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Concurrent validity of the multiple stressor attribution inventory

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CONCURRENT VALIDITY OF THE MULTIPLE STRESSOR ATTRIBUTION INVENTORY

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An Abstract of a Thesis

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ABSTRACT

The purpose of this study was to examine the concurrent validity of an instrument designed to measure children's attributional style. This instrument, the Multiple Stressor Attribution Inventory (MSAI), was designed by Dr. William Panak. The subjects in the study were 132 elementary students from a suburban setting in the Midwest. In the Spring of 1993, the MSAI along with the Children's Attributional Style Questionnaire (CASQ; Kaslow, Tanenbaum, & Seligman, 1978), the Children's Depression Inventory (CDI; Kovacs & Beck, 1977), the Hopelessness Scale for Children (HSC; Kazdin, Rodgas, & Colbus, 1986), and the Multiple Affect Adjective Check List-Anxiety and Depression (MAACL-AD) were administered to examine concurrent validity. Using the Pearson r correlation, the following results were obtained: MSAI with CASQ, .52; MSAI with CDI, .50; MSAI with HSC, .36; and MSAI with MAACL-AD, .39. It was concluded that a significant correlation exists between the MSAI and other instruments designed to measure depression and hopelessness which research has shown to correlate with children's attributional style.

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CHAPTER 1

INTRODUCTION

A consensus is emerging in the literature that depression in children does exist. Further, some authorities believe that, although symptoms of childhood depression simulate characteristics of adult depression, childhood depression frequently has its own manifestations which set it apart from what has historically characterized adult depression (Kaslow, Rehm, & Siegel, 1984). Should these assumptions be correct, it follows that an understanding of childhood depression requires new approaches and new methodologies. Indeed during the past decade various instruments have been developed to facilitate the identification and more effective treatment of children manifesting or experiencing childhood depression (Kaslow, Tanenbaum, & Seligman, 1978; Kovacs & Beck, 1977). Irrespective of an individual's chronological age, leading cognitive theorists of depression (Abramson, Seligman, & Teasdale, 1978; Abramson, Metalsky, & Alloy, 1989; Beck, 1967) believe that negative automatic thoughts and dysfunctional beliefs are central to the development and maintenance of depression. One specific theory which addresses these negative automatic thoughts and dysfunctional beliefs (known as explanatory style: a person attributes negative events to internal, stable, and global causes and positive events to external, unstable, and specific causes) is the learned helplessness theory of depression (Abramson et al., 1978).

Methods to measure explanatory style have been developed both for adults and children (Kaslow et al., 1978; Peterson et al., 1982; Seligman, Abramson, Semmel, & von Baeyer, 1979). Presumably, if therapists can determine which people, through explanatory style, will be prone to depression, preventitive measures may be taken to decrease the likelihood that depression will occur (Kashani & Sherman, 1988). At the present time only one measure, the Children's Attributional Style

Questionnaire (CASQ; Kaslow et al., 1978), is designed to measure explanatory style in children; regrettably, this measure has several psychometric limitations (Nolen-Hoeksema, Seligman, & Girgus, 1992). The present study examines the concurrent validity of a new measure, the Multiple Stressor Attribution Inventory (MSAI; Panak, Endelman, Downs, & Schmidt, 1994; see Appendix A), which is intended to appraise children's explanatory style based on the learned helplessness theory of depression. Should the current investigation reveal that the MSAI possesses greater psychometric strength than the CASQ, therapists should be in a position to more accurately identify and prescribe appropriate interventions for children who are prone to experience depression through their explanatory style.

Assessment of both the MSAI and the CASQ requires an overview of the learned helplessness theory and how it applies to depression. The learned helplessness theory of depression was developed by Martin Seligman in 1975. According to this perspective, people who are depressed feel they have little or no control over outcomes so they refrain from making appropriate responses. In 1978 this theory was reformulated and strengthened by Abramson et al. due to limitations of the theory. They attempted to use attribution theory (Heider, 1958; Weiner, 1974) to resolve these issues. Attribution theory describes a set of theoretical principles proposed to account for the way individuals draw causal inferences about one another's behavior. Attributions have three dimensions: internal/external, stable/unstable, and global/specific. In this perspective, individuals who attribute the outcomes of negative events to internal, stable, and global causes and the outcomes of positive events to external, unstable, and specific causes will have more general and lasting symptoms of helplessness and, in turn, depressive symptoms.

The Attributional Style Questionnaire (ASQ) was developed by Peterson et al. (1982) to measure this explanatory style (attribute negative events to internal, stable, and global causes and positive events to external, unstable, and specific causes) in adults. Respondents are presented with 12 hypothetical events. Three are positive achievement events, three are negative achievement events, three are positive affiliation events, and three are negative affiliation events. Respondents attribute causes for these hypothetical events in an open-ended format, and then rate their attributions on a seven-point scale according to the three attributional dimensions.

A similar scale was developed for use with children (Kaslow et al., 1978). The Children's Attributional Style Questionnaire (CASQ) contains 48-items pertaining to 48 separate hypothetical events. Each item provides two possible explanations for the occurrence of the event. The children are to imagine the event happening to them, and then choose which explanation describes why the event would happen to them. Two of the attributional dimensions are held constant while the third is varied. Sixteen events pertain to each of the three dimensions; half pertain to negative events and half pertain to positive events. A composite explanatory style for positive events is obtained by adding the child's scores on each of the three subscales (internal, stable, global) for positive events, and a composite explanatory style for negative events is obtained by adding the child's scores on each of the three subscales (internal, global, stable) for negative events. An overall score is obtained by subtracting the composite negative score from the composite positive score. The lower the overall score, the more the child explains negative events in terms of internal, stable, and global causes, while explaining positive events in terms of external, unstable, and specific causes.

Statement of the Problem

The most widely used measure of explanatory style for children is the CASQ (Seligman et al., 1984). Several psychometric limitations of the CASQ have been identified in the literature (Nolen-Hoeksema et al., 1992).

First, the CASQ has only a marginally acceptable level of internal consistency. Second, test-retest reliability of the CASQ is somewhat lower than would be expected given the hypothesized trait-like nature of explanatory style. Third, the CASQ yields a general index of explanatory style based on responses to 48-items, but it does not yield indices for stressor-specific attributions. Therefore, the CASQ cannot be used to test the role of stress-specific attributions as mediators between general explanatory style and depressive symptoms (Abramson et al, 1989; Metalsky & Joiner, 1992).

These are the reasons an alternative measure of explanatory style was developed. This measure is the Multiple Stressor Attribution Inventory. Panak et al. (1994) constructed a 48-item inventory to measure internal, global, and stable attributions in four specific content areas: peer relations, parent relations, classroom achievement, and sports/extracurricular activities. Information was drawn from the CASQ and recent developments in the measurement of attributional style in adults (Metalsky & Joiner, 1992). The response format for each item was expanded from the forced-choice format of the CASQ to a 4-point rating scale similar to the 7-point scale used in the adult ASQ.

The purpose of this study is to assess the concurrent validity of the MSAI developed by Panak et al. (1994). The reliability of the scale has already been established (Panak et al., 1994). The MSAI, along with several other instruments, were administered to 132 students late in the Spring of 1993. To establish concurrent validity the MSAI was compared against the CASQ which also measures explanatory style in children. The

purpose of this was to see how subjects' responses on the two measures correlated with each other.

The Children's Depression Inventory (CDI; Kovacs & Beck, 1977), the Multiple Affect Adjective Check List-Anxiety & Depression (MAACL-AD; Panak, Personal Communication, December, 1992), and the Hopelessness Scale for Children (HSC; Kazdin, Rodgas, & Colbus, 1986) were also administered. The purpose of this was to see how these instruments correlated with the MSAI.

One specific question was addressed in this study. This question is: What are the coefficients comparing the results of the MSAI with the results of other instruments?

Significance of the Study

If the MSAI is to be successfully employed as a measure of explanatory style in children, the validity of the measure must be established. Given the establishment of the MSAI's reliability (Panak et al., 1994), validity considerations merit attention. Should the scale not only be reliable but also valid, further research may additionally indicate that the MSAI constitutes an improvement over the CASQ. If so, the MSAI would enable practitioners to more effectively identify children who are prone to depression when negative events occur within their lives. Practitioners may then more effectively implement preventitive measures before the occurrence of the event. It is the intent of this study to attempt to provide empirical support for the technical adequacy of the MSAI.

Limitations of the Study

The results of the study are limited for several reasons. First, the nature of the questions is subjective. Individual perceptions do not always correlate with reality. Second, the perceptions of some of the subjects may have been moderated by defense mechanisms such as denial, minimization, or rationalization due to the personally

significant and complex nature of explanatory style. Third, most items on self-report measures are open to considerable variation in interpretation by the subject. Fourth, social desirability comes into play with self-report measures. A subject may answer questions in a specific way to place him/herself in a more favorable light. Fifth, on self-report measures, the subject may consistently respond to test items regardless of what the items say. The subject answers the items in a response set.

Definition of Terms

1. Causal attributions: Causal attributions answer "why" questions, such as "Why do others not like me?" or "Why did I fail this exam?." People usually want to know "why" given negative, unexpected, or atypical outcomes (Weiner, 1985).

2. Children's Attributional Style Questionnaire (CASQ): The self-report instrument designed by Kaslow et al. (1978) to measure explanatory style in children.

3. Children's Depression Inventory (CDI): The self-report questionnaire developed by Kovacs and Beck (1977) to assess depression in children between the ages of 8 and 17.

4. Concurrent validity: "Concurrent validity is a criterion reference in which test scores are compared with a criterion measure obtained in the same time period, and the coefficients describe the relationship" (Drummond, 1992, p. 412).

5. Hopelessness Scale for Children (HSC): Self-report measure designed by Kazdin et al. (1986) to assess negative future expectations and negative current attitudes.

6. Multiple Affect Adjective Check List-Anxiety and Depression (MAACL-AD): The self-report measure designed to assess transient depressive mood in children. It is based upon the measure developed by Zuckerman and Lubin (1965) to assess transient depressive mood in adults.

7. Multiple Stressor Attribution Inventory (MSAI): The self-report instrument developed by Panak et al. (1994) to measure explanatory style in children.

8. Reformulated learned helplessness theory of depression: The theory that states that the occurrence of uncontrollable negative events leads to depression through the expectancy that future outcomes are independent of one's responses. The expectancies that are attributed to internal, stable, and global causes for negative events will lead to depression (Abramson et al., 1978).

9. Validity: Refers to "the extent to which an instrument measures what one thinks it is measuring" (Ary, Jacobs, & Razavieh, 1990, p. 256). "Validity is the degree to which a certain inference from a test is appropriate or meaningful" (Drummond, 1992, p. 417).

CHAPTER 2

REVIEW OF THE LITERATURE

The literature reviewed in this chapter is organized into four sections. Section one explains the learned helplessness theory of depression; section two describes learned helplessness theory as it applies to adults; section three deals with learned helplessness theory as it applies to children; and, section four presents the process used to develop the MSAI, and describes the instrument itself.

Learned Helplessness Theory of Depression

Experiments began in 1967 to demonstrate that organisms that are exposed to uncontrollable, aversive events will behave like they are "helpless." They will display certain functional deficits. One deficit is motivational: organisms show lowered response initiation. They feel as if responding does not produce the desired effects so they chose not to respond. The second deficit is cognitive. The organism fails to learn new response-outcome contingencies even though responding will terminate the aversive event. The third deficit is emotional. Depressed affect is a consequence of learning that outcomes are independent of responding, the organism shows decreased self-esteem (Seligman, 1975; Seligman, Maier, & Geer, 1968).

The theory is primarily cognitive. Mere exposure to uncontrollable events is not sufficient to produce the deficits. The organism must come to expect that outcomes are uncontrollable to exhibit these helplessness deficits (Abramson, Garber, & Seligman, 1980). The deficits are thought to be learned. When presented with an uncontrollable stimulus, organisms learn that responding will not terminate the events (Seligman, Maier, & Solomon, 1971). Helplessness deficits have been found in both animal (Maier & Seligman, 1976; Overmier & Seligman, 1967; Seligman & Maier, 1967) and human subjects (Hiroto, 1974; Hiroto & Seligman, 1975).

The original theory of learned helplessness was found to have at least three limitations. First, the theory could not account for the generality of the motivational and cognitive deficits produced by helplessness. Second, the chronicity of helplessness was unclear. Sometimes the deficits were short-lived and other times they were chronic. Third, the model could not account for self-esteem deficits. The model did not specify when and why someone might feel a sense of personal inadequacy following an uncontrollable aversive event, and when someone may not.

These limitations were addressed in 1978 by Abramson et al. who reformulated the learned helplessness theory along attributional lines. Attribution theory (Heider, 1958) describes a set of theoretical principles proposed to account for the way individuals draw causal inferences about one another's behavior. Attributions have three dimensions: internal/external, stable/unstable, and global/specific. The first dimension deals with a self-other dichotomy (Heider, 1958). The second dimension pertains to long-lived and recurrent causal factors or short-lived and intermittent causal factors (Weiner, 1974). The final dimension pertains to a wide variety of outcomes or situations or one particular situation (Abramson et al., 1978).

When a person is helpless, that person will ask him/herself "why" s/he is helpless. An explanation is arrived at along the three dimensions. The event could have been caused by something internal (person believes outcomes are more likely to happen to them than to relevant others) or something external (person believes outcomes are as likely to happen to them as to relevant others). The cause of the event could be stable (last a long time) or unstable (be short-lived). And, the cause of the event could be global (affect many situations) or specific (affect only a few situations).

These attributional dimensions help to resolve the limitations of the learned helplessness theory of depression in several ways. For example, attributing a lack of control to internal factors (something within the self) may lead to lowered self-esteem. Second, attributing a lack of control to stable factors may lead to a generalized expectancy of no control. Finally, attributing a lack of control to global factors may lead to extended deficits across situations (Munton, 1985). Thus, Abramson et al. (1978) proposed that lack of control over events leads to expectations of helplessness that, in turn, lead to depression.

According to the revised theory, individuals who explain negative events in internal, stable, and global ways, and positive events in external, unstable, and specific ways are more likely to experience general and long-lasting helplessness deficits and self-esteem loss and depression (Abramson et al., 1980; Kamen & Seligman, 1987). The type of depression that helplessness most appropriately models is unclear. There may be a subtype of depression that is caused by the expectancy of response-outcome independence. This subtype is characterized by symptoms of passivity, negative cognitive set, and depressed affect. Only those cases in which the expectancy of response-outcome independence is about the lack or loss of a highly desired outcome or about the occurrence of a highly aversive outcome are sufficient for the emotional component of depression (Abramson et al., 1980).

The reformulated theory still proposes that uncontrollability leads to expectations of helplessness that in turn lead to deficits. It adds that causal attributions about the uncontrollable events are important determinants of the generality and chronicity of the induced deficits and of self-esteem involvement (Seligman & Peterson, 1986).

Abramson et al. (1989) presented further revisions to the reformulated learned helplessness theory of depression. They did so to present a clearly articulated theory of depression. They built upon the

logic of the reformulated theory. They hypothesized the existence of an as-yet unidentified subtype of depression called hopelessness depression. Several preliminary concepts were introduced to clarify the occurrence of hopelessness depression. The first of these concepts is the "necessary cause of symptoms." This is an etiological factor that must be present or have occurred in order for symptoms to occur. The second concept is "sufficient cause." This is the etiological factor whose presence or occurrence guarantees the occurrence of symptoms. The third concept is that of "contributory causes." These are the etiological factors that increase the likelihood of the occurrence of symptoms, but are neither necessary nor sufficient for their occurrence. The fourth concept introduced is "proximal causes." These are the causes that operate toward the end of the chain of events that lead to hopelessness depression. The final concept is "distal causes." These are the causes that operate toward the beginning of the chain.

Hopelessness theory states that the cause of depression is the chain of proximal and distal contributory causes that culminate into a proximal sufficient cause of symptoms. The chain begins with the perceived occurrence of negative life events. The negative life events are seen as "occasion setters" for people to become hopeless. People make three inferences--why did the event occur, what are the consequences of the event occurring, and how does one feel about the self given the event occurred. Hopelessness is more likely to occur when negative life events are attributed to stable and global causes (depressogenic explanatory style), the events are seen as important, and if negative characteristics about the self are not likely to change and will hinder attainment of important outcomes. It is felt that the depressogenic attributional style is a distal contributory cause of the symptoms that operates in the presence, but not the absence, of negative events (diathesis-stress). The symptoms of hopelessness depression are

lowered initiation of responses, sad affect, suicide attempts and suicidal ideation, lack of energy, apathy, sleep disturbance, difficulty concentrating, low self-esteem, and dependency (Abramson et al., 1989).

The initial research on the learned helplessness theory and explanatory style was undertaken with adults. Once the theory was validated for use with adults, research began to assess the theory as it applies to children. Fortunately, research with adults provides baseline information concerning certain features of depression which are relevant to childhood depression, which while similar to adult depression, frequently reveals features different from adult depression.

Learned Helplessness Theory Applied to Adults

One of the first studies done with adults to see if a depressogenic explanatory style exists was reported by Seligman et al. (1979). They wanted to see if the explanatory style of those who are depressed differs systematically from those who are not depressed on all three attributional dimensions (internal/external, stable/unstable, and global/specific). They administered the Attributional Style Questionnaire (ASQ), the Beck Depression Inventory (BDI), and the Multiple Affect Adjective Check List (MAACL) to college students. They found that depressed students (as shown by the BDI) reported internal, stable, and global causes for negative events, and external, unstable, and specific causes for positive events. They revealed a depressogenic explanatory style and provided support for the reformulated theory of learned helplessness.

Metalsky, Halberstadt, and Abramson (1987) attempted to show that the content of explanatory styles interacts significantly with outcomes to predict depressive symptoms. They said that depressive reactions are more likely to occur, to be more intense, and to last longer when negative life events are attributed to stable and global causes and viewed as important. When negative life events are also attributed to

internal causes, depressive reactions plus lowered self-esteem occur. It is important to specify what influences the kinds of causal attributions people make for negative life events. Individual differences exist in explanatory styles and certain explanatory styles are vulnerability factors for hopelessness depression. This is the diathesis-stress component of the theory. The style to attribute negative life events to internal, stable, and global causes is a diathesis for depressive reactions accompanied by lowered self-esteem. Negative life events are a stress for depressive reactions. In the presence of positive life events or absence of negative life events, people with this attributional style would not be likely to develop symptoms of depression.

Through their research, Metalsky et al. (1987) found that students' immediate depressive moods were predicted solely by outcomes on an exam rather than explanatory style. But, they also found that more enduring depressive reactions were predicted by the explanatory style by outcome interaction. Also, failure students' explanatory style predicted subsequent enduring depressive moods through the operation of the attribution they made for the low grade on the exam. The fact that students' immediate depressive mood reactions were predicted solely by the outcomes on the exam is at odds with the theory. But, the fact that students' more enduring depressive mood reactions were predicted by the explanatory style by outcome interaction is consistent with theory. These results demonstrate the usefulness of analyzing the temporal parameters of people's reactions to negative life events.

Another study was undertaken by Metalsky, Joiner, Hardin, and Abramson (1993) to test the diathesis-stress component of the hopelessness theory of depression. They also found that the outcome on an exam alone had a significant effect on college students' depressive reactions. Also, explanatory style interacted with failure on the exam

to predict subsequent depressive reactions. Low self-esteem also interacted with failure to predict subsequent depressive reactions. These results are consistent with Metalsky et al. (1987). But, these results provide more consistent support for the self-esteem component of the theory. It seems that explanatory style and low self-esteem work together as distal diatheses, along with negative life events, and culminate in hopelessness and depressive symptoms.

Kamen and Seligman (1987) hypothesized that people with an internal, stable, and global explanatory style for negative events and an external, unstable, and specific explanatory style for positive events (pessimistic style) will be more likely to show impaired health than those with the opposite style (optimistic style). Hopelessness was a significant predictor of illness and depression and illness were significant predictors of later illness. Those with a pessimistic style in early adulthood had poorer health in middle and late adulthood. It was also found that a pessimistic explanatory style may put one at risk for early mortality. These results could indicate that those with a pessimistic explanatory style may have less competent immune systems (Rodin, Timko, & Harris, 1985), those with this style are passive about their health because they feel responses and outcomes are independent of one another (Seligman et al., 1968), or they believe negative events are stable and global so they take few preventive measures (Alloy, Peterson, Abramson, & Seligman, 1984).

It was reported in an article by Peterson and Seligman (1984) that several other researchers have replicated the findings of Seligman et al. (1979) with people in the general population, depressives, lower class women, schizophrenics, and hospitalized patients. These authors studied results from cross-sectional studies which showed that a characteristic way of explaining negative events with internal, stable, and global causes co-occurs with depressive symptoms; longitudinal

studies which showed that explanatory style preceded the development of depressive symptoms; experiments of nature which indicated that this explanatory style resulted in depression once bad events were encountered; laboratory experiments which showed that imposing uncontrollable negative events on individuals making particular explanations had the predicted effects on helplessness deficits; and case studies which illustrated that the theory applies predictively to the depressive symptoms of specific individuals.

Learned Helplessness Theory Applied to Children

The learned helplessness theory of depression claims to be a general theory that should explain depression across the life span (Seligman & Peterson, 1986). Explanatory style should correlate with depressive symptoms among children much in the same way as it does with adults.

Seligman et al. (1984) were the first to test the reformulated learned helplessness theory of depression with children. They wanted to find out if depressive symptoms in children were associated with internal, stable, and global attributions for negative events, if explanatory style precedes depressive symptoms and puts children at risk for later depressive symptoms, and if children learn their explanatory style from their parents. Ninety-six children in grades third through sixth participated in the study along with their parents. The Children's Depression Inventory (CDI) and the Children's Attributional Style Questionnaire (CASQ) were read aloud to children on two occasions six months apart. After the second session, parents were asked to fill out the ASQ and the BDI. They found that explanatory style and depressive symptoms correlated strongly. Also, that explanatory style for negative events predicted subsequent depressive symptoms. Children's explanatory style for negative events and depressive symptoms converged with corresponding scores of mothers, but not fathers. These results provide support for the theory.

Seligman et al. (1984) also found that CASQ scores were not as stable as CDI scores. The subscales on the CASQ had moderate reliabilities. The internal consistencies of the scales proved that the scales were distinguishable, but the correlations were not high. Higher reliabilities were obtained when subscales were combined to obtain a composite score for negative and composite score for positive events.

Nolen-Hoeksema, Seligman, and Girgus (1986) did further research to validate the use of the learned helplessness theory with children. They looked at the interaction between explanatory style and life events in the development of depression in children, examined the stability of explanatory style and depressive symptoms, and examined whether a consistent, maladaptive explanatory style was associated with concurrent and future depression. They predicted that children with maladaptive explanatory styles who were not depressed currently would be more likely to become depressed over time. They also predicted that a maladaptive explanatory style would be related to higher levels of depression, lower school achievement, and higher incidences of helplessness in the classroom. Children with a maladaptive explanatory style would be more likely to become depressed during the year or maintain high levels of depression. They felt that a maladaptive explanatory style would interact with negative life events to produce greater vulnerability to depression than either variable alone. Children in the study were administered the CDI and CASQ. The results suggest that maladaptive explanatory style was associated with higher levels of concurrent depression and higher levels of subsequent depression. Depression also appeared to influence subsequent explanatory style. The interaction of maladaptive explanatory style and the experience of negative life events was related to higher levels of future depression. Maladaptive explanatory style was also found to be related to lower levels of achievement and more helplessness behavior in the classroom. The results of this study also support the theory.

The potential implications of the learned helplessness and mastery-oriented attributional patterns on causal schemata in children were examined by Fincham, Diener, and Hokoda (1987). They also investigated to see if learned helplessness and mastery-oriented attributional patterns affect how a child feels about him/herself over time. Fifth grade students were administered the CDI and the Intellectual Achievement Responsibility Scale in two sessions six months apart. The results demonstrated that individual differences in attributional patterns associated with learned helplessness and mastery-orientations are relatively stable over a six-month period. Also, children's explanatory styles may be specific to particular attributions rather than a pervasive characteristic influencing all attributions. Learned helpless children had a tendency to infer less effort for success outcomes which implies less control over the outcomes, and inferred more effort for failure which suggests that failure is inevitable no matter how hard one tries. Explanatory style was also related to depressive symptoms. These results suggest that individual differences in the attribution patterns associated with learned helpless and mastery-orientations are relatively stable over a six month period. It also appears that the explanatory style associated with learned helplessness in adults and children may be related to childhood depression. These relationships were found despite the need for more sophisticated means of measuring children's attributions.

The CASQ and the CDI were administered to children by Bodiford, Einstadt, Johnson, and Bradlyn (1988). Children with depressive symptoms were found to be similar to depressed adults. They attributed negative outcomes to internal, stable, and global causes and positive outcomes to external, unstable, and specific causes. They did not find a relationship between depressive symptoms and behavioral measures of learned helplessness which may suggest that children with depressive

symptoms may not demonstrate the hypothesized behavioral and motivational deficits associated with the theory of learned helplessness. But, they felt this finding may be due to the children knowing that some problems they were asked to solve were unsolvable.

A five-year longitudinal study of depression and explanatory style in children was reported by Nolen-Hoeksema et al. (1992). They addressed four issues that have been overlooked by previous studies. They wanted to know if pessimistic explanatory style and low orientation in social and achievement settings were correlates of depression or predict depression. Second, they wanted to see if the relationship between cognitive style, negative life events, and depression change as the cognitive abilities of children change. Third, they wanted to know if substantial and stable changes occurred in children's explanatory styles and social and achievement skills when they experience depression. Finally, they wanted to know if children who become depressed continue to be prone to depression throughout childhood. The following relationships were investigated over time: levels of depressive symptoms, negative life events, pessimistic explanatory style, deficits in mastery-oriented behavior in achievement settings, and deficits in mastery-oriented behavior in social settings. Children were administered the CDI, CASQ, and the Life Events Questionnaire. Teachers were asked to fill out the Student Behavior Checklist to assess social and achievement helplessness.

The following results were obtained by Nolen-Hoeksema et al. (1992). Over the five years of the study, scores on the CDI were moderately correlated, suggesting that children with relatively high scores continue to have higher scores. Explanatory style did not change much over time. Elevated depression levels were significantly correlated with a more pessimistic explanatory style, and the correlations increased with age. The more negative life events the

children reported, the higher their depression scores. The higher the depression scores, the higher the teachers rated the children on social and achievement helplessness. Negative life events alone predicted significant variance in depression. Explanatory style was also a significant predictor of depression. Also, the interaction of negative life events and explanatory style was a significant predictor of depression. Children with a more pessimistic style at previous sessions showed greater increases in depression with increasing negative life events than those with an optimistic style. Achievement helplessness predicted a significant variance in depression symptoms, but social helplessness did not. Levels of depression in the depressed group declined over time, but were still elevated when compared to the nondepressed group. Depressed children showed a deterioration in explanatory style and remained more pessimistic even after depression levels declined.

Modest support for the diathesis-stress component of the reformulated theory of helplessness was obtained which suggests that older children who have a pessimistic explanatory style are more likely to be depressed after negative life events than older children with an optimistic style. Weak support was found for the prediction that children prone to helplessness are at risk for future depression. The researchers felt that measures of explanatory tendencies in children need to be refined before we will understand the nature of explanatory style in children.

Thus far a majority of these studies have proven the usefulness of the learned helplessness theory of depression with children. Studies to validate the theory of depression have also been done with children from special populations. Friedlander, Taylor, and Weiss (1986) attempted to replicate the findings of Seligman et al. (1984) with children from the general population and from a population of children being seen as

outpatients for a psychiatric evaluation. They assessed the relationship between depressive symptoms and explanatory style in eight through twelve year olds. Fifty-five children were administered the CASQ and the CDI. Parent questionnaires were also used. They found no evidence that the relationship between depressive symptoms and explanatory style differs in the psychiatric and pediatric samples. Depressive symptoms were significantly correlated negatively with positive events, but not significantly correlated with negative events. Partial support for the model was gained. Measures of the attributions for positive events were a more important predictor of depressive symptoms than measures of attributions for negative events. The findings of Seligman et al. (1984) were not replicated.

Jaenicke et al. (1987) hypothesized that children can acquire a negative self-concept that reduces the sense of personal worth, diminishes the sense of efficacy in accomplishing valued goals, and causes negative life stressors to be interpreted as further depletions of the self that cannot be readily overcome. These negative cognitions about the self are related to maternal symptoms, maternal stress, and mother-child relations. Four groups of children were included in the study--mother with a unipolar affective disorder, mother with a bipolar affective disorder, mother with a medical illness, and normal mothers. Interviews were conducted with the mothers about psychiatric disorders and stressors, children were interviewed and administered questionnaires, and the mother and child were observed in two brief interaction tasks. It was found that those children in the unipolar group had the most negative cognitions about self-concept, attributions for negative outcomes, and the positivity of self-schemas. A lifetime history of depression in the mother was found to be associated with a negative explanatory style and low positivity of self-schema. Maternal chronic stress was significantly associated with a child's self-concept

and positive self-schema. The child's perceptions of positive maternal behaviors were strongly associated with explanatory style, and marginally with negative self-schema. The higher the proportion of negative responses the mother made toward the child, the lower the scores on the Piers-Harris Self Concept Scale, the more depressive the child's explanatory style, and the lower the child's positive self-schema. The more critical the mother was of the child, the more the child tended to make self-blaming attributions for negative events. In this study, children were put more at risk for developing a negative explanatory style by maternal variables.

Researchers also wanted to explore the differences between clinically diagnosed and nondepressed children on explanatory style, hopelessness, self-perceptions of depression and life stress, and parents' perception of child's temperament. Benfield, Palmer, Pfefferbaum, and Stowe (1988) studied 37 children in a psychiatric inpatient unit. Some of the children were depressed and others were not. Several measures were used in the study--CDI, Brief Psychiatric Rating Scale for Children, CASQ, HSC, Life Events Questionnaire, and Parents Temperament Questionnaire. No differences were found between the depressed and nondepressed children on explanatory style for negative events, self-reported measures of depression, hopelessness, and life stressors. Partial support for the theory was gained. The hypothesized depressogenic explanatory style for positive life events differentiated depressed and nondepressed children. The depressed group of children attributed good outcomes to unstable and specific factors. The researchers felt that these findings may be due to the inability of current measures to clearly diagnose depression from other forms of psychopathology.

Hammen, Adrian, and Hiroto (1988) did not find support for the learned helplessness theory with children at risk for depression. Seventy-nine women and their children (8-16 years old) were subjects in

the study. The measures used were the Kiddie-SADS (current and lifetime disorders), interviews with the mother, CDI, and the CASQ. At follow-up, interviews were used to assess life events and a diagnostic evaluation was made based on the Kiddie-SADS. The results provided no support for an attributional vulnerability model of depression. Significant support for the role of stressful life events in predicting changes in depression was found. Negative explanatory style in interaction with high levels of stress did contribute significantly to the prediction of nondepressed disorders. The researchers felt it is possible that this model is more relevant to mild depression than clinical.

Asarnow and Bates (1988) wanted to replicate prior findings of a significant association among depression, self-worth, perceived scholastic competence, and hopelessness; clarify the association between hopelessness and depression by examining hopelessness scores of depressed and nondepressed children using the Hopelessness Scale for Children; test the prediction that depression would be associated with tendencies to attribute positive outcomes to external, unstable, and specific causes; and determine whether children with histories of depression who were not reporting current depressive symptoms would show negative cognitions and attributional patterns. Fifty-three children at an inpatient psychiatric unit were studied. Diagnoses were made through interviews with the child and parents and a review of the psychological evaluation. Children were placed in one of three groups--depressed, nondepressed, and remitting depressives. The children filled out the Depression Self-Rating Scale, HSC, Perceived Competence Scale for Children, and the CASQ. Children within the remitting depressives group scored similar to those in the nondepressed group. Children with depressive disorders when compared to nondepressed children reported significantly more hopelessness, lower perceptions of global self-worth,

scholastic competence, athletic competence, and physical appearance, and negative self-perceptions across a greater variety of competence domains. They were more likely to exhibit an explanatory style characterized by attributing negative outcomes to internal, stable, and global causes and positive outcomes to external, unstable, and specific causes. These results replicate and extend prior findings that depressed children show maladaptive cognitive and attributional patterns similar to those identified in depressed adults.

Curry and Craighead (1991) wanted to further clarify the relationship between explanatory style and self-reported depression among an inpatient sample of adolescents. Eighteen adolescents were administered the CDI and the CASQ. The results were consistent with the reformulated learned helplessness model. Correlations between the CDI and the CASQ were positive for negative events and negative for positive events just as they are in a nonclinical sample. The correlations were slightly larger than in the nonclinical population.

Dixon and Ahrens (1992) reported that children with high levels of negative explanatory style in combination with high levels of stress were more likely to report depression at a second measurement. Metalsky et al. (1987) reported these same results with adults. This suggests that some processes in the development of depression in adults may generalize to children. It was also reported that initial self-reported depressive symptoms predicted subsequent depressive symptoms and that explanatory style alone did not predict CDI scores at the second measurement, but stress alone did. The authors felt that the internal consistency of the CASQ was low and limited its predictive power. Also, they felt the forced choice responses to hypothetical situations might not be the most effective way to assess explanatory style.

Depressed children generally display negative content in their thinking. The patterns are characterized by cognitive bias or distortion and by relatively negative causal attributions for

hypothetical events. These children tend to believe in external control rather than internal and display dysfunctional self-regulatory cognitions. They see themselves as less competent and display lower self-esteem. These results parallel those found for adults (Hammen, 1990).

Development of the MSAI and Description

Several researchers have reported on the reliability and validity of the CASQ (Cole & Turner, 1993; Nolen-Hoeksema et al., 1986; Nolen-Hoeksema, Girgus, & Seligman, 1991; Nolen-Hoeksema et al., 1992; Peterson & Seligman, 1984; Robins & Hinkley, 1989; Seligman et al., 1984). Peterson and Seligman (1984) and Seligman et al. (1984) reported that the subscale scores of the CASQ had moderate reliabilities; higher reliabilities are obtained when subscales are combined to get a composite for positive and a composite for negative events. When using third through sixth graders as subjects, Peterson and Seligman (1984) reported coefficient alphas of .66 and .50 for the positive and negative scales, respectively. Nolen-Hoeksema et al. (1986) reported coefficient alphas of .71 for the composite positive scale, .66 for the composite negative scale, and .73 for the overall score. In summarizing these and other studies of depression and cognition in children, Robins and Hinkley (1989) concluded that the instruments currently available to assess attributional style, such as the CASQ, have relatively low reliability and questionable validity. They also stated that the current measures need to be refined or new ones need to be developed that have more adequate reliability and validity. Finally, Nolen-Hoeksema et al. (1992) also stated that a refinement of the measures of explanatory tendencies is necessary before research will further our understanding of the nature of explanatory style in children.

Based on these studies of the reliability and validity of the current scales to measure explanatory style, in both adults and children, Panak (Personal Communication, December, 1992) identified four

reasons why the CASQ may have less than acceptable levels of reliability and validity: response format, confounding hypothetical stressors and attributional dimensions being measured, culturally biased items, and awkwardly worded items. Panak et al. (1994) then constructed a 48-item inventory, the Multiple Stressor Attribution Inventory (MSAI), as an attempt to improve the measurement of attributional style in children.

The forced-choice response format of the CASQ restricts item range and lowers item intercorrelations. Within the MSAI, the children are asked several questions about why an event in a scenario may be happening to them. The children are given two choices for the occurrence of the event, but they are allowed to respond through an item response scale rather than in an either-or format. They choose which answer best fits why the event occurred to them, and then choose if this answer is "really true" or "sort of true" for them. This 4-point response format should help to raise the internal consistencies of the scales and provide more variability in answers.

When hypothetical stressors and dimensions of attributions being measured are confounded, attributions are seen to be event-specific which may lead to lower measures of reliability because averages are based upon unrelated events. To address this issue the MSAI assesses children's internal, global, and stable attributions for positive and negative events in four content domains: peer relations, parent relations, classroom achievement, and sports/extracurricular activities.

Some of the items on the CASQ are culturally biased. One example of this is this item: "You get a free ice-cream cone, because: A. You were friendly to the ice-cream man that day or B. The ice-cream man was feeling friendly that day." Some children, especially those in rural areas, may not understand because they do not know what an "ice-cream man" is. The MSAI focuses on content areas that are cross-cultural: peers, parents, school, and sports.

Finally, some items on the CASQ are worded awkwardly and the distinction between the two choices is very subtle such as "You make your friends happy, because: A. You are a fun person to be with most of the time or B. Sometimes you are a fun person to be with." The items on the MSAI were carefully worded to attempt to make them simple to understand and unambiguous.

Two research inquiries preceded the current research: clarity of item content and reliability. The MSAI was piloted on 36 fifth graders. After this session, the wording of several items was altered so that the items were easier to understand, and it was decided to administer the scenarios in alternating order (positive, negative) instead of all positive scenarios and then all negative scenarios, or vice-versa.

Also, test-retest reliability coefficients were determined to be significant at the .01 level (see Appendix B). And, coefficient alphas for the MSAI and its subscales were found to range from .56 for the content area of sports to .87 for the MSAI total score (Panak et al., 1994; see Appendix C).

CHAPTER 3

METHODOLOGY

This chapter describes the methodology followed in this study. First, the subjects used in the study are described. Second, the instruments used in the study are presented. Third, the procedures followed to administer the instruments are described. Finally, the methods of data analysis are detailed.

Subjects

To conduct this study permission was obtained from the school district and from the school involved. Teachers in the school involved in the study were given a presentation on the procedure that would be followed to conduct the study, and they were given an opportunity to review the instruments that would be used. The teachers decided whether or not they wanted their class to participate in the study. One teacher chose not to let the students in the classroom participate which eliminated 18 students from the onset of the study. Informed consent and permission slips were sent home with each child in grades second through sixth. Parents were informed that participation was voluntary and that students could withdraw from the study at any point. Of the 273 permission slips sent home to parents, 53.1% of the slips were returned and 48.4% of those 273 students actually participated.

A total of 132 students were used to assess the concurrent validity of the MSAI. The students came from an elementary school in a suburban setting in the Midwest. The students were mostly white, middle-class. The students ranged in ages from 7-13 years of age with the mean age being 9.98 years. Of the subjects, 42.4% were male and 57.6% were female.

Instruments

The Multiple Stressor Attribution Inventory (MSAI) was developed by Panak et al. (1994). The inventory was developed from the literature

on the Children's Attributional Style Questionnaire (CASQ) and the current literature on the measurement of attributional style with adults. The inventory consists of 48 items that measure children's explanatory style. Internal, global, and stable attributions for four specific content areas are measured. The four content areas are: peer relations, parent relations, classroom achievement, and sports/extracurricular activities. In each of the four content areas, students are presented with a positive scenario and a negative scenario and asked to imagine that the situation is happening to them. They are then asked six questions as to why the event may be happening. The questions hold two of the three variables stable (internal, global, specific) and varies the third. Students are given two reasons for the occurrence of the event and are asked to choose one of two reasons for the occurrence of the event, and then decide if the reason for the occurrence of the event is "really true" or "sort of true" for them. Instead of a forced choice format like the CASQ, the MSAI is a four-point scale which allows for more variability in answering. Within the positive scenarios, the internal, global, and stable answers are given the higher rating on the 4-point scale. Within the negative scenarios, the internal, global, and stable answers are given the lower rating on the 4-point scale. Scores for the negative and positive scenarios are obtained by adding the responses together. An overall composite score is obtained by adding the total from both the negative and positive scenarios. Therefore, the lower the score on the negative and the positive scenarios, the more depressogenic the explanatory style. The higher the scores on the negative and positive scenarios, the less depressogenic the explanatory style.

To establish concurrent validity results on the MSAI were compared to results on the CASQ (Kaslow et al., 1978), Children's Depression Inventory (CDI; Kovacs & Beck, 1977), the Multiple Affect Adjective

Checklist-Anxiety and Depression (MAACL-AD; Panak, Personal Communication, December, 1992), and the Hopelessness Scale for Children (HSC; Kazdin et al., 1986). The CASQ is a 48-item forced-choice measure of explanatory style in children. Each item is a hypothetical event with two choices as to why the event occurred. The students are to imagine the event is actually happening to them, and then choose one of the two reasons as to why the event occurred. Two of the three explanatory dimensions (internal, global, stable) are held constant while the third is varied. A score of 1 is assigned to each internal, global, or stable response, and a score of 0 for each external, specific, and unstable response. Sixteen events pertain to each of the three dimensions with half of these events being positive and half negative. There are a total of six subscales on the CASQ: internal, global, and stable scales for negative events, and internal, global, and stable scales for positive events. A composite positive score is obtained by adding the student's scores on each of the three subscales for positive events, and a composite negative score is obtained by adding each of the three subscales for negative events. A total composite score is obtained by subtracting the composite negative score from the composite positive score. The lower the overall style score, the more the student explains negative events in terms of internal, stable, and global causes and positive events in terms of external, unstable, and specific causes. Seligman et al. (1984) reported coefficient alphas for the composite positive, composite negative, and total composite score as .71, .66, and .73, respectively. CASQ scores were found to be stable over six months (Seligman et al., 1984) and to correlate with self-report measures of depression (Kaslow et al., 1984).

The CDI is a 27-item self-report measure designed to assess depression in children aged 8-17. It was patterned after the Beck Depression Inventory which is used with adults. The questions are read

aloud to the students while the students follow along on their copy. Students are instructed to rate each item on the basis of their feelings and ideas within the past two weeks. Responses to each item are made according to three choices, reflecting increasing severity. An overall score is obtained by adding the numerical values assigned to the item choices (0, 1, or 2) selected by the students. The score can range from 0 to 54 with a higher score denoting more severe depression.

Coefficient alphas for the CDI have ranged from .86 for a heterogeneous, psychiatrically referred group of children to .71 for a pediatric-medical outpatient group to .87 for a sample of public school students (Kovacs, 1983). Test-retest stability on a sample of public school students was .84 (Kovacs, 1983).

The MAACL-AD is an 18-item self-report measure designed to measure two negative affects: anxiety and depression. Students are asked how they feel at that point in time or "how (adjective) do you feel right now." Some of the adjectives used are "alone," "cheerful," "gloomy," "pleasant," and "worried." The choices for response are "not at all" (1), "a little" (2), "some" (3), "a lot" (4), and "a whole lot" (5). A total score is obtained by adding the scores assigned to each item. The higher the score, the more anxious or depressed the student is at that point in time (Panak, Personal Communication, December, 1992).

This scale is based upon the adult Multiple Affect Adjective Checklist developed by Zuckerman and Lubin (1965). The MAACL-AD is as yet not validated.

The HSC was developed by Kazdin et al. (1986). It is a 17-item self-report measure designed to assess children's negative expectations of the future. The students indicate whether each item is true or not true for them. Scores may range from 0 to 17 with a higher score meaning the greater the hopelessness or negative expectations for the future.

Kazdin et al. (1986) have established a coefficient alpha of .97 and test-retest reliability coefficients of .52 after six weeks. The scale has been found to correlate positively with depression (.58) and negatively with self-esteem (-.61) and social skills (-.39) (Kazdin et al., 1986).

The one specific question addressed in this study is: What are the coefficients comparing the results of the MSAI with the results of other instruments?

Procedures

In the Spring of 1993, the MSAI along with the CDI, MAACL-AD, CASQ, and the HSC were administered to 132 second through sixth grade students. All instruments were read aloud to the students in groups of 25 to 30 students. The MAACL-AD was the first scale followed by the MSAI, the CDI, the CASQ, and the HSC.

Data Analysis

To examine concurrent validity of the MSAI, scores gained from the MSAI and its subscales were compared to scores gained from the CASQ and its subscales, the CDI, the MAACL-AD, and the HSC. A Pearson r correlation was used to correlate these scores to determine the significance of the correlations.

CHAPTER 4

RESULTS AND DISCUSSION

This chapter contains the results that were found through administration of the MSAI, the CASQ, CDI, MAACL-AD, and the HSC. First, the descriptive statistics found in the study are reported. Second, the correlations found between the scales to measure concurrent validity of the MSAI are reported. Finally, a discussion of the results follows.

Results

Descriptive Statistics

The mean scores and standard deviations (SD) of each of the measures employed in the study can be seen in Table 1.

Concurrent Validity

The coefficients comparing the results of the MSAI with the results of the other instruments used in the study can be seen in Table 2. For purposes of simplicity and standardization, all correlations are reported as positive even though there is an inverse relationship between scores on the MSAI and the CASQ when compared to the CDI, HSC, and MAACL-AD. This means that the lower the score on the MSAI and the CASQ the more depressogenic the attributional style, but the higher the score on the CDI, HSC, and the MAACL-AD the more depressed, hopeless, or anxious the child. The correlation coefficients obtained by using the Pearson r correlations for the MSAI are: the MSAI with the CASQ, .52, which is significant at the .01 level; the MSAI with the CDI, .50, which is significant at the .01 level; the MSAI with the HSC, .36, which is significant at the .01 level; and the MSAI with the MAACL-AD, .39, which is significant at the .01 level.

In comparison, the correlation coefficients obtained using the Pearson r correlations for the CASQ are: the CASQ with the CDI, .51, which is significant at the .01 level; the CASQ with the HSC, .33, which

is significant at the .01 level; and the CASQ with the MAACL-AD, .31, which is significant at the .01 level.

Table 1

Descriptive Statistics of Scales Administered

Instrument	Mean	SD
MSAI	148	15.69
MSAIPOS	77.62	10.2
MSAINEG	70.38	7.91
CASQ	31.79	5.22
CASQPOS	15.74	3.41
CASQNEG	16.05	2.79
CDI	6.37	7.07
HSC	20.4	2.55
MAACL-AD	32.4	10.76

Note. MSAI = Total score on the Multiple Stressor Attribution Inventory

MSAIPOS = Score on the positive subscale of the Multiple Stressor Attribution Inventory

MSAINEG = Score on the negative subscale of the Multiple Stressor Attribution Inventory

CASQ = Total score on the Children's Attributional Style Questionnaire

CASQPOS = Score on the positive subscale of the Children's Attributional Style Questionnaire

CASQNEG = Score on the negative subscale of the Children's Attributional Style Questionnaire

The correlations of the other scales are as follows: the CDI with the HSC, .55, which is significant at the .01 level; the CDI with the MAACL-AD, .49, which is significant at the .01 level; and the HSC with the MAACL-AD, .17, which is significant at the .05 level.

Table 2

Correlation Coefficients for the Scales Administered

	Instruments Administered				
	MSAI	CASQ	CDI	HSC	MAACL-AD
MSAI	1	.52*	.50*	.36*	.39*
CASQ		1	.51*	.33*	.31*
CDI			1	.55*	.49*
HSC				1	.17**
MAACL-AD					1

Note. * = Significant correlation, $p < .01$

** = Significant correlation, $p < .05$

As can be seen in Table 2, all correlations were significant at either the .01 level or the .05 level.

Correlation coefficients for each of the four content areas of the MSAI (peers, parents, school, sports) were also determined (see Table 3). All correlations, except one, between the content areas and instruments were significant at the .01 level. The correlations between the content areas and the CASQ were lower than those between the content areas and the total score on the MSAI. These results were obtained because the CASQ is not divided into stressor-specific content areas like the MSAI.

Table 3

Correlation Coefficients for Content Areas of MSAI

	Instruments Administered			
	PEERS	PARENTS	SCHOOL	SPORTS
MSAI	.79*	.77*	.81*	.81*
CASQ	.45*	.32*	.40*	.46*
CDI	.66*	.36*	.29*	.35

Note. PEERS = Peers content area on the Multiple Stressor Attribution Inventory

PARENTS = Parents content area on the Multiple Stressor Attribution Inventory

SCHOOL = School content area on the Multiple Stressor Attribution Inventory

SPORTS = Sports content area on the Multiple Stressor Attribution Inventory

* = Significant correlation, $p < .01$

Discussion

The research question addressed in this study was: What are the coefficients comparing the results of the MSAI with the results of other instruments? The Pearson r correlation was used to determine the correlations between the instruments. The results indicate a significant correlation of scores obtained on the MSAI with scores obtained on the CASQ, CDI, HSC, and MAACL-AD. The scale has not only been found to be reliable (Panak et al., 1994), but it has also been found to have concurrent validity. Concurrent validity meaning a "criterion reference in which test scores are compared with a criterion measure obtained in the same time period, and the coefficients describe the relationship" (Drummond, 1992, p. 412). These results correspond with the research on the learned helplessness theory of depression which links explanatory style and depressive symptoms.

It is felt that there are several reasons that the MSAI has higher internal consistencies and test-retest reliability (see Appendices B & C; Panak et al., 1994) than the CASQ and that evidence of concurrent validity was found in this study. First of all, the MSAI was put together systematically into four content domains: peers, parents, school, and sports. Hypothetical situations are related to these four domains whereas in the CASQ each item is a hypothetical situation. Items are not grouped together into specific domains. Second, the four content areas address stressors that most children encounter in their daily lives. The items on the CASQ do not address specific stressors that children may encounter daily.

Some limitations of the study could be related to the cognitive ability needed to answer the questions on the MSAI. First, the person must decide which of two answers best describes why the event may have occurred to him/her. Then, the person must decide if that reason is "really true" or "sort of true" for him/her. Children in second and third grade seemed to have the most difficulty understanding this process. The practitioner needs to make sure the directions are fully understood before proceeding, and check periodically to make sure the child is answering correctly.

Second, some students were eliminated from the onset of the study. The purpose of the study and the content of the instruments may have been better explained to increase the likelihood of teachers allowing their classrooms to participate.

Third, only students from the general population were used in the study. Further research is needed to determine if the MSAI is a valid and reliable instrument for use with children in special populations such as those who are clinically depressed or at risk for depression.

CHAPTER 5

SUMMARY AND CONCLUSIONS

Summary

This study examined the concurrent validity of an instrument designed to measure children's explanatory style as described in the learned helplessness theory of depression, the MSAI. The results obtained on the MSAI were compared to results on other instruments designed to measure attitudes congruent with explanatory style as presented in the review of the literature. These instruments were the Children's Attributional Style Questionnaire (CASQ); the Children's Depression Inventory (CDI); the Hopelessness Scale for Children (HSC); and the Multiple Affect Adjective Checklist-Anxiety and Depression (MAACL-AD).

The question addressed in the study was: What are the coefficients comparing the results of the MSAI with the results of other instruments?

The subjects involved in this study were 132 students in the second through sixth grades of an elementary school in a Midwest, suburban setting. The data were collected in the Spring of 1993. The scores that the students received on the MSAI were compared to scores received on the CASQ, CDI, HSC, and the MAACL-AD. Pearson r Correlation was used to determine correlations between the scores.

Conclusions

The present study was designed to examine the concurrent validity of the MSAI. Based on the data collected, the following conclusions are summarized.

The results of the study do correlate with theory and research. Research on explanatory style as explained in the learned helplessness theory of depression link it directly to depression and feelings of hopelessness. Depression and feelings of hopelessness were significantly correlated with explanatory style in this study.

The results of this study add confidence to the practitioner who administers the MSAI. The study found the instrument to have concurrent validity, and previous studies have shown the MSAI to have satisfactory test-retest reliability and high internal consistency (Panak et al., 1994). Previous researchers have stated that explanatory style measures need to be refined so that they are more reliable and valid and so that research will further our understanding of the nature of explanatory style in children (Nolen-Hoeksema et al., 1992; Robins & Hinkley, 1989). It seems that at this point this refinement has been accomplished with the development of the MSAI. This instrument can be used to more accurately identify those children who are prone to depression based upon their explanatory style. If these children are more accurately identified, practitioners can implement preventitive measures to decrease the likelihood that depression will occur.

Implications for Further Research

The reliability and validity of the MSAI with special populations such as those children who are clinically depressed needs to be explored. These issues also need to be explored with minority children and children from a variety of socioeconomic levels since most of the subjects in the study were white, middle class children. Construct validity of the MSAI also needs to be established as well as test-retest reliability following time periods of more than two weeks. Finally, further research needs to be conducted with children below fourth grade to determine if the instrument is feasible to be used with children at this age level. Only a small percentage of children participating in this study were children below the fourth grade. A simpler version could be developed to use with younger children if this would prove necessary.

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APPENDIX A

MULTIPLE STRESSOR ATTRIBUTION INVENTORY

WHY DO THINGS HAPPEN THE WAY THAT THEY DO

We want to know about the **reasons why** you may sometimes do **well** or may sometimes **have trouble** in getting along with **other kids**, getting along with your **parents**, getting good **grades**, and doing well in **sport and other activities**. For each of the following sections, read the story and imagine that you are the person in the story and the thing in the story is **really** happening to you. Then, for each question, read **both reasons** for why the thing in the story might be happening to you. Choose **ONE** reason for why the thing in the story is happening to you. Then decide if that reason is **REALLY TRUE** for you or just **SORT OF TRUE** for you.

Circle 1 if the ending on the **LEFT SIDE** is **REALLY TRUE** for you.
Circle 2 if the ending on the **LEFT SIDE** is **SORT OF TRUE** for you.
Circle 3 if the ending on the **RIGHT SIDE** is **SORT OF TRUE** for you.
Circle 4 if the ending on the **RIGHT SIDE** is **REALLY TRUE** for you.

REMEMBER to read **BOTH SIDE** of each question **BEFORE** answering.

Then, decide **WHICH SIDE** is **MORE** true for you.

Then, decide if that side is **REALLY TRUE** or **SORT OF TRUE** for you.

Finally, **CIRCLE ONLY ONE NUMBER** to answer the question.

EXAMPLE QUESTIONS

Some kids like to play outside games like baseball or hide-and-seek.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	Other kids like to play inside games checkers or cards.
Some kids like to solve math problems	1 Really True	2 Sort of True	3 Sort of True	4 Really True	Other kids like to read about science.
Some kids walk or ride a bike to school.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	Other kids ride the bus or their parents drive them to school.

Now, **check your answers**. You should have only three circles on this page, one circle for each question. If both sides are true for you, then you have to decide which side is more true or true more of the time. Then go to that side and decide if it is really true for you or just sort of true for you.

Circle 1 if the ending on the **LEFT SIDE** is **REALLY TRUE** for you.
Circle 2 if the ending on the **LEFT SIDE** is **SORT OF TRUE** for you.
Circle 3 if the ending on the **RIGHT SIDE** is **SORT OF TRUE** for you.
Circle 4 if the ending on the **RIGHT SIDE** is **REALLY TRUE** for you.

REMEMBER to read **BOTH SIDE** of each question **BEFORE** answering.

You are trying to get along with other kids, but you think that they do not like you. You are not having much fun with them, and you wish you had more friends. **Why is this happening?**

---

1. When I'm not liked it's because ...

I was not a fun person to be with on just that day.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I'm usually not a fun person to be with.

---

2. When kids aren't nice to me it's because ...

I can't get along with them.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	they can't get along with me.

---

3. When I'm not liked it's because...

most kids don't like me.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	a few kids don't like me.

---

4. When kids aren't nice to me it's because ...

usually they are bothered by me.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	they were bothered by me on just that day.

---

5. When I'm not liked it's because ...

other kids are not nice to me.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I'm not nice to other kids.

---

6. When I'm having trouble getting along with other kids it's because ...

a few kids aren't being nice to me.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	most kids aren't being nice to me.

Circle 1 if the ending on the **LEFT SIDE** is **REALLY TRUE** for you.
Circle 2 if the ending on the **LEFT SIDE** is **SORT OF TRUE** for you.
Circle 3 if the ending on the **RIGHT SIDE** is **SORT OF TRUE** for you.
Circle 4 if the ending on the **RIGHT SIDE** is **REALLY TRUE** for you.

REMEMBER to read **BOTH SIDE** of each question **BEFORE** answering.

You are having trouble getting along with your parents. You are getting into arguments with your parents all the time, and you are not having any fun at home. **Why is this happening?**

---

1. When I'm not having any fun at home it's because ...

I did not get along with my parents on <u>just that day</u>.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I <u>usually</u> do not get along with my parents.

---

2. When I'm not having any fun at home it's because ...

it is hard for <u>me</u> to get along with my parents.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	<u>my parents</u> are hard to get along with.

---

3. When I'm not getting along with my parents it's because ...

I don't get along well with <u>just my parents</u>.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I don't get along with <u>most</u> adults. I know.

---

4. When I'm not getting along with my parents it's because ...

<u>usually</u> my parents are bothered by my behavior	1 Really True	2 Sort of True	3 Sort of True	4 Really True	my parents were bothered by my behavior on <u>just that day</u>.

---

5. When I'm not having any fun at home it's because ...

<u>my parents</u> are not being nice to me.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	<u>I'm</u> not being nice to my parents.

---

6. When I'm not getting along with my parents it's because ...

I don't get along with <u>most people</u>.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I don't get along with <u>just my parents</u>.

Circle 1 if the ending on the **LEFT SIDE** is **REALLY TRUE** for you.
Circle 2 if the ending on the **LEFT SIDE** is **SORT OF TRUE** for you.
Circle 3 if the ending on the **RIGHT SIDE** is **SORT OF TRUE** for you.
Circle 4 if the ending on the **RIGHT SIDE** is **REALLY TRUE** for you.

REMEMBER to read **BOTH SIDE** of each question **BEFORE** answering.

You are having trouble getting good grades in school. You are not doing as well in your schoolwork as you used to, and you are beginning to worry about this. **Why is this happening?**

---

1. When I have trouble with my schoolwork it's because ...

I had trouble understanding the teacher just on that day.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	usually I have trouble understanding the teacher.

---

2. When I have trouble with my schoolwork it's because ...

the homework is too hard.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I have trouble doing the homework well.

---

3. When I have trouble with my schoolwork it's because ...

I am having trouble in one subject.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I am having trouble in many subjects.

---

4. When I have trouble with my schoolwork it's because ...

usually I have trouble following directions.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I had trouble following directions on just that day.

---

5. When I have trouble with my schoolwork it's because ...

I am not trying hard enough on the tests.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	the tests are really difficult.

---

6. When I have trouble with my schoolwork it's because ...

I have problems with just my homework.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I have problems with most things that I do.

Circle 1 if the ending on the **LEFT SIDE** is **REALLY TRUE** for you.
Circle 2 if the ending on the **LEFT SIDE** is **SORT OF TRUE** for you.
Circle 3 if the ending on the **RIGHT SIDE** is **SORT OF TRUE** for you.
Circle 4 if the ending on the **RIGHT SIDE** is **REALLY TRUE** for you.

REMEMBER to read **BOTH SIDE** of each question **BEFORE** answering.

You are not doing very well at sports and other activities. You always seem to be on the losing team, and this is really bothering you. **Why is this happening?**

---

1. When I am on the losing team it's because ...

I didn't understand the rules of the game on that day.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	usually I don't understand the rules of the game.

---

2. When I am on the losing team it's because ...

I am not trying hard enough.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	the game is really hard.

---

3. When I'm not doing well at sports and other activities it's because ...

I'm on the losing team in just one sport or activity.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I'm on the losing team in lots of sports and activities.

---

4. When I am on the losing team it's because ...

usually I don't do well at helping out my team.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I didn't do well at helping out my team on just that day.

---

5. When I am on the losing team it's because ...

I am not very good at sports and other activities.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	some other kids on my team are not very good at sports and other activities.

---

6. When I'm not doing well at sports and other activities it's because ...

I am not very good at just sports and other activities.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I am not very good at most things that I do.

Circle 1 if the ending on the **LEFT SIDE** is **REALLY TRUE** for you.
Circle 2 if the ending on the **LEFT SIDE** is **SORT OF TRUE** for you.
Circle 3 if the ending on the **RIGHT SIDE** is **SORT OF TRUE** for you.
Circle 4 if the ending on the **RIGHT SIDE** is **REALLY TRUE** for you.

REMEMBER to read **BOTH SIDE** of each question **BEFORE** answering.

You are trying to get along with other kids, and you think that they like you. You think that you are having fun with them, and you are doing well with them. **Why is this happening?**

---

1. When I'm liked it's because ...

on that day I was a fun person to be with.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I'm usually a fun person to be with.

---

2. When kids are nice to me it's because ...

I am good at getting along with them.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	they are good at getting along with me.

---

3. When I'm liked it's because...

most kids like me.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	just a few kids like me.

---

4. When kids are nice to me it's because ...

usually they like the things that I do.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	they liked the things that I did just on that day.

---

5. When I'm getting along with other kids it's because ...

other kids are being nice to me.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I'm being nice to other kids.

---

6. When I'm liked it's because ...

I get along with just a few kids.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I get along with most kids that I know.

Circle 1 if the ending on the **LEFT SIDE** is **REALLY TRUE** for you.
Circle 2 if the ending on the **LEFT SIDE** is **SORT OF TRUE** for you.
Circle 3 if the ending on the **RIGHT SIDE** is **SORT OF TRUE** for you.
Circle 4 if the ending on the **RIGHT SIDE** is **REALLY TRUE** for you.

REMEMBER to read **BOTH SIDE** of each question **BEFORE** answering.

You seem to be getting along real well with your parents. You are not getting into arguments with them, and you are having lots of fun at home. **Why is this happening?**

---

1. When I'm getting along with my parents it's because ...

I'm sometimes an easy kid to get along with.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I'm usually an easy kid to get along with.

---

2. When I'm getting along with my parents it's because ...

I am good at getting along with my parents.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	my parents are good at getting along with me.

---

3. When I'm having lots of fun at home it's because ...

I do well at getting along with most adults.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I do well at getting along with just my parents.

---

4. When I'm getting along with my parents it's because ...

usually my parents like the things that I do.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	my parents liked the things that I did just on that day.

---

5. When I'm getting along with my parents it's because ...

my parents are being nice to me.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I'm being nice to my parents.

---

6. When I'm having lots of fun at home it's because ...

I know how to get along with just my parents.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I know how to get along with most adults I know.

Circle 1 if the ending on the **LEFT SIDE** is **REALLY TRUE** for you.
Circle 2 if the ending on the **LEFT SIDE** is **SORT OF TRUE** for you.
Circle 3 if the ending on the **RIGHT SIDE** is **SORT OF TRUE** for you.
Circle 4 if the ending on the **RIGHT SIDE** is **REALLY TRUE** for you.

REMEMBER to read **BOTH SIDE** of each question **BEFORE** answering.

You are doing well in school. You are getting better grades in your schoolwork than you used to, and you are proud of yourself. **Why is this happening?**

---

1. When I am doing well in my schoolwork it's because ...

I understood what I was supposed to do on <u>just that day</u>.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	<u>usually</u> I understand what I'm supposed to do.

---

2. When I am doing well in my schoolwork it's because ...

the <u>assignments</u> are easy to understand.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	<u>I</u> am good at understanding the assignment.

---

3. When I am doing well in my schoolwork it's because ...

I am doing well in <u>just one</u> subject.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I am doing well in <u>many</u> subjects.

---

4. When I am doing well in my schoolwork it's because ...

<u>usually</u> I work hard at my schoolwork.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I worked hard at my schoolwork <u>just on that day</u>.

---

5. When I am doing well in my schoolwork it's because ...

<u>I</u> can get the work done on time.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	there is <u>enough time</u> to get the work done.

---

6. When I am doing well in my schoolwork it's because ...

I am good at doing most kinds of <u>schoolwork</u>.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I am good at doing <u>most things that I try</u>.

Circle 1 if the ending on the **LEFT SIDE** is **REALLY TRUE** for you.
Circle 2 if the ending on the **LEFT SIDE** is **SORT OF TRUE** for you.
Circle 3 if the ending on the **RIGHT SIDE** is **SORT OF TRUE** for you.
Circle 4 if the ending on the **RIGHT SIDE** is **REALLY TRUE** for you.

REMEMBER to read **BOTH SIDE** of each question **BEFORE** answering.

You are doing very well at sports and other activities. You always seem to be on the winning team, and you really enjoy this. **Why is this happening?**

---

1. When I am on the winning team it's because ...

I understood the rules of the game on <u>just that day</u>.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	<u>usually</u> I understand the rules of the game.

---

2. When I am on the winning team it's because ...

the <u>game is easy</u>.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	<u>I</u> am good at sports and other activities.

---

3. When I'm doing well at a sport and other activity it's because...

I am good at <u>just that</u> sport or activity.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I am good at <u>lots</u> of sports and activities.

---

4. When I am on the winning team it's because ...

<u>usually</u> I do well at helping out my team.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I did well at helping out my team on <u>just that day</u>.

---

5. When I am on the winning team it's because ...

<u>I</u> am good at the sport or activity.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	the <u>other kids</u> on my team are good at the sport or activity.

---

6. When I have am doing well in sports and other activities its's because ...

I am good at <u>just sports and other activities</u>.	1 Really True	2 Sort of True	3 Sort of True	4 Really True	I am good at <u>lots of things that I try</u>.

APPENDIX B

TEST-RETEST COEFFICIENTS

	Test-Retest Coefficients
MSAI	.73*
MSAIPOS	.66*
MSAINEG	.80*
PEERS	.58*
PARENTS	.51*
SCHOOL	.77*
SPORTS	.61*

Note. * = Significant correlation, $p < .01$

APPENDIX C

CRONBACH'S ALPHA OF RELIABILITY

Instrument	Cronbach's Alpha of Reliability
MSAI	0.87
MSAIPOS	0.82
MSAINEG	0.78
CASQ	0.68
CASQPOS	0.62
CASQNEG	0.46
CDI	0.90
HSC	0.68
MAACL-AD	0.90