessness in this age group may not be "isomorphic" with the kind of experience adolescents who "feel hopeless" are having. The data suggest that in both children and adolescents, a feeling of hopelessness may revolve around a core set of beliefs, which include the following; 1) a sense that things have not been going very well, 2) the idea that not much is going to happen or change in the near future, 3) the belief that conflicts or other interpersonal differences are difficult, if not impossible to resolve, 4) the belief that few, if any solutions or options are at one's disposal, and 5) the belief that it is easier to see things take a "turn for the worse" or change from positive to negative, than vice versa.

In adolescence, this core set of beliefs is simultaneously augmented and qualitatively changed by developments in the area of future-time conceptions. Specifically, the findings suggest that adolescents who

feel hopelessness continue to hold most, if not all, of the same beliefs held by hopeless children. However the more hopeless adolescent also believes that fewer good things will happen in the course of their life, and he or she also believes that they will initiate fewer actions than their counterparts who are not as hopeless. Moreover, the results suggest that these (two) latter, temporally-based beliefs are more critical components of hopelessness in adolescence. One might reasonably argue that this may be due to the particular role that such closely related factors as Autonomy (Erikson, 1950), perceived self-efficacy (Bandura, 1985), or locus of control seem to play at this point in life. Recall, for instance, the very large and positive correlation that was found between an external locus of control and a higher level of hopelessness, in this age group.

I suspect that the number of beliefs added in adolescence is probably far greater than the few which were tapped by this investigation. What does seem apparent from the present findings is that some of these future-directed beliefs are more important in adolescence who are feeling hopeless, while beliefs regarding one's ability to solve more immediate, interpersonal problems seem more important to children who are experiencing hopelessness. This may very well be related to the presumably expanded, and more organized network of

associated beliefs that comprise future-time conceptions in older individuals.

Comments concerning the validity of the Hopelessness Scale for Children (HSC: Kazdin et al., 1983)

Another aim of this investigation was to obtain, if possible, data which might shed further light on the validity of the HSC. To the extent that the instrument contains questions about future expectations about a variety of issues, it appears to have reasonable "face validity" and "content validity" (Anastasi, 1976). In previous studies, Kazdin and his colleagues (Kazdin et al., 1983, 1986) have been able to relate scores on the HSC to measures of depression, and suicidal ideation, thus establishing a certain degree of "concurrent validity".

This study concerned an even more fundamental problem, addressing the construct of hopelessness, and to a lesser degree, the "construct validity" of the HSC. In simpler terms, a secondary aim of the study was to provide further evidence that items on the HSC in fact assess aspects or attributes of the phenomena or construct of hopelessness. In the context of the present investigation, this involved demonstrating relationships between levels of hopelessness and the structural and functional aspects presumed to define "hopelessness".

In general, the results showed that scores on the HSC were related in a meaningful or logical manner to all of the functional or problem-solving variables, and the majority of structural or time-related variables.

The fact that some of the temporal variables were not related to HSC scores in a hypothesized fashion does not necessarily imply a weakness in the HSC. For example, it is possible that some of these variables, e.g., temporal extension, are too gross to capture development aspects of hope-related effects upon time-conception. The HSC was sensitive to developmental changes involving two of the future-directed variables: expected positive events and expected active events.

As was noted earlier, there may be a number of other aspects of future-directed conceptions that might be even more sensitive to both the effects of age and degree of hopelessness. The HSC may or may not be sensitive to some of these aspects, such as "clarity" or "breadth" of future-time conceptions. This is an empirical question that deserves further attention in the future.

The advantage of including some of the more behavioral indices of problem-solving, e.g., the timed concept-association tasks, and the maintenance of hope test, should not be overlooked. As Cronbach and Meehl (1959) have noted, it is necessary to include a few "observable" elements when one is concerned with this issue of

construct validity.

In sum, establishing construct validity for the HSC was not the major purpose of this study, and enough questions remain about the reliability and validity of some of the measures used to "predict" hopelessness, that interpretations about the validity of the HSC based on the present study must be tempered. However, as Cronbach and Meehl (1959) suggest, no one study ever "establishes" the construct validity of an instrument. With these cautions in mind, it may be reasonable to conclude that, based on the present findings, it appears that the HSC does tap a number of basic functional and structural elements, typically associated with the construct of hopelessness.

Appendix A

Clinical Consent Form

Bradley Hospital
East Providence, RI 02901

Bradley Hospital Project #

Name of Patient

AGREEMENT TO PARTICIPATE IN CLINICAL INVESTIGATION

The Development of hope: structural and functional aspects

Your child is being asked to participate in a research project as described in this form below. All such research projects carried out in the Hospital are covered by the rules of both the Federal Government and Bradley Hospital. These rules require that you give your signed agreement for your child to participate in this project.

The researcher (or your doctor) will explain to you in detail the purpose of the project, the procedures to be used, and the potential benefits and possible risks of participation. You may ask him/her any questions you may have to help you understand the project. A basic explanation of the project is written below. Please read this explanation and discuss with the researcher (or your doctor) any questions you might have.

Federal and Hospital regulations require that the "assent" of your child be requested and obtained by the researcher before your child may participate in this project. These requirements and the procedures for meeting them will be fully explained to you by the researcher (or your Doctor).

If you then decide that your child may participate in the project, please sign this form on the line below in the presence of a witness and the person who explained the project to you. You should be given a copy of this form to keep.

1. NATURE AND PURPOSE OF THE PROJECT

Your child is asked to participate in a study of feelings of hope and hopelessness in children and adolescents. By interviewing children and adolescents about their experiences with these emotions, we hope to learn more about how hope and hopelessness affect children who may be depressed, chronically ill, or otherwise stressed.

2. EXPLANATION OF PROCEDURES

If you and your child decide to participate in this study, we will:

a. Ask your child or adolescent to respond to a series of brief paper and pencil tasks that deal with one's views of past and future experiences, as well as, typical social and interpersonal situations. This will take approximately 25-30 minutes.

b. In addition, we will ask your child to fill out three standard psychiatric questionnaires that have been a part of the routine admission battery at Bradley. These questionnaires include a child depression inventory, a hopelessness scale, and a questionnaire dealing with the degree of personal control children feel for life circumstances. This will take approximately 10-15 minutes.

3. DISCOMFORTS AND RISKS

This study involves questionnaires and simple paper and pencil tasks. These procedures will cause your child no physical discomfort, and entail no physical risk. Since the standard measures of depression, and hopelessness, are given to most of the children admitted to Bradley Hospital, this information is already available to the clinical staff. However if a child has not received these questionnaires as part of their routine battery of tests, and their scores indicate a high level of hopelessness or depression, their therapists will be made aware of this fact.

4. BENEFITS

Your child may find it helpful to talk about some of the issues covered in the paper and pencil tasks, for example, what their future expectations are, or their memories of the past. We cannot and do not guarantee or promise that he/she will derive any personal benefit from participating in this study.

5. CONFIDENTIALITY

All records relating to this project will be handled and safeguarded according to standard Hospital policy for all medical records. His/her record will always be handled in conformity with the Rhode Island Act relating to the confidentiality of health care information.

6. REFUSAL/WITHDRAWAL

Your child's decision to participate or not will in no way prejudice the care he/she receives at the hospital.

If he/she decides not to participate, he/she is free to withdraw his/her consent at any time without prejudice.

7.UNFORESEEN RISKS

We do not expect any (further) unusual risks as a direct result of participation in this project. However, should any unforeseen physical injury occur, appropriate medical care, as determined by the Hospital, will be provided, but no financial compensation will be given. Further information in regard to this provision can be obtained from the Academic Division Office.

I ACKNOWLEDGE THAT I HAVE READ AND FULLY UNDERSTAND THE ABOVE EXPLANATION OF THIS PROJECT, THAT ALL OF MY QUESTIONS HAVE BEEN SATISFACTORILY ANSWERED, AND I GIVE/DECLINE PERMISSION FOR MY CHILD TO PARTICIPATE IN THIS RESEARCH PROJECT.

Signature of Parent

Date

Signature of Parent

Date

I AGREE TO PARTICIPATE IN THIS PROJECT

Signature of child

Date

IF SUBJECT IS UNABLE TO SIGN OR EXCEPTION TO ASSENT IS SOUGHT, PLEASE EXPLAIN:

I ACKNOWLEDGE THE PROCESS AND/OR SIGNATURE OF STATEMENT SET FORTH ABOVE

Qualified Witness

Date

APPENDIX J.

LIFELINE TASK (LL)

(BORN)

(DIE)

(actual length of protocol = ten inches)

Directions: Imagine that this line is like your whole life- this end is where you were born and this end is when you might die. Show me where you think you are right now. (distance from birth will be measured in one sixteenth inch units)

APPENDIX K.

SELF ANCHORING LADDER TASK (SAL)

I. For this test -the first thing I want you to tell me is what would be the perfect life for you- the very best life you could ever think of, or imagine -what would that be like?

II. Now tell me about the very worst life you could possibly have. What would that be like?

!	!		Directions: Now I am going to show you a
!-----!	10		ladder. See the top here where the 10 is.
!	!		This would like the very best life you
!-----!	9		could have just like you were talking
!	!		about. Now see the bottom where the 0 is.
!-----!	8		This would be the very worst life you
!	!		could think of- like you just told me
!-----!	7		about.
!	!		
!-----!	6		
!	!		1. Where do you think you are now- from 0
!-----!	5		to 10, how good or bad are things for you
!	!		right now?
!-----!	4		
!	!		2. How about last year ?
!-----!	3		
!	!		3. Next year ?
!-----!	2		
!	!		4. Two years from now ?
!-----!	1		
!	!		
!-----!	0		

Appendix L

Hopelessness Scale for Children (HSC: Kazdin et al., 1983)

1. I want to grow up because I think things will be better.
2. I might as well give up because I can't make things better for myself.
3. When things are going badly, I know that they won't be bad all of the time.
4. I can imagine what my life will be like when I'm grown up.
5. I have enough time to finish the things I really want to do.
6. Someday, I will be good at doing the things that I really care about.
7. I will get more of the good things in life than most other kids.
8. I don't have good luck and there's no reason to think I will when I grow up.
9. All I can see ahead of me are bad things, not good things.
10. I don't think I will get what I really want.
11. When I grow up, I think I will be happier than I am now.
12. Things just won't work out the way I want them to.
13. I never get what I want, so it's dumb to want anything.
14. I don't think I will have any real fun when I grow up.
15. Tomorrow seems unclear and confusing to me.
16. I will have more good times than bad times.
17. There's no use in really trying to get something I want because I probably won't get it.

Appendix M

Child Depression Inventory (CDI: Kovacs et al., 1982)

1. ☐ I am sad once in a while
☐ I am sad many times
☐ I am sad all the time
2. ☐ Nothing will ever work out for me
☐ I am not sure if things will work out for me.
☐ Things will work out for me o.k.
3. ☐ I do most things o.k.
☐ I do many things wrong
☐ I do everything wrong
4. ☐ I have fun in many things
☐ I have fun in some things
☐ Nothing is fun at all.
5. ☐ I am bad all the time
☐ I am bad many times
☐ I am bad once in a while
6. ☐ I think about bad things happening to me once in a while
☐ I worry that bad things will happen to me
☐ I am sure that terrible things will happen to me
7. ☐ I hate myself
☐ I do not like myself
☐ I like myself
8. ☐ All bad things are my fault
☐ Many bad things are my fault
☐ Bad things are not usually my fault
9. ☐ I do not think about killing myself
☐ I think about killing myself but I would not do it
☐ I want to kill myself
10. ☐ I feel like crying everyday
☐ I feel like crying many days
☐ I feel like crying once in a while
11. ☐ Things bother me all the time
☐ Things bother me many times
☐ Things bother me once in a while
12. ☐ I like being with people
☐ I do not like being with people many times
☐ I do not want to be with people at all

13. ___ I cannot make up my mind about things
___ It is hard to make up my mind about things
___ I make up my mind about things easily
14. ___ I look o.k.
___ There are some bad things about my looks
___ I look ugly
15. ___ I have to push myself all the time to do my schoolwork
___ I have to push myself many times to do my schoolwork
___ Doing schoolwork is not a big problem
16. ___ I have trouble sleeping every night
___ I have trouble sleeping many nights
___ I sleep pretty well
17. ___ I am tired once in a while
___ I am tired many days
___ I am tired all the time
18. ___ Most days I do not feel like eating
___ Many days I do not feel like eating
___ I eat pretty well
19. ___ I do not worry about aches and pains
___ I worry about aches and pains many times
___ I worry about aches and pains all the time
20. ___ I do not feel alone
___ I feel alone many times
___ I feel alone all the time
21. ___ I never have fun at school
___ I have fun at school only once in a while
___ I have fun at school many times
22. ___ I have plenty of friends
___ I have some friends but I wish I had more
___ I do not have any friends
23. ___ My schoolwork is alright
___ My schoolwork is not as good as before
___ I do very badly in subjects I used to be good in
24. ___ I can never be as good as other kids
___ I can be as good as other kids if I want to
___ I am just as good as other kids

25. ___ Nobody really loves me
___ I am not sure if anybody loves me
___ I am sure that somebody loves me
26. ___ I usually do what I am told
___ I do not do what I am told most itmes
___ I never do what I am told
27. ___ I get along with people
___ I get into fights many times
___ I get into fights all the time

Appendix N

Nowicki-Strickland Locus of Control Scale for
Children(NS-LCS Nowicki & Strickland, 1972)

(All responses are either "yes" or "no")

1. Do you believe that most problems will solve themselves if you just don't fool with them ?
2. Do you believe that you can stop yourself from catching a cold?
3. Are some kids just born lucky?
4. Most of the time do you feel that gettin good grades means a great deal to you?
5. Are you often blamed for things that just aren't your fault?
6. Do you believe that if somebody studies hard enough he or she can pass any subject?
7. Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway?
8. Do you feel that if things start out well in the morning that it's going to be a good day no matter what you do?
9. Do you feel that most of the time parents listen to what their children have to say?
10. Do you believe that wishing can make good things happen?
11. When you get punished does it usually seem its for no good reason at all?
12. Most of the time do you find it hard to change a friend's (mind) opinion?
13. Do you think that cheering more than luck helps a team to win?
14. Do you feel that it's nearly impossible to change your parent's mind about anything?
15. Do you believe that your parents should allow you to make most of your own decisions?

Appendix B

Nonclinical Consent Form

The University of Rhode Island
Department of Psychology
Chafee Hall
University of Rhode Island
Kingston, RI 02881

**The development of hope:
structural and functional aspects**

CONSENT FORM FOR RESEARCH

Dear Parent,

I am asking your child to participate in a research project on children's experiences of hope and hopelessness, conducted by a Doctoral student in Clinical Psychology. I would appreciate it if you would read the first section of this consent form that describes the study. If both you and your child agree that he or she may participate, there are designated places for both you and your child to sign at the end of this form.

Note: In order for your child to participate in this study he or she must be between the ages of 6 and 17, and must not be currently receiving any special education or outside counseling or other mental health services.

Description of the project

This brief account may help you to understand the reason behind the kind of questions to be asked of your child in this study. What follows is a more detailed description of the questions to be asked of your child.

I understand that the present study is expected to add to our knowledge of experiences of hope and hopelessness in children and adolescents, and may lead to ways of helping children and adolescents deal with such feelings in a more constructive fashion.

I understand that the basic goal of the study is to see whether feelings of hope or optimism can help children solve problems and whether such feelings change or influence the way they think about the past, present, and future.

I understand that my child's participation will involve simple paper and pencil tasks, lasting approximately 30-45 minutes. (If an interview appears that it will extend beyond 45 minutes, or a child appears to be tiring, arrangements will be made to complete the interview in two sessions rather than one.) I understand these tasks involve questions that are readily understood by most children, but that a few may be sensitive in nature. I understand that three of the forms which will be administered to my child are standard and widely used children's questionnaires that ask them about their thoughts, feelings, and attitudes about themselves, the world, and the future. Several other tasks involve everyday life situations that most children have either experienced directly or heard about from friends or family. My child will simply be asked to consider the situation and offer his or her opinions. Finally my child will be asked to respond to a series of questions that have to do with his or her perceptions of time, that is, past, present, and future time.

I understand that I should feel free to ask any questions, and if I have questions later, Anthony Scioli, the person mainly responsible for this study, (tel. (401) 792-4263), will discuss them with me.

Risks or discomforts

I understand that this study will cause no physical discomfort to my child and will entail no physical risk. I further understand that although no emotional distress is expected to occur as a direct result of this study, as a safeguard, school guidance counselors will be apprised of the study and will be made available should any child wish to discuss any questions or concerns.

I also understand that if this study causes me any injury, I should write or call the University of Rhode Island's Director of Research, 70 Lower College Road, University of Rhode Island, Kingston 02881, telephone: (401) 792-2635.

Benefits of this study

I also understand that although some children may derive some benefit from discussing their experiences with these feelings, there is no guarantee that children participating in this study will directly benefit.

Confidentiality

I understand that this project has received the approval of school officials and my child's responses will be used strictly for research purposes. Although forms will not

be anonymous, they will be kept strictly confidential. The data to be collected will consist of averages and other group scores, rather than individual scores.

I understand that a time period of approximately 30 to 45 minutes will be designated for each child to come out of the classroom to be interviewed. My child can decide at any time to withdraw from this study, and for any reason not to participate, and this will have no effect on his/her school record.

Dear child,

I am asking you to take part in a study of children's and adolescent's experiences of hope and hopelessness. If you agree to participate you will have an individual meeting with a researcher who will ask you to fill out some simple forms. The entire interview will last about 30 to 45 minutes.

I am going to be asking you some questions about hope and hopelessness. The questions are readily understood by most children. Although some may be a little sensitive, you are free to choose not to answer any question that you find difficult or upsetting in any way.

Three of the forms are questionnaires that are given to many children your age. They involve questions about thoughts, feelings, and attitudes you may have about yourself, the world, and the future. Several other questions have to do with everyday life situations that you have either experienced yourself or heard about from your family or friends. Finally you will be asked a series of questions that have to do with your memories about the past and your ideas about the present and future.

Decision to quit at any time

If you decide not to participate for any reason, or you do not want to continue, you can choose to withdraw and this will not affect your school grades or records. If you wish to quit simply inform Anthony Scioli (401) 792-4263, of your decision.

Rights and complaints

If I am not satisfied with the way this study is performed I may discuss my complaints with Anthony Scioli, the principal investigator, or Prof. Henry Biller, Mr. Scioli's academic advisor.

I have read the consent form. My questions have been answered. My signature on this form means that I understand the information and agree to participate in this research study.

Signature of Parent Date

Signature of Parent Date

I AGREE TO PARTICIPATE IN THIS PROJECT

Signature of Child Date

Appendix C

CONCEPT ASSOCIATION - TASK ONE

(sequence for 1st 20 subjs)

DIRECTIONS: These pictures tell a story, but they are in the wrong order. Put them in the right order so they will tell a story that goes from beginning to end. Work as quickly as you can and tell me when you are done.

ONE: this one starts bad but it ends up good.

TWO: this one begins in a good way but it ends with something bad happening.

THREE: this one starts bad but it ends up good.

FOUR: this one begins in a good way but it ends with something bad happening.

	Time (Secs.)	Order	correct	given
SERIES ONE	_____	— — — —	(WOOD)	(1234)
TWO	_____	— — — —	(BOAT)	(1234)
THREE	_____	— — — —	(RAIN)	(1234)
FOUR	_____	— — — —	(FIRE)	(1234)

Appendix D

CONCEPT ASSOCIATION - TASK TWO

(sequence for 1st 20 subj.)

DIRECTIONS: I am going to show you two pictures that tell a story. The first one tells you how the story begins and the second one tells you how it ends. See how this story begins with a GIRL PLAYING ON A TRAMPOLE AND HAVING FUN, and it ends with a CAR ACCIDENT. All stories have three part a beginining, a middle, and an end. I want you to make up three things that could of happened in between so that the story makes sense.

1. _____
2. _____
3. _____

Time started _____

Time ended _____

This story begins with a BOY WHO BROKE HIS LEG and it ends with a GIRL WRAPPING A GIFT. Can you make up three things that might have happened in between so that this story makes sense?

1. _____
2. _____
3. _____

Time started _____

Time ended _____

Appendix E

CONCEPT ASSOCIATION - TASK ONE

(sequences for 2nd 20 subjs)

DIRECTIONS: These pictures tell a story, but they are in the wrong order. Put them in the right order so they will tell a story that goes from beginning to end. Work as quickly as you can and tell me when you are done.

ONE: this one begins in a good way but it ends with something bad happening.

TWO: this one starts bad but it ends up good

THREE: this one begins in a good way but it ends with something bad happening.

Four: this one starts bad but it ends up good.

	Time (secs)	Order	correct	given
ONE	_____	___ _ _ _	(FIRE)	(1234)
TWO	_____	___ _ _ _	(RAIN)	(1234)
THREE	_____	___ _ _ _	(BOAT)	(1234)
FOUR	_____	___ _ _ _	(WOOD)	(1234)

Appendix F

CONCEPT ASSOCIATION - TASK TWO

(sequence for 2ND 20 subj.)

DIRECTIONS: I am going to show you two pictures that tell a story. The first one tells you how the story begins and the second one tells you how it ends. See how this story begins with a CAR ACCIDENT, and it ends with a GIRL PLAYING ON A TRAMPOLENE AND HAVING FUN. All stories have three parts a beginining, a middle, and an end. I want you to make up three things that could of happened in between so that the story makes sense.

1. _____
2. _____
3. _____

Time started _____

Time ended _____

This story begins with a GIRL WRAPPING A GIFT and it ends with a BOY WHO BROKE HIS LEG. Can you make up three things that might have happened in between so that this story makes sense?

1. _____
2. _____
3. _____

Time started _____

Time ended _____

APPENDIX G.

MAINTAINENCE OF HOPE TASK (MHT)

I FOUR STORIES. (sex of protagonist to be matched to subject)

1. John/Mary did something wrong in school today and now he/she must face his/her mom and dad.
2. Bill's/Sarah's mom and dad had a fight today and his/her dad is leaving home with a suitcase in his hand.
3. David's/Jill's mother has just died and his/her family is planning a funeral.
4. Dan/Judy is lost in the woods and no one seems to be around.

II PROBES TO STORIES

A. How do you think this story ends ?

B. Let's pretend this story ends with _____ now tell me some ways this could have happened. (prompt with - how or why did x happen? How did it come to be this way? When subject stops the experimenter prompts with "can you tell me another way this could have happened, that it could have ended this way?"

1. John/Mary tells his/her mom and dad what happened in school and they say he/she does not have to be punished at home.
2. Dad comes home after a few days and he and mom are together again.
3. David/Jill feels sad but he/she knows he/she is safe and will be ok.
4. Dan/Judy is rescued or saved.

C. Now let's pretend you didn't know how this story really ends but I told you that none of the things you just said would work - what do you think would happen instead.

APPENDIX H.

EXPECTED FUTURE EVENTS TASK (EFE)

Directions: We all think about the future sometimes, and what things might be like for us in the future. Sometimes we make guesses about what might happen to us, or what we might do in the future. Think for a minute and then I will ask you to tell me ten things you think will happen to you or that you will do in the future.

Event	Time-span (how long from now will....)
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.
9.	9.
10.	10.

APPENDIX I.

REMEMBERED PAST EVENTS TASK (RPE)

Directions: We all think about the past sometimes and what things were like in the past. Think for a minute and then I will ask you to tell me ten things you have already done or that have already happened to you.

Event	Time-span (how long ago did)
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.
9.	9.
10.	10.

16. Do you feel that when you do something wrong there's very little you can do to make it right?
17. Do you believe that most kids are just born good at sports?
18. Are most of the other kids your age stronger than you are?
19. Do you feel that one of the best ways to handle most problems is just not to think about them?
20. Do you feel that you have a lot of choice in deciding who your friends are?
21. If you find a four leaf clover do you beleive that it might bring you good luck?
22. Do you often feel that whether you do your homework has much to do with what kind of grades you get?
23. Do you feel that when a kid your age decides to hit you, there's little you can do to stop him or her
24. Have you ever had a good luck charm?
25. Do you believe that whether or not people like you depends on how you act?
26. Will your parents usually help you if you ask them to?
27. Have you felt that when people were mean to you it was usually for no reason at all?
28. Most of the time, do you feel that you can change what might happen tommorow by what you do today?
29. Do you believe that when bad things are going to happen they are just going to happen no matter what you try to do to stop them?
30. Do you think that kids can get their own way if they just keep trying?
31. Most of the time do you find it useless to try to get your own way at home?
32. Do you feel that when good things happen they happen because of hard work?
33. Do you feel that when somebody your age wants to be your enemy there's little you can do to change matters?

34. Do you feel that it's easy to get friends to do what you want them to?
35. Do you usually feel that you have little to say about what you get to eat at home?
36. Do you feel that when someone doesn't like you there's little you can do about it?
37. Do you usually feel that it's almost useless to try in school because most other children are just plain smarter than you are?
38. Are you the kind of person who believes that planning ahead makes things turn out better?
39. Most of the time, do you feel that you have little to say about what your family decides to do?
40. Do you think it's better to be smarter than to be lucky?

Appendix O

Children's Global Assessment Scale (CGAS: Shaffer et al., 1982)

- 100-91: Superior functioning in all areas (at home, at school, and with peers). Involved in a wide range of activities and has many interests (e.g., has hobbies or participates in extracurricular activities or belongs to an organized group such as Scouts, etc.), and is likable, confident. "everyday" worries never get out of hand; doing well in school; no symptoms.
- 90-81: Good functioning in all areas; secure in family, school, and with peers; there may be transient difficulties and "everyday" worries that occasionally get out of hand (e.g., mild anxiety associated with an important exam. Occasional "blowups" with siblings, parents, or peers).
- 80-71: No more than slight impairment in functioning at home, in school, or with peers; some disturbance of behavior or emotional distress may be present in response to life stresses (e.g., parental separations, deaths, birth of a sibling), but these are brief and interference with functioning is transient: such children are only minimally disturbing to others and are not considered deviant by those who know them.
- 70-61: Some difficulty in a single area, but generally functioning pretty well (e.g., sporadic or isolated antisocial acts, such as occasionally playing hooky or petty theft; consistent minor difficulties with school work, mood changes of brief duration; fears and anxieties which do not lead to gross avoidance; self doubts); has some meaningful interpersonal relationships; most people who do not know the child well would not consider him/her deviant but those who do know him/her might well express concern.
- 60-51: Variable functioning with sporadic difficulties or symptoms in several but not all social areas; disturbances would be apparent to those who encounter the child in a dysfunctional setting or time but not to those who see the child in other settings.

- 50-41: Moderate degree of interference in functioning in most social areas or severe impairment of functioning in one area, such as might result from, for example, suicidal preoccupations and ruminations, school refusal and other forms of anxiety, obsessive rituals, major conversion symptoms, frequent anxiety attacks, poor or inappropriate social skills, frequent episodes of aggressive or other antisocial behavior with some preservation of meaningful social relationships.
- 40-31: Major impairment in functioning in several areas and unable to function in one of these areas, i.e., disturbed at home, at school, with peers, or in society at large, e.g., persistent aggression without clear instigation; markedly withdrawn behavior due to either mood or thought disturbance, suicidal attempts with clear lethal attempts. Such children are likely to require special schooling and/or hospitalization or withdrawal from school (but this is not a sufficient criteria for inclusion in this category).
- 30-21: Unable to function in almost all areas, e.g., stays at home, in ward, or in bed all day without taking part in social activities or severe impairment in reality testing or serious impairment in communication (e.g., sometimes incoherent or inappropriate).
- 20-11: Needs considerable supervision to prevent hurting others or self (e.g., frequently violent, repeated suicide attempts) or to maintain personal hygiene or gross impairment in all forms of communication, e.g., severe abnormalities in verbal and gestural communication, marked social aloofness, stupor, etc.
- 10-01: Needs constant supervision (24-hr care) due to severely aggressive or self-destructive behavior or gross impairment in reality testing, communication, cognition, affect, or personal hygiene.

Appendix P

Instruments: Order of presentation

1. Hopelessness Scale
2. Child Depression Inventory
3. Locus Of Control
4. Global Assessment Scale
5. Maintainence Of Hope Task
6. Concept Association Task One
 counterbalanced: n-p, p-n, n-p, p-n: N = 01-32
 p-n, n-p, p-n, n-p: N = 33-64
7. Concept Association Task Two
 conterbalanced: p-n, n-p: N = 01-32
 n-p, p-n: N = 33-64
8. Remembered Past Events Task
9. Expected Future Events Task
10. Self-Anchoring Ladder Task
11. Life-Line Task

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