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# Attributions of school children and their relationship to depression

Janette A. Doucette

To the Graduate Council:

I am submitting herewith a dissertation written by Janette A. Doucette entitled "Attributions of school children and their relationship to depression." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Education.

R.Steve MacCallum, Major Professor

We have read this dissertation and recommend its acceptance:
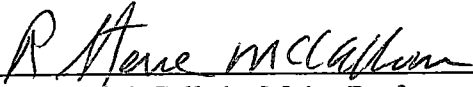
Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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ATTRIBUTIONS OF SCHOOL CHILDREN AND THEIR RELATIONSHIP TO

DEPRESSION

A Dissertation

Presented for the

Doctor of Philosophy Degree University of Tennessee, Knoxville

Janette A. Doucette

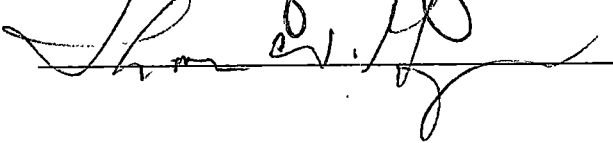December, 2000

# ACKNOWLEDGEMENTS

Hypothesized relationships between students' attributions for academic and social success and failure on two newly developed attribution scales were examined and compared to students' general attributions for success and failure on an established attribution scale, the Children's Attribution Style Questionnaire (CASQ). The newly developed scales were used to assess students' academic attributions (Student Academic Attribution Scale, SAAS) and social attributions (Student Social Attribution Scale, SSAS). The SAAS and SSAS were developed to allow students to rate success and failure due to internal causes, ability and effort, or external causes, chance and task difficulty, for typical school situations; also, optimism and pessimism global scales were calculated. Both the SAAS and the SSAS and the CASQ were used to predict depression in 70 $4^{th}$ through $6^{th}$ grade students using the Depression subscale of the Behavior Assessment System for Children (BASC).

Results support anticipated relationships between the SAAS and SSAS subscales and global scales of the CASQ subscales and global scales. For example, math success ability is positively correlated with all but one of the positive subscales of the CASQ ($P < .05$) as well as the overall attributional style of the CASQ ($P < .01$). When global scales from the SAAS, SSAS and the CASQ were evaluated for predictive capability, only the global scale from the SAAS and SSAS combined (Failure Internal, consisting of Failure Ability and Effort from both the SAAS and the SSAS) demonstrated the ability to predict the BASC Depression Scale to a significant degree ($P < .05$). Similarly, when global optimism and pessimism scales from the three instruments were compared for predictive utility, both Pessimism Failure Social (SSAS) and Pessimism Failure

Academic (SAAS) predicted depression scores to a significant degree (P < .05); the Optimism-Pessimism global scales from the CASQ did not predict depression to a significant degree in this study.

The fact that the SAAS and SSAS subscales correlated significantly with the well-established, but more clinically oriented CASQ demonstrates the utility of the SAAS and the SSAS to assess attribution style with a general population from a school setting. The ability of the SAAS and SSAS global scores to predict significantly depressive symptoms in school children indicate a link between attributions and depression.

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# CHAPTER 1

## INTRODUCTION

### Purpose

The primary purpose of this study is to examine the relationship between new measures of social and academic attributions and an established measure of general attributions. A secondary purpose is to examine the ability of new and established measures of attribution to predict childhood depression.

### Rationale

According to the Current Pediatric Diagnosis and Treatment Manual (Clark, 1995), approximately one to three percent of prepubescent children and three to six percent of adolescents are diagnosed as either mildly, moderately or severely depressed. There is a consistent pattern of increase in depression as ages increase. And these statistics represent only the cases that are diagnosed as depression, overlooking the misdiagnosed behavioral disorders and attention-related problems which can mask depression. Children's behavior during many school activities, especially social and academic situations, are likely to reflect depressive symptoms.

The school setting is an environment in which assessment and cognitive training can take place. Educators are in a unique position to observe children and recognize symptoms of depression. However, subtleties such as childrens' attributions regarding failure and success situations can easily be overlooked. This is unfortunate since there is a distinct link between attributions and the unhealthy cognitions which can underlie depression. For example, children who attribute their failures to stable, global and internal causes are more likely to demonstrate symptoms of depression (Abramson,

Seligman, & Teasdale, 1978; Jaycox, Reivich, Gillham, & Seligman, 1994). This is also true of children who attribute their successes to causes which are unstable and external to themselves (Friedlander, Traylor, & Weiss, 1986), and to unstable and specific causes (Benfield, Palmer, Pfefferbaum, & Stowe, 1988). Children who are not depressed are more likely to attribute their success to their own ability and effort and their failures to external causes. This latter pattern has been identified as a "healthy" attribution style (Seligman, 1991). Because there appears to be a direct link between attributions and depression, it is important to develop good instruments to assess attributions efficiently, particularly for children in the school environment.

One purpose of this study is to investigate the ability of two new student attribution measures, the Student Academic Attribution Scale (SAAS) and the Student Social Attribution Scale (SSAS) to predict depression. Also, this study is designed to evaluate the concurrent validity of the scales of the SAAS (a measure of academic attributions) and the SSAS (a measurement of social attributions) in children, specific to school situations, and the Children's Attribution Style Questionnaire (CASQ)- a well established general scale of attributions. The relative predictive capability of scales from all measures will be determined, using the Behavioral Assessment System for Children (BASC), Depression subscale, as the measure of depression. The SSAS and SAAS are specific to school-related social and academic issues, respectively, and may be important tools for recognizing depressive symptoms in school children based on how they view their failures and successes. Therefore, these attribution measures may have utility in an academic setting, much like the CASQ has demonstrated in clinical settings.

<u>Literature Review</u>

  In the school setting, children have many opportunities for academic and social success and failure. The attributions they make for these successes and failures are directly related to their self-concept (Bell & McCallum, 1995), self-esteem (Brewin & Furnham's study, as cited in Brewin, 1985), and depression (Seligman, Kaslow, Alloy, Peterson, Tanenbaum, & Abramson,1984; Curry & Craighead, 1990; Nolen-Hoeksema, Girgus, & Seligman, 1991). These attributions that children make for their success and failure situations are the focus of this study and others which have demonstrated how attributions can be predictive of problems in children's cognitions and behaviors.

  Children's attributions for success and failure have been shown to be related to symptoms of depression specifically by measuring whether they attribute positive and negative situations to causes which are stable (versus temporary), global (versus specific), and external (versus internal) (Gladstone & Kaslow, 1995). Generally it has been shown that children who attribute their failure situations to causes which are internal, stable, and global, are more likely to display depressive symptoms (Seligman et al., 1984; Gladstone & Kaslow, 1995). Depressed children are more likely to attribute successful outcomes to causes that are external and unstable (Friedlander, Traylor, & Weiss, 1986). In addition, Seligman, et al. (1984) has shown that modifying attributions is critical in addressing depressed children's needs (Nolen-Hoeksema, Girgus, & Seligman, 1986; 1992).

  Miller and Seligman (1973, 1975) and Weiner (1974) were among the first to study systematically the link between attribution style and depressive symptoms (Abramson, Garber, & Seligman, 1980; Nolen-Hoeksema & Girgus, 1995). They

suggested that a negative affect was more common with those who attributed their failures to internal (personalization) and stable (permanence) causes, such as lack of ability, versus those who attributed failures to external, unstable causes, such as task difficulty. This became the basis of the Reformulated Learned Helplessness Model of Depression based on studies comparing depressed versus nondepressed subjects in terms of how they view reinforcement (Abramson, et al., 1978). In a typical experimental paradigm, depressed and nondepressed individuals were presented with cognitive tasks for which they were led to believe success, or reinforcement, was based on either skill or chance. They were then asked to estimate their expectancy for reinforcement. It was found that nondepressed individuals viewed reinforcing outcomes as more dependent on their skill, which is an internal factor. Conversely, depressed individuals were much less likely to change their expectancy for reinforcement when it was based on the internal factor of skill.

Seligman, et al. (1984) assessed 96 children aged 8-13, for depressive symptoms using the Children's Depression Inventory (Kovacs & Beck, 1977) and for attributions of causation using the Children's Attribution Style Questionnaire (Kaslow, et al., 1978). Attributions of bad events to internal, stable, and global causes covaried with CDI scores (composite rs = .51 and .40, ps < .001). The opposite, or external, unstable and specific attributions to good events also covaried with the CDI scores (composite rs = -.53 and -.54, ps < .001). As expected, children with depressive symptoms were more likely than nondepressed children to attribute bad events to internal, stable and global causes, and attribute good events to external, unstable and specific causes.

Negative or unhealthy attribution styles also have been found in adolescents who

show depressive symptoms. Generally these studies focus on those already diagnosed with depression or related disorders (Curry & Craighead, 1990). Adolescents who self-report symptoms of depression tend to attribute negative events to internal, stable, and global causation. Also there is a significant negative correlation between attributions for positive events with internal, stable, global causation. According to Garber, Weiss and Stanley (1993), this pattern of attributions represents a negative cognitive style, and is pervasive among adolescents with depression.

It has been demonstrated that unhealthy attributions are stable over time (Nolen-Hoeksema, Girgus, & Seligman, 1986). In a longitudinal study of 168 children's attributions which took place during five assessment intervals over a one year period, children's explanatory styles correlated highly with concurrent levels of depression and could predict later changes in depressive symptoms. These eight- to eleven-year-old children were assessed with both the Children's Depression Inventory and the Children's Attribution Style Questionnaire. The Life Events Questionnaire (Coddington, 1972), a checklist of major life events for elementary school children, was also given. Teachers were also asked to complete Student Behavior Checklists (Fincham & Cain, 1984) for the children, a measure of how much they engage in both learned helplessness and mastery oriented behavior in the classroom. An achievement test was also administered. The results indicated that explanatory styles could predict later depression scores both when depression was initially indicated and when it was not. Explanatory styles correlated with and were predictive of teacher reports of learned helplessness and mastery oriented behaviors. In two of the four analyses, explanatory style and negative life events interacted to predict future levels of depression. Also, depression was highly correlated

with helpless behavior in the classroom and lower achievement and could predict later changes in explanatory style.

The robust and stable nature of attributions was also demonstrated in a study by Mukherji, Abramson, and Martin (1982), in which a transient depressed mood was induced in nondepressed subjects. With this induced state, their depression scores reached the high levels of depressed subjects. However, their attributions did not change. Despite high levels of induced depression, the subjects continued to have attributions common to nondepressed individuals. Specifically, they continued to attribute negative outcomes to external, unstable and specific causes. This finding suggests that attribution style precedes depression, rather than depression preceding attribution style.

In a similar study, Seligman et al (1984) demonstrated this chronological link between attributions and symptoms of depression. This study assessed the intercorrelations of depressive symptoms, attribution style, negative life events, ratings of social and achievement helplessness in preteens, over a five year time period. It was found that in younger children the best predictor of depression was negative life events. However, as children grew older, the best predictor became pessimistic attribution style. Also this pessimistic attribution style was stable over the five-year time period and remained predictive of depression, even in the absence of negative life events.

Not only can attributions be predictive of depression in children but they have also been shown to have a mediational effect (Jaycox, et al., 1994). Cognitive training for children at risk for depression required that they be taught to attribute their negative events to temporary causes (such as chance or luck), rather than permanent causes (such as ability). Essentially, children were taught to mediate their depressive symptoms.

Cognitive retraining also consisted of identifying children's interpretations about problems, then teaching the importance of the child's actions in successful problem solving. Encouragingly, symptoms were reduced most for those children who were identified as the most "at risk." In fact, in a follow-up study completed two years later (Gillham, Reivich, Jaycox, & Seligman, 1995), the mediating effects of cognitive attribution training were still present. Further, the effects of the preventative program completed two years prior had grown larger after the program ceased. Children who were at risk for depression showed fewer depressive symptoms two years later and the moderate to severe symptoms were reduced by half. Other cognitive attribution training programs continue to be used (M. Cornelius, personal communication, April, 1998), as well as cognitive and social problem solving programs in which pessimistic attributions were identified and replaced with optimistic attributions (Gillham, Reivich, Jaycox, & Seligman, 1995).

Attributions of causality become stable in children, and as noted previously, can be categorized as healthy and unhealthy, or, specifically, optimistic and pessimistic. Children who attribute their successful events to causes which are internal and stable (such as ability or effort) and their failure events to causes which are external and unstable (such as chance or difficulty/ease of the task) are demonstrating an optimistic attribution style and are less likely to become depressed. Conversely, children who attribute their successful events to causes which are external and unstable (chance or difficulty/ease of the task) and their failure events to causes which are internal and stable (ability or effort) are demonstrating a pessimistic attribution style, and are more likely to become depressed (Seligman, 1990). Because the link between attributions of success

and failure (or optimistic and pessimistic styles) and depression in children has been established, the study of children's attributions is important in addressing the mental health of this age group. Maladaptive or pessimistic attributions can have a profound and lasting impact (Nolen-Hoeksema, et al., 1986; 1992). And, although attributions can be a stable part of a child's cognitions, modifications can be made at this age if a negative, or pessimistic attribution style is identified (Gillham, et al., 1995). Identification and modification of pessimistic attribution styles in children can be very instrumental in reducing depression in this age group (Gillham, et al., 1995).

Statement of the Problem

Attributions are related to academic and social outcomes. It is possible to use attributions to calculate measures of "optimism-pessimism," also related to meaningful outcomes. For example, the CASQ is divided into half positive situations and half negative. If one computes total scores for positive events (permanent good, pervasive good, and personalization good) and negative events (permanent bad, pervasive bad, and personalization bad) and subtracts the total bad from the total good, an Optimism-Pessimism score can be obtained. Also, the newly developed SSAS and SAAS can yield optimism-pessimism scores. Following rationale from the attribution literature, Optimism Success is equal to the sum of the Success Ability, Success Effort and Success Chance scores for the SSAS. Pessimism Failure is equal to the sum of the Failure Ability, Failure Chance and Failure Task Difficulty scores. Similarly, for the SAAS, Optimism Success Academic is equal to the sum of the Math Success Ability, Math Success Effort and Math Success Chance plus Reading Success Ability, Reading Success Effort and Reading Success Chance scores. Pessimism Failure Academic is equal to the sum of the Math

Failure Ability, Math Failure Chance and Math Failure Task Difficulty plus Reading

Failure Ability, Reading Failure Chance and Reading Failure Task Difficulty.

The Optimism Success Social and Optimism Success Academic scales were

developed to identify the individuals who consider themselves successful due to their

own abilities, effort, or chance or "luckiness." Of note, according to Seligman (1991), if

luck is viewed as more of a permanent and general cause of success, it is an optimistic

trait and inconsistent with a depressed state. Similarly, the Pessimism Failure Social and

Pessimism Failure Academic scales were developed to identify those individuals who

consider their failures to be due to a more permanent or pervasive sense that their failures

are due to tasks that are too difficult for them, i.e., their ability and effort cannot produce

success. To view a particular problem as too difficult produces a more transient feeling

than to view most problems as permanently difficult. This more pervasive perspective of

task difficulty is addressed through the inclusion of the items worded to characterize

stability within task difficulty dimension on the SAAS and SSAS pessimism scales, and

this stable perception is more likely to produce depression.

The relationship between attributions and the optimism-pessimism scores on the

CASQ and depression has been established. How new measures of school-related

attributions, the SAAS and SSAS, may be related to the CASQ and to depression is

unknown. Consequently, there is a need to determine how the SAAS and SSAS correlate

with the CASQ and to determine the relative power of all attribution measures to predict

depression.

Research Questions

1.) How do the global scores of the SAAS (Math Success Internal comprised of

Math Success Ability and Math Success Effort, Math Success External comprised of Math Success Chance and Math Success Task Difficulty, Math Failure Internal comprised of Math Failure Ability and Math Failure Effort, Math Failure External comprised of Math Failure Chance and Math Failure Task Difficulty, Reading Success Internal comprised of Reading Success Ability and Reading Success Effort, Reading Success External comprised of Reading Success Chance and Reading Success Task Difficulty, Reading Failure Internal comprised of Reading Failure Ability and Reading Failure Effort, Reading Failure External comprised of Reading Failure Chance and Reading Failure Task Difficulty, Optimism Success Academic and Pessimism Failure Academic) correlate with the subscale scores of the CASQ (Internality Positive, Stability Positive, Globality Positive, Composite Positive, Internality Negative, Stability Negative, Globality Negative, Composite Negative, and Optimism-Pessimism)?

2.) How do the global scores of the SSAS (Internal Success, External Success, Optimism Success, Internal Failure, and External Failure, and Pessimism Failure) correlate with the subscale and composite scores of the CASQ (Internality Positive, Stability Positive, Globality Positive, Composite Positive, Internality Negative, Stability Negative, Globality Negative, Composite Negative, and Optimism-Pessimism)?

3.) To what extent do the global scores from the SAAS and SSAS combined (Total Success Internal. Total Success External, Total Failure Internal, and Total Failure External) and the composite scores of the CASQ: Composite Positive (Internality Positive, Stability Positive and Globality Positive) and Composite Negative (Internality Negative, Stability Negative and Globality Negative) predict BASC Depression subscale scores?

4.) To what extent do the total Optimism-Pessimism scores from the SAAS (Optimism Success Academic and Pessimism Failure Academic) and SSAS (Optimism Success and Pessimism Failure) and the Optimism-Pessimism scores from the CASQ Composite each predict depression, defined by the Behavior Assessment System for Children (BASC) Depression subscale?

CHAPTER II

METHODOLOGY

Subjects

The participants in this study were fourth, fifth and sixth grade students from an elementary school in a large, metropolitan area (population 400,000) in East Tennessee. Participants were drawn from a school located in a somewhat economically depressed area. Specifically, the student population was predominantly Caucasion, with 2 % African American and less than 1 % Hispanic American. Parents of the school children are from a broad socioeconomic base, but 51% are below the poverty level, as defined by eligibility for the federally funded free or reduced lunch program. In the participating classrooms, there were 46 males and 32 females. Resource as well as regular education students participated to the extent that they were present in the regular classroom.

Instruments

I. **The Student Social Attribution Scale** and **The Student Academic Attribution Scale**

Two of the instruments used in this study were the Student Academic Attribution Scale (Bell & McCallum, 1994), a 16-item questionnaire. and the Student Social Attribution Scale (Bell & McCallum, 1995), a 30-item questionnaire. See Appendix A and B for the SAAS and the SSAS respectively. These instruments address causal attributions for success and failure (e.g., academic and social situations respectively), which normally take place in the school setting. Children are given situations (half with positive outcomes and half with negative outcomes) and are then asked to rate causal statements to indicate the extent to which they view the success or failure as caused by something internal and stable (effort and ability) or something external and unstable (luck

and chance). An example from the SSAS is: I am invited to a classmate's party. It is because (a) a lot of people were invited, (b) I make friends easily, (c) I work hard at making friends, or (d) recently, making friends is easy for everyone. Students rate each cause on a 1 to 3 likert scale (i.e., seldom, sometimes, or often), in an independent rating response form. In their review of the literature, Bell and McCallum (1995) note that an independent ratings response format may be superior to a forced-choice format in that forced-choice formats have been demonstrated to produce artificially elevated differences. In addition, an independent ratings format more closely simulates real-life. That is, it is likely that most people attribute events to more than one cause. Global scores are: Success Internal, Success External, Failure Internal, and Failure External, with subscales of Success Ability, Success Effort, Success Chance, Success Task Difficulty, Failure Ability, Failure Effort, Failure Chance, Failure Task Difficulty, Success Optimism and Failure Pessimism. The format for the SAAS is the same, except the items measure success and failure outcomes in reading and math.

For an earlier version of the SSAS, factor analytic evidence (Bell & McCallum, 1995) supports a six factor solution: Success Ability (SA), Success Effort (SE), Success External (SX), Failure Ability (FA), Failure Effort (FE), and Failure External (FX). In that early scale the external dimension was not differentiated by items assessing luck and task difficulty. Ability and effort were positively correlated on both success and failure scales, while success external items were weakly, but negatively correlated with success ability and effort (or internal) items. Failure external items were uncorrelated with the failure ability and failure effort (internal) items.

Also with the earlier 12-item version of the SSAS (Bell & McCallum, 1995), the

following test-retest reliability estimates were obtained: Success Ability .53, Success Effort .74, Success External .10, Failure Ability .60, Failure Effort .62, and Failure External .47. Also, item-subscale correlations were calculated to reveal reliability estimates ranging from .50 to .83. Chronbach's alphas for the six subscales also provide evidence for internal consistency: Success Ability .85, Success Effort .74, Success External .67, Failure Ability .81, Failure Effort .75, and Failure External .63. The above mentioned psychometric information must be interpreted with some caution since it is based on the short version of the SSAS.

In a construct validity study, the 12-item version of the SSAS was correlated with a sociometric device, in which children rated themselves and their peers socially. For example, children who rated themselves as well-liked by others were less likely to attribute their social failures to stable, internal causes than children who did not rate themselves as well-liked. And children who rated themselves as making friends easily were even less likely to attribute their social failures to causes that are stable and internal. When children were rated by other children as being a "high preference" peer, they were significantly more likely to view their social successes as due to causes internal, based on their own ability or effort, as opposed to being due to external causes.

An expanded 30-item form of the SSAS was used in this study rather than the 12-item form. Items were added to comprise the Optimism – Pessimism scales used for prediction in this study. Chronbach's alpha coefficients provide evidence for internal consistency on this 30-item form. The following reliabilities were obtained: Success Ability .84, Success Effort .85, Success Chance .87, Success Task Difficulty .82, Failure Ability .84, Failure Effort .86, Failure Chance .76, Failure Task Difficulty .76, Success

.92, Internal Success .89, External Success .90, Failure .93, Internal Failure .91, External Failure .85, Optimism Success .87, Pessimism Failure .92.

A 16-item version of the Student Academic Attribution Scale was also used in this study. Chronbach's alphas ranged from .63 to .96. Specifically, they were Math Success Ability .86, Math Success Effort .67, Math Success Chance .78, Math Success Task Difficulty .73, Math Failure Ability .89, Math Failure Effort .90, Math Failure Chance .72, Math Failure Task Difficulty .80, Reading Success Ability .82, Reading Success Effort .67, Reading Success Chance .69, Reading Success Task Difficulty .63, Reading Failure Ability .85, Reading Failure Effort .85, Reading Failure Chance .86, Reading Failure Task Difficulty .82, Math Success .87, Internal Success Math .83, External Success Math .83, Reading Success .85, Internal Success Reading .83, External Success Reading .76, Math Failure .94, Internal Failure Math .91, External Failure Math .86, Reading Failure .95, Internal Failure Reading .91, External Failure Reading .90, Ability Internal Failure .95, Ability External Failure .94, Ability Internal Success .87, Ability External Success .89, Ability Success Optimism .89, and Ability Failure Pessimism .96.

For this study optimism and pessimism scales were also constructed to address the hypothesis that specific attributions contribute to overall optimistic or pessimistic attribution styles which can be predictive of depressive symptoms. The Optimism Success global scale of the SSAS is comprised of the subscales Success Ability, Success Effort and Success Chance. The Pessimism Failure global scale of the SSAS is comprised of the subscales Failure Ability, Failure Chance and Failure Task Difficulty. Likewise, the Optimism Success Academic global scale of the SAAS is comprised of the

subscales Math Success Ability, Math Success Effort, Math Success Chance, Reading Success Ability, Reading Success Effort and Reading Success Chance. The Pessimism Failure Academic global scale of the SAAS is comprised of the subscales Math Failure Ability, Math Failure Chance, Math Failure Task Difficulty, Reading Failure Ability, Reading Failure Effort and Reading Failure Task Difficulty.

These subscales were combined based on logic and attribution theory. For example, to be socially optimistic one would likely attribute social success to one's own ability or effort or to one's good luck. To be socially pessimistic one would be likely to attribute social failures to having less ability, putting forth less effort or a task that is too difficult. Similarly, academic optimism would likely occur as a result of viewing success as a function of one's ability, effort or luck. Academic pessimism is the result of viewing failure situations as attributable to lack of ability or effort, or a task that is viewed as too difficult.

## II. The Children's Attribution Style Questionnaire

The Children's Attribution Style Questionnaire (Kaslow, Tanenbaum, Seligman, Abramson, and Alloy, 1984, 1995) is also a measure of causality for success and failure situations. For a complete version of this instrument, see Seligman (1991). It contains 48 items in which situations are described and the child must choose between two possible causes. Each of the possible causes is demonstrative of either internal/external, stable/unstable, or global/specific attributions. Unlike the SAAS and SSAS, the CASQ situations are not all specific to school scenarios. An example of internality is: Your pet gets run over by a car, (a) I don't take good care of my pets, or (b) Drivers aren't cautious enough. A measure of stability is exemplified by the following question: All of your

friends catch a cold except you, (a) I have been unhealthy lately, or (b) I am a healthy person. Finally, a measure of globality is: You spend a night at a friend's house and you have a good time, (a) My friend was in a friendly mood that night, or (b) Everyone in my friend's family was in a good mood that night. Unlike the SSAS and SAAS, the CASQ requires a forced-choice response.

Since half of the questions are positive and half negative, three composite scores are obtained: the Composite Score for Positive Events (CP), the Composite Score for Negative Events (CN), and the overall Composite Attribution Style score, which is obtained by subtracting the Composite Negative from the Composite Positive. Both the Composite Positive and the Composite Negative contain questions measuring internality, stability and globality. Because the overall Composite Attribution Style score is comprised by subtracting all of the composite negative responses, these scores were not used in the correlational analyses.

Several studies have demonstrated the reliability of the CASQ, with respect to both internal consistency and temporal stability. As reported by Gladstone and Kaslow (1995), internal consistency reliability (Chronbach's alpha) estimates have ranged between .47 to .73 for positive composite scores and between .42 and .67 for negative composite scores. Nolen-Hoeksema, et al. (1991) showed similar results. Internal consistency reliabilities for both the composite negative and composite positive scores were .52 and .57 respectively. According to Robins and Hinkley (1989), subscale internal consistencies ranged from .26 to .56, with the exception of global negative, which was -.05. These were slightly lower than those reported by Seligman et al (1984). The Composite Score internal consistency reliability estimate (by Chronbach's alpha) ranged

from .50 to .73 and was more reliable than the component reliabilities (Friedlander, et al., 1986).

Temporal stability has also been demonstrated. Test-retest reliability estimates are .61 for the overall composite (over 3 months), .35 for the overall composite (over 12 months), and .71 for positive events and .66 for negative events (both over 6 months) (Seligman et al., 1984). Friedlander et al. (1986) reported the Seligman et al. (1984) 6-month reliability estimates at .71 for positive events and .66 for negative. These reliability estimates tend also to increase with age.

### III. The Behavioral Assessment System for Children - Depression subscale

Because this study involves a general population of school children who may or may not demonstrate depressive symptomatology, the Depression subscale of the BASC (Reynolds & Kamphaus, 1992) was used as the criterion. For a complete version of this subscale, see Reynolds & Kamphaus (1992). It is a 13-item portion of a self-report instrument for children from age 8 - 11. Generally a T score of 60 - 69 represents at-risk children and a T score of 70 or above is clinically significant for depression. Items are based on symptoms noted in the DSM-III-R (American Psychiatric Association, 1987) and are presented as descriptive statements to which subjects answer true or false. In this study, the mean of the BASC Depression subscale T scores was 49.32 and the standard deviation was 9. 45. This indicates that responses can be considered consistent with those from a general population.

Reynolds and Kamphaus (1992) provide internal consistency reliability estimates from a clinical sample of 271 children for each of the subscales. The range of coefficient alphas is from .70 to .89, with the Depression scale representing the highest internal

consistency (.89). Short term temporal stability was measured by retesting 119 children. The Depression subscale yielded a short term test-retest reliability estimate of .75. A subsequent temporal stability study (Sandoval, 1998) over a one-month interval revealed temporal stability estimates in the mid .80s to the mid .90s on the self-report scales. Long term temporal stability was measured by retesting a clinical sample of 44 children over a seven-month interval, revealing a .54 reliability coefficient for the Depression subscale.

The concurrent validity of the BASC Depression subscale (Reynolds & Kamphaus, 1992) was assessed by correlating its scores with related measures, the Behavior Rating Profile (BRP; Brown & Hammill, 1983) and Children's Personality Questionnaire (CPQ; Porter & Cattell, 1975), with groups of 32 and 60 children respectively. The Behavior Rating Profile reflects positive, adaptive behaviors in three settings for children and subsequently yielded three negative correlations with the BASC Depression subscale (Home: -.47, School: -.61, and Peer: -.62). Likewise, the Children's Personality Questionnaire reflects normal dimensions of personality or temperament in children and subsequently yielded the highest negative correlations with the subfactors of warm-hearted (-.55) and emotionally stable (-.45). Also yielded were positive correlations with the subfactors of guilt-prone (.62) and tense (.43). Sandoval (1998) also reports moderate correlations with the Children's Personality Questionnaire.

Reynolds and Kamphaus (1992) used both factor analysis and the judgment of experts to address construct validity. Three factors were revealed: school maladjustment, clinical maladjustment, and personal adjustment. The Depression subscale loaded heavily on the clinical maladjustment factor (.88) and negatively with the personal adjustment factor (-.57). To obtain content validity data, fourteen licensed clinical psychologists were asked to sort all questions into clinical categories that were then compared to the existing categories of questions. A validity coefficient of .92 was revealed. This indicates that the items from this subscale measure the factor to which they are intended.

Procedure

Fourth through sixth grade school children were evaluated using the SAAS, SSAS, the CASQ and the BASC Depression subscale. The tests were administered in counterbalanced order. Children's tests were then coded numerically so their identity would not be known, but gender and grade would be. In order to obtain an adequate sample, two testing sessions were required.

Global scores from the SAAS, SSAS, as well as subscale and composite scores from the CASQ and BASC Depression subscale were all obtained, as were the optimism/pessimism subscale scores from the SAAS, SSAS and the CASQ. From the SAAS the following global scores were obtained: Math Success Internal (comprised of Math Success Ability and Math Success Effort), Math Success External comprised of Math Success Chance and Math Success Task Difficulty), Math Failure Internal (comprised of Math Failure Ability and Math Failure Effort), Math Failure External (comprised of Math Failure Chance and Math Failure Task Difficulty), Reading Success

Internal (comprised of Reading Success Ability and Reading Success Effort), Reading

Success External (comprised of Reading Success Chance and Reading Success Task

Difficulty), Reading Failure Internal (comprised of Reading Failure Ability and Reading

Failure Effort), Reading Failure External (comprised of Reading Failure Chance and

Reading Failure Task Difficulty), Optimism Success Academic (comprised of Math

Success Ability, Math Success Effort, Math Success Chance, Reading Success Ability,

Reading Success Effort, and Reading Success Chance), and Pessimism Failure Academic

(comprised of Math Failure Ability, Math Failure Chance, Math Failure Task Difficulty,

Reading Failure Ability, Reading Failure Chance, and Reading Failure Task Difficulty).

From the SSAS the following global scores were used: Internal Success

(comprised of Success Ability and Success Effort), External Success (comprised of

Success Chance and Success Task Difficulty), Internal Failure (comprised of Failure

Ability and Failure Effort), External Failure (comprised of Failure Chance and Failure

Task Difficulty), Optimism Success (comprised of Success Ability, Success Effort and

Success Chance), and Pessimism Failure (comprised of Failure Ability, Failure Chance,

and Failure Task Difficulty).

From the CASQ the following subscale and composite scores were obtained:

Internality Positive, Stability Positive, Globality Positive, Composite Positive, Internality

Negative, Stability Negative, Globality Negative, Composite Negative, and

Optimism/Pessimism (comprised of the total good events: permanent good, pervasive

good, and personalization good minus total bad events: permanent bad, pervasive bad,

and personalization bad). Composite scores were used for prediction: Composite Positive (comprised of Internality Positive, Stability Positive and Globality Positive) Composite Negative (comprised of Internality Negative, Stability Negative and Globality Negative) and Optimism/Pessimism.

The BASC Depression subscale was also used. In particular, T scores were derived from it and analyzed to ascertain correlations with the SAAS and the SSAS and determine how it correlates with the older, more established CASQ. Also SAAS, SSAS and CASQ scores were used to predict Depression subscale scores.

Data Analysis

Simple Pearson correlation coefficients were calculated to examine interrelationships among global scores from the SAAS and SSAS with subscale scores from the CASQ. Then three multiple regression analyses were conducted. The first used global scores from the SAAS and SSAS combined (Total Success Internal, Total Success External, Total Failure Internal and Total Failure External) and composite scores from the CASQ (Composite Positive and Composite Negative) to predict depression, as defined by the BASC Depression subscale. The second used global Optimism-Pessimism scores from the SAAS (Success Optimism Academic and Failure Pessimism Academic) and the Optimism/Pessimism scores from the CASQ to predict depression, as defined by the BASC Depression subscale. The third used global Optimism-Pessimism scores from the SSAS (Success Optimism and Failure Pessimism) and the Optimism/Pessimism

scores from the CASQ to predict depression, as defined by the BASC Depression

subscale.

CHAPTER III

RESULTS

Results address four research questions. The first question addresses the concurrent validity of the SAAS, as determined by the correlation of its global scales and its subscales, with those of the CASQ. The second question addresses the concurrent validity of the SSAS, as determined by the correlation of its global scales and its subscales with those of the CASQ. The third and fourth questions address the ability of the global scales of the SAAS and SSAS, and the subscales of the CASQ, to predict depression as defined by the BASC Depression subscale score.

Research Question 1

Table One shows the descriptive statistics for the global scales of the SAAS. Table Two shows the descriptive statistics for the subscales of the CASQ.

Table One

Descriptive Statistics of the SAAS global scales

| SAAS Global Scale | M | SD | n |
|---|---|---|---|
| Math Success Ability | 9.82 | 2.60 | 39 |
| Math Success Effort | 10.50 | 1.24 | 40 |
| Math Success Internal* | 20.05 | 2.68 | 39 |
| Math Success Chance | 7.53 | 2.09 | 40 |
| Math Success Task Difficulty | 8.10 | 1.72 | 40 |
| Math Success External* | 15.63 | 3.23 | 40 |
| Reading Success Ability | 10.28 | 2.56 | 40 |

Table One (continued)

| | | | |
|---|---|---|---|
| Reading Success Effort | 10.42 | 1.37 | 38 |
| Reading Success Internal* | 20.42 | 2.58 | 38 |
| Reading Success Chance | 8.50 | 1.59 | 40 |
| Reading Success Task Difficulty | 8.58 | 1.69 | 40 |
| Reading Success External* | 17.07 | 2.73 | 40 |
| Math Failure Ability | 6.43 | 2.26 | 40 |
| Math Failure Effort | 5.13 | 1.71 | 40 |
| Math Failure Internal* | 11.55 | 3.45 | 40 |
| Math Failure Chance | 7.15 | 1.83 | 40 |
| Math Failure Task Difficulty | 7.28 | 2.06 | 40 |
| Math Failure External* | 14.43 | 3.46 | 40 |
| Reading Failure Ability | 5.93 | 2.13 | 40 |
| Reading Failure Effort | 5.68 | 1.99 | 40 |
| Reading Failure Internal* | 11.60 | 3.81 | 40 |
| Reading Failure Chance | 6.33 | 2.14 | 40 |
| Reading Failure Task Difficulty | 6.95 | 2.01 | 40 |
| Reading Failure External* | 13.28 | 3.68 | 40 |
| Optimism Success Academic** | 56.46 | 6.09 | 37 |
| Pessimism Failure Academic** | 40.05 | 10.23 | 40 |

*All internal scales represent a combination of the ability and effort subscales that precede them.
All external scales represent a combination of the chance and task difficulty subscales that
precede them.

**Optimism and Pessimism means are substantially larger because they represent a combination
of many subscales.

Table Two

Descriptive Statistics for the CASQ subscales

| CASQ Subscales | M | SD | n |
|---|---|---|---|
| Internality Positive | 4.54 | 1.34 | 63 |
| Stability Positive | 4.24 | 1.82 | 63 |
| Globality Positive | 4.65 | 1.67 | 63 |
| Composite Positive | 13.43 | 3.59 | 63 |
| Internality Negative | 2.87 | 1.58 | 63 |
| Stability Negative | 2.35 | 1.63 | 63 |
| Globality Negative | 2.57 | 1.46 | 63 |
| Composite Negative | 7.79 | 3.11 | 63 |
| Overall Attribution Style | 5.60 | 5.38 | 63 |

The descriptive statistics show that participants seem to endorse the SAAS internal success options more highly than the external options. For example, means are higher on all the internal success attribution responses versus the external success responses. Likewise, means are higher on all of the external failure attribution responses than the internal failure responses, and higher on the optimism versus pessimism scales. This trend in responses may reflect a tendency toward a healthy attribution style in school-age children. The same trend is noted on the CASQ response means. Higher means are noted on the positive subscales than the negative, consistent with a healthy

response style.

In order to investigate the relationship between the SAAS global scores and the subscale scores of the CASQ, a correlational analysis was calculated. Table Three shows the correlational matrix for all subscales. Specifically, it was anticipated that success and failure attributions to either internal or external causes would be similar to general, nonacademic success and failure situations as represented by the CASQ. In general, this pattern of scores was established.

Table Three

Correlational Matrix of Subscales

|  | CASQ Positive Subscales | | | |
|---|---|---|---|---|
| SAAS Subscales | IP | SP | GP | CP |
| MSA | .07 | .31* | .36** | .35** |
| MSE | .21 | .42** | .28* | .42** |
| MSI | .21 | .27* | .28* | .35** |
| MFA | -.12 | -.35** | -.37** | -.39** |
| MFE | -.19 | -.32* | -.37** | -.40** |
| MFI | -.17 | -.38** | -.41** | -.45** |
| MSX | -.09 | .18 | -.12 | .002 |
| MFX | -.04 | -.29* | -.32** | -.31* |
| RSA | .24 | .20 | .21 | .29* |
| RSE | .14 | .30* | .15 | .27* |
| RSI | .29 | .38** | .29 | .43** |

Table Three (continued)

| | | | | |
|---|---|---|---|---|
| RFA | -.15 | -.31* | -.51** | -.45** |
| RFE | -.26* | -.30* | -.41** | -.44** |
| RFI | -.22 | -.34* | -.51** | -.49** |
| RSX | .03 | .25 | .03 | .15 |
| RFX | -.14 | -.22 | -.32* | -.31* |
| OSA | .17 | .43** | .21 | .37** |
| PFA | -.13 | -.34** | -.43** | -.42** |

CASQ Negative Subscales

| | IN | SN | GN | CN |
|---|---|---|---|---|
| MSA | -.05 | -.26* | -.11 | -.21 |
| MSE | .06 | -.41** | -.12 | -.25 |
| MSI | .13 | -.13 | .01 | .004 |
| MFA | .01 | .30* | .13 | .22 |
| MFE | .09 | .42** | .20 | .36** |
| MFI | .06 | .40** | .18 | .32** |
| MSX | -.10 | -.18 | -.02 | -.16 |
| MFX | .02 | .32* | .04 | .20 |
| RSA | -.12 | .04 | -.16 | -.11 |
| RSE | .02 | -.30* | -.22 | -.24 |
| RSI | -.08 | -.23 | -.21 | -.25* |
| RFA | .03 | .19 | .08 | .15 |
| RFE | .12 | .39** | .16 | .34** |
| RFI | .08 | .31* | .13 | .27* |

Table Three (continued)

| | | | | |
|---|---|---|---|---|
| RSX | .03 | -.003 | -.09 | -.03 |
| RFX | .12 | .16 | .09 | .18 |
| OSA | .02 | -.30* | -.18 | -.23 |
| PFA | .05 | .29* | .10 | .22 |

*Significant at the .05 level.

**Significant at the .01 level.

CASQ Positive Subscales: IP = Internality Positive, SP = Stability Positive, GP = Globality Positive and CP = Composite Positive.

SAAS Subscales and Global Scales: MSA = Math Success Ability, MSE = Math Success Effort, MSI = Math Success Internal, MFA = Math Failure Ability, MFE = Math Failure Effort, MFI = Math Failure Internal, MSX = Math Success External, MFX = Math Failure External, RSA = Reading Success Ability, RSE = Reading Success Effort, RSI = Reading Success Internal, RFA = Reading Failure Ability, RFE = Reading Failure Effort, RFI = Reading Failure Internal, RSX = Reading Success External, RFX = Reading Failure External, OSA = Optimism Success Academic and PFA = Pessimism Failure Academic.

CASQ Negative Subscales: IN = Internality Negative, SN = Stability Negative, GN = Globality Negative and CN = Composite Negative.

The results indicate that the internal math success subscales and global scales are highly correlated with the CASQ positive subscales. Specifically, Math Success Ability is positively correlated with all but one of the positive subscales of the CASQ: Stability Positive (.31, p < .05), Globality Positive (.36, p < .01) and the Composite Positive (.35, p<.01). This is also true for the Overall Attribution Style of the CASQ (.35, p < .01). Also, a negative correlation emerged between Math Success Ability and the Stability Negative subscale of the CASQ (-.26, p < .05).

Similarly, the Math Success Effort subscale is positively correlated with all but one of the positive subscales of the CASQ: Stability Positive (.42, p < .01), Globality Positive (.28, p < .05) and the Composite Positive (.42, p <. 01). Additionally, a negative correlation emerged between Math Success Effort and the Stability Negative subscale of the CASQ (-.41, p < .01). Math Success Ability and Math Success Effort together comprise the global scale of Math Success Internal, which showed a similar pattern of correlations with the CASQ positive subscales: Stability Positive (.27, p < .05), Globality Positive (.28, p < .05) and the Composite Positive (.35, p <. 01). The Internality Positive subscale of the CASQ did not show any significant correlation with any of the above subscales or global scales from the academic attribution instrument.

The Reading Success Internal subscales and global scales also show significant correlations with the CASQ positive subscales, although weaker than the Math Success-CASQ correlations. Specifically, Reading Success Ability is positively correlated with only one of the positive subscales of the CASQ: Composite Positive (.29, p < .05). Reading Success Effort shows a positive correlation with two positive subscales of the

CASQ: Stability Positive (.30, p<.05) and Composite Positive (.27, p < .05). Also, Reading Success Effort shows a negative correlation with the CASQ subscale Stability Negative (-.29, p < .05). Reading Success Ability and Reading Success Effort together comprise the global scale of Reading Success Internal, which demonstrated statistically significant relationships with all of the CASQ positive subscales: Internality Positive (.29, p < .05), Stability Positive (.38, p < .01), Globality Positive (.29, p < .05) and the Composite Positive (.43, p < .01). Therefore, the global scale of Reading Success Internal correlates more highly with the CASQ subscales than do the individual ability and effort subscales.

Neither of the External Success global scales, Math Success External or Reading Success External, showed significant correlations with the CASQ subscales. However, this is not surprising given the fact that two of the CASQ's subscales, Internality Positive and Stability Positive, strongly represent attributions that are internal to the person. Globality Positive includes attributions that are both internal and external to the individual; significant correlations between it and the external success subscales would not have been surprising, but they did not occur. Despite this, Math Failure External shows a significantly positive correlation with the CASQ's Stability Negative (.32, p < .05).

The results also indicate that the Math Failure Internal subscales and global scales are significantly negatively correlated with the CASQ positive subscales. Specifically, Math Failure Ability is negatively correlated with all but one of the positive subscales of the CASQ: Stability Positive (-.39, p < .01), Globality Positive (-.37, p < .01) and the

Composite Positive (-.39, p < .01). Also, Math Failure Ability is positively correlated with the CASQ subscale Stability Negative (.30. p < .05). The Math Failure Effort subscale shows a similar pattern of negative correlation with all but one of the positive subscales of the CASQ: Stability Positive (-.32, p < .05), Globality Positive (-.37, p < .01) and the Composite Positive (-.40, p < .01). Also, Math Failure Effort is positively correlated with the CASQ subscales Stability Negative (.42, p < .01) and Composite Negative (.36. p < .01). Math Failure Ability and Math Failure Effort together comprise the global scale of Math Failure Internal, which showed a similar pattern of negative correlation with the CASQ positive subscales: Stability Positive (-.38, p < .01), Globality Positive (-.41, p < .01) and the Composite Positive (-.45, p<.01). Again, the Internality Positive subscale of the CASQ did not show any significant correlation with any of the above subscales or global scales from the academic attribution instrument.

The Reading Failure Internal subscales and global scales also show significant negative correlation with the CASQ positive subscales. Specifically, Reading Failure Ability is negatively correlated with the positive subscales of the CASQ: Stability Positive (-.31, p < .05), Globality Positive (-.51, p < .01), and the Composite Positive (-.45, p < .01). Reading Failure Effort shows a negative correlation with all four positive subscales of the CASQ: Internality Positive (-.26, p < .05), Stability Positive (-.30, p < .05), Globality Positive (-.41. p < .01) and Composite Positive (-.44, p < .01). Also, Reading Failure Effort shows a positive correlation with the CASQ subscale Stability Negative (.39, p < .01) and Composite Negative (.34, p < .01). Reading Failure Ability

and Reading Failure Effort together comprise the global scale of Reading Failure

Internal, which also demonstrated a strong pattern of negative correlation with the CASQ

positive subscales: Stability Positive (-.36, $p < .01$), Globality Positive (-.51, $p < .01$) and

the Composite Positive (-.49, $p < .01$). Also, Reading Failure Internal showed a positive

correlation with the CASQ subscales Stability Negative (.31, $p < .05$) and the Composite

Negative (.27, $p < 05$).

The External Failure global scales, Math Failure External and Reading Failure

External, showed similar patterns of negative correlation with the positive scales of the

CASQ. Specifically, Math Failure External was negatively correlated with the CASQ

subscales Stability Positive (-.29, $p < .05$), Globality Positive (-.32, $p, > 01$), and the

Composite Positive (-.31, $p < .05$), but positively correlated with Stability Negative (.32,

$p < .05$). Reading Failure External showed a similar pattern, but not as strong.

Specifically, Reading Failure External was negatively correlated with the CASQ

subscales Globality Positive (-.32, $p, > 05$) and the Composite Positive (-.31, $p < .05$).

The global optimism and pessimism scales of the academic attribution instrument,

Optimism Success Academic and Pessimism Failure Academic also resulted in

significant correlations with the subscales of the CASQ. Specifically, the Optimism

Success Academic global scale shows a positive correlation with the CASQ subscales

Stability Positive (.43, $p < .01$) and Composite Positive (.37, $p < .01$). Conversely, the

Optimism Success Academic score shows a negative correlation with the CASQ's

Stability Negative (-.30, $p < .05$). This pattern suggests that academic optimism, as

measured by the SAAS, is stable and internal. Similarly, the Pessimism Failure

Academic global scale shows a negative correlation with the positive subscales of the CASQ: Stability Positive (-.34, p < .01), Globality Positive (-.43, p < .01) and Composite Positive (-.42, p < .01). Conversely, Pessimism Failure Academic shows a positive correlation with the Stability Negative subscale scores (.29, p < .05). This pattern suggests that academic pessimism, as measured by the SAAS, is an identifiable and stable trait.

Research Question 2

Table Four shows the descriptive statistics for the global scales of the SSAS. As with the SAAS, it is apparent from the descriptive statistics that participants endorse more highly the internal and success options of the SSAS, relative to external options. All means are higher on the Internal Success attribution responses versus the External Success responses. Likewise, all means are higher on the External Failure attribution responses than the Internal Failure responses, and on the Optimism versus Pessimism scales. This trend suggests a healthy attribution style, one that is inconsistent with the unhealthy attribution style common to depressed children. Again, the same trend is noted on the CASQ response means. Higher means are noted on the positive subscales than the negative, indicating the prevalence of a healthy attribution style among this population. In order to investigate the relationship between global scores of the SSAS and subscale scores of the CASQ, a correlational analysis was completed. Table Five shows the correlational matrix of the subscales addressed by question two. Specifically, it was anticipated that the attribution of internal and external causation of specific school social successes and failures would be similar to the attribution of internal or external causation

Table Four

Descriptive Statistics of the SSAS global scales

| SSAS Global Scale | M | SD | n |
|---|---|---|---|
| Success Ability | 33.08 | 6.04 | 72 |
| Success Effort | 38.06 | 6.190 | 72 |
| Success Internal* | 71.14 | 10.91 | 72 |
| Success Chance | 28.26 | 5.64 | 72 |
| Success Task Difficulty | 29.96 | 4.66 | 72 |
| Success External* | 58.22 | 8.79 | 72 |
| Failure Ability | 22.44 | 5.42 | 71 |
| Failure Effort | 22.08 | 5.80 | 72 |
| Failure Internal* | 44.55 | 10.57 | 71 |
| Failure Chance | 27.76 | 5.32 | 72 |
| Failure Task Difficulty | 27.82 | 5.26 | 72 |
| Failure External* | 55.58 | 9.52 | 72 |
| Optimism Success** | 99.40 | 12.72 | 72 |
| Pessimism Failure** | 78.13 | 13.70 | 71 |

*All internal scales represent a combination of the ability and effort subscales that precede them.
All external scales represent a combination of the chance and task difficulty subscales that
precede them.

**Optimism and Pessimism means are substantially larger because they represent a combination
of many subscales.

Table Five

Correlational Matrix of Subscales

| SSAS Subscales | CASQ Positive Subscales | | | |
|---|---|---|---|---|
| | IP | SP | GP | CP |
| Success Ability | .22 | .38** | .26* | .39* |
| Success Effort | .26* | .40** | .34** | .46** |
| Success Internal | .27* | .43** | .34** | .48** |
| Failure Ability | -.14 | -.31* | -.33** | -.37** |
| Failure Effort | -.23 | -.40** | -.40** | -.47** |
| Failure Internal | -.20 | -.38** | -.39** | -.45** |
| Success External | -.16 | .13 | -.12 | -.05 |
| Failure External | -.22 | -.31* | -.25 | -.36** |
| Optimism Success | .13 | .34** | .22 | .32* |
| Pessimism Failure | -.21 | -.33** | -.30* | -.39** |

| | CASQ Negative Subscales | | | |
|---|---|---|---|---|
| | IN | SN | GN | CN |
| Success Ability | -.09 | -.21 | -.003 | -.16 |
| Success Effort | -.06 | -.27* | -.08 | -.21 |
| Success Internal | -.09 | -.26* | -.05 | -.21 |
| Failure Ability | .15 | .51** | .22 | .45** |
| Failure Effort | .01 | .36** | .18 | .28* |
| Failure Internal | .08 | .46** | .21 | .39** |
| Success External | -.08 | .05 | .02 | -.01 |

Table Five (continued)

| | | | | |
|---|---|---|---|---|
| Failure External | .02 | .41** | .24 | .34** |
| Optimism Success | -.08 | -.19 | -.06 | -.17 |
| Pessimism Failure | .08 | .49** | .25* | .42** |

*Significant at the .05 level.

**Significant at the .01 level.

CASO Positive Subscales: IP = Internality Positive, SP = Stability Positive, GP = Globality Positive and CP = Composite Positive.

CASQ Negative Subscales: IN = Internality Negative, SN = Stability Negative, GN = Globality Negative and CN = Composite Negative.

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in the general success and failure situations from the CASQ, thereby demonstrating the concurrent validity of the SSAS. For the most part, this pattern of coefficients was established.

The results indicate that the Success Internal subscales and global scales are highly correlated with the CASQ positive subscales. Specifically, Success Ability is positively correlated with all but one of the positive subscales of the CASQ: Stability Positive (.38, p < .01), Globality Positive (.26, p < .05) and the Composite Positive (.39, p<.01). There were no negative correlations that emerged between Success Ability and the subscales of the CASQ.

Similarly, the Success Effort subscale is positively correlated with all of the positive subscales of the CASQ: Internality Positive (.25, p < .05), Stability Positive (.40, p < .01), Globality Positive (.34, p < .01) and the Composite Positive (.46, p < .01).

Additionally, a negative correlation emerged between Success Effort and the Stability Negative subscale of the CASQ (-.27, p < .05). Success Ability and Success Effort together comprise the global scale of Success Internal which showed a similar pattern of correlation with all of the CASQ positive subscales: Internality Positive (.27, p < .05), Stability Positive (.43, p < .01), Globality Positive (.34, p < .01) and the Composite Positive (.48, p < .01). Finally, a negative correlation emerged between Success Internal and the Stability Negative subscale of the CASQ (-.26, p < .05).

As with the academic scales, the Success External global scale showed no significant positive correlation with the CASQ subscales. This is not surprising given that two of the CASQ's subscales, Internality Positive and Stability Positive, strongly represent attributions that are internal to the person. However, the same pattern of correlations obtained for the SAAS Failure External scales emerged with the SSAS Failure External scales. That is, the Failure External subscale shows a significantly positive correlation with the CASQ's Stability Negative (.41, p < .01) and the Composite Negative (.34, p < .01). Significant negative correlations emerged between the Failure External scale and the following CASQ positive subscales: Stability Positive (-.31, p <.05) and the Composite Positive (-.36, p < .05). This pattern may indicate that the SSAS external subscales are not as robust as the internal subscales.

The SSAS Failure Internal subscales and global scales are significantly negatively correlated with the CASQ positive subscales. Specifically, Failure Ability is negatively correlated with all but one of the positive subscales of the CASQ: Stability Positive

(-.31, p < .05), Globality Positive (-.33, p < .01) and the Composite Positive (-.37, p < .01). Also, Failure Ability is positively correlated with the CASQ subscale Stability Negative (.46, p < .01) and the Composite Negative (.48, p < .01). The Failure Effort subscale shows a similar pattern of negative correlation noted with all but one of the positive subscales of the CASQ: Stability Positive (-.40, p < .01), Globality Positive (-.40, p <.01) and the Composite Positive (-.47, p <.01). Finally, Failure Effort is positively correlated with the CASQ subscales Stability Negative (.51, p < .01) and the Composite Negative (.28. p < .05).

Failure Ability and Failure Effort from the SSAS together comprise the global scale of Failure Internal, which correlates significantly with several CASQ scores: Stability Positive (-.38, p < .01), Globality Positive (-.39, p < .01) and the Composite Positive (-.45, p<.01). Similarly, Failure Internal correlated with the CASQ subscales Stability Negative (.46, p < .01) and the Composite Negative (.39, p < .01). Compared to the correlations seen with the other positive subscales of the CASQ, fewer significant correlations were seen for the Internality Positive subscale with the subscales and global scales from the social attribution instrument. This pattern had also been noted with the subscales and global scales of the academic attribution instrument (SAAS). This may be due to the general nature of the items included in the Internality Positive subscale. For instance. the items include an assortment of situations that are not necessarily common to academic or social situations.

The global optimism and pessimism scales of the social attribution instrument, Optimism Success and Pessimism Failure, also correlated significantly with the subscales

of the CASQ, particularly Pessimism Failure. Specifically, the Pessimism Failure global

scale demonstrated a negative correlation with the positive subscales of the CASQ:

Stability Positive (-.33, $p < .01$), Globality Positive (-.30, $p < .05$) and Composite Positive

(-.39, $p < .01$). Because of the consistent negative correlation with the positive subscales,

social pessimism, like the academic pessimism, may be viewed as a pervasively negative

attribution style.

The Optimism Success global scale also shows a pattern of positive correlations

with the CASQ subscales: Stability Positive (.34, $p < .01$) and Composite Positive (.32, $p$

$< .05$). However, Optimism Success did not show an inverse relationship or negative

correlation with the CASQ negative subscales. One would expect, based on the inverse

relationship previously noted with the Pessimism Failure subscales and the CASQ

positive subscales, that this same pattern would emerge with Optimism Success.

However, this did not occur. Thus, it seems likely that the Optimism Success global

scale reflects a less pure orientation of optimism as a trait than the Pessimism Failure

global scale is of pessimism. This negative correlation between Pessimism Failure and

the CASQ positive subscales represents the ability of the Pessimism Failure global scale

to show a pervasive and stable negative attribution style.

Research Question 3

Table Six shows the descriptive statistics for the global scales of the SAAS and

SSAS combined (eg: Total Success External and Total Failure Internal) as well as the

composite scales of the CASQ. In order to investigate the power of the global scores of

the SAAS and SSAS combined and the composite scores of the CASQ to predict

Table Six

Descriptive Statistics of the SAAS and SSAS global scales and CASQ composite scales

| SAAS/SSAS Global Scale | M | SD | n |
|---|---|---|---|
| Total Success Internal | 114.66 | 18.44 | 58 |
| Total Success External | 91.47 | 13.34 | 58 |
| Total Failure Internal | 71.83 | 17.97 | 58 |
| Total Failure External | 88.40 | 16.07 | 58 |
| CASQ Global Scale | M | SD | n |
| Composite Positive | 13.43 | 3.60 | 63 |
| Composite Negative | 7.79 | 3.11 | 63 |

depression, as measured by the BASC Depression Subscale, a regression analysis was completed. Specifically, it was anticipated that the Total Success External, Total Failure Internal, as well as the Composite Negative from the CASQ would predict depression scores, supporting the hypothesis that depressive symptoms can be predicted by an overall style of attribution. More specifically, it was hypothesized that success would be viewed as attributable to external and unstable causes and failure to internal and stable causes when these scores were used as predictors. This hypothesis was only partially supported by the data.

The results indicate that among the global scores from the combined SAAS and SSAS, the only variable to significantly predict depression as measured by the scores of

the BASC Depression subscale was the global scale Total Failure Internal ($R^2 = .31$).

This variable accounts for 31% of the variance in the depression scores. The Total Failure

Internal is comprised of the internal failure subscales (eg: Failure Ability and Failure

Effort from both the academic and social attribution scales). Neither the Total Success

External nor the Composite Negative global scale of the CASQ added significantly to the

prediction of depression scores. This is somewhat surprising because significant

correlations were noted between the SAAS/SSAS and CASQ subscales. Similarly, the

Total Failure External global scale did not predict the depression scores to a significant

degree. Apparently, failure internal attributions represent a consistent style in which one

attributes failure events to stable, internal causes, and is predictive of depression. See

Table Seven for results of the multiple regression.

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Table Seven

Multiple Regression Data

| Constant | R | $R^2$ | $R^2$ Adj. | Standard Error of Estimate | F | Beta |
|---|---|---|---|---|---|---|
| Total Failure Internal* | .56 | .31 | .30 | 8.16 | 24.78** | .56 |

*Total Failure Internal is derived from summing the total scores of the internal failure scales:

Failure Ability and Failure Effort from both the SAAS and SSAS combined.

**$p < .001$

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It seems plausible from the above evidence that individuals who attribute their failure events to stable internal causes, such as their lack of ability or lack of effort, are more likely to suffer from symptoms of depression. The opposite of this pattern, the attribution of one's successes to causes external to themselves, such as chance or task difficulty, did not emerge as significantly predictive of depression.

Research Question 4

Table Eight shows the descriptive statistics for the Optimism and Pessimism scales from the SAAS and SSAS as well as the total Optimism/Pessimism scale from the CASQ. In order to investigate the extent to which the total Optimism and Pessimism scores from the SAAS and SSAS and the Optimism/Pessimism scores from the CASQ predict depression, a regression analysis was completed. Specifically, it was anticipated that Pessimism Failure Academic (SAAS), Pessimism Failure Social (SSAS) as well as the total Overall Optimism/Pessimism (CASQ) would all demonstrate a pattern predictive of depression. However, because the SAAS and SSAS depict situations that are more specific to those faced by school children, it was anticipated that they might show a stronger prediction (than the CASQ). This prediction was supported by the data. Results from the multiple regression indicate that among the Optimism and Pessimism global scores of the SAAS and SSAS, the only variables to significantly predict depression, as measured by the scores of the BASC Depression subscale, were the global scales Pessimism Failure Academic and Pessimism Failure Social. Pessimism Failure Social was the most powerful predictor ($R^2 = .26$). Pessimism Failure Academic

Table Eight

Descriptive Statistics of the Optimism/Pessimism global scales and CASQ composite
scales

| Optimism and Pessimism Global Scale | M | SD | n |
|---|---|---|---|
| Optimism Success Academic | 56.46 | 6.09 | 37 |
| Optimism Success Social | 99.40 | 12.72 | 72 |
| Pessimism Failure Academic | 40.05 | 10.23 | 40 |
| Pessimism Failure Social | 78.13 | 13.70 | 71 |
| CASQ Optimism – Pessimism (OAS) | M | SD | n |
| Composite Positive/Composite Negative | 5.60 | 5.38 | 63 |

increased the predictive power ($R^2$ = .36). These scores are indicative of a generalized
pessimistic outlook toward failure situations. Specifically, these response patterns
represent an attribution style in which failure situations are attributed to causes both
internal and outside their control, including lack of ability, effort, and task difficulty.

None of the optimism scales significantly predicted depression. This is
reasonable since viewing success situations as attributable to one's ability, effort or
chance/luck represents a healthy attribution style inconsistent with depression. In
addition, the overall attribution style of the CASQ was not significantly predictive of
depression. See Table Nine for the results of the multiple regression.

Table Nine

<u>Multiple Regression Data</u>

| <u>Constant</u> | <u>R</u> | <u>$R^2$</u> | <u>$R^2$ Adj.</u> | Standard Error of Estimate | <u>F</u> | <u>Beta</u> |
|---|---|---|---|---|---|---|
| Pessimism Failure Social* . | .51 | .26 | .25 | 8.43 | 19.97*** | ..37 |
| Pessimism Failure Academic** | .60 | .36 | .34 | 7.93 | 15.49*** | .34 |

\* Pessimism Failure Social is derived from summing the following total scores from the scales of the SSAS: Failure Ability, Failure Chance, and Failure Task Difficulty.

\** Pessimism Failure Academic is derived from summing the following total scores from the SAAS: Math Failure Ability, Math Failure Chance, Math Failure Task Difficulty, Reading Failure Ability, Reading Failure Chance, and Reading Failure Task Difficulty.

\***$p < .001$

CHAPTER IV

DISCUSSION

This study assessed the concurrent validity of three measures of attribution and the ability of these measures to predict depression. In general, both the social and academic attribution scores from the experimental SAAS and SSAS scales demonstrated value in assessing children's attributions in success and failure situations. Because of the correlation with the well established, but more clinically oriented CASQ, these instruments can provide a useful measurement of children's attributions. Scores from the SAAS and SSAS also predicted depression.

The internal and the external scales of the SAAS and SSAS correlated differentially with the CASQ. Generally, the internal scales of the SAAS and SSAS correlated more highly with the CASQ, than did the external scales. Specifically, both ability and effort attributions correlated more highly than chance and task difficulty with the CASQ subscales. Perhaps the transient nature of chance and task difficulty limit the strength of the relationships. On the other hand, the attribution of ability and effort may be perceived to be more pervasive and permanent. Stronger correlations were generally found using combined scores. By combining across social and academic domains, more robust measures were produced.

Specific Relationships between the CASQ and the SAAS

The SAAS appears to be sensitive to students' attributions to both success and failure situations. The fact that this academic instrument correlates significantly with the well established, but more clinically oriented CASQ suggests that it may have merit for

use in the school setting and beyond. At the subscale level, Math Success Ability and Math Success Effort showed slightly higher correlation with the CASQ than Reading Success Ability and Reading Success Effort. This was especially true of attributions of success to effort, indicating that as measured by the SAAS, effortful attributions may be more robust. Also at the subscale level, the smallest correlations were noted between the internal scales (ability and effort) of the SAAS and the internality subscale of the CASQ. Apparently, ability and effort on the SAAS and the internality subscale of the CASQ are assessing somewhat different constructs, perhaps due to the location differences imbedded in the questions on the two tests, i.e., the SAAS focus on school situations and the CASQ does not. When a composite score was calculated (Success Ability and Success Effort combined for internal attributions), it demonstrated high correlations with the other CASQ positive subscales, as well as an inverse relationship with the CASQ negative subscales. Although the external failure attributions in math were somewhat more highly correlated to the CASQ than the external failure attributions with reading, both demonstrated significant relationships. Globally, the scale of Optimism Success Academic was not quite as highly correlated with the CASQ as Pessimism Failure Academic; academic pessimism may be a more enduring and stable attribution style.

The above results are somewhat consistent with the Seligman et al (1984) study in which internal and stable attributions to bad events and external and unstable attributions to good events covaried nearly equally with depressive symptoms. Both could be considered pessimistic attribution styles. The "internalizing" pessimistic style of attributing failure to internal, stable, and enduring causes showed a higher correlation

with the CASQ subscales than did the opposing or "externalizing" pessimistic style of attributing success to external, unstable causes.

## Specific Relationships between the CASQ and the SSAS

The SSAS items assessing social attributions to success and failure situations may be more similar to the general situations portrayed on the CASQ items than those from the academically oriented SAAS. Thus, the SSAS showed a strong pattern of correlation with the CASQ's more general, nonacademic attributions. Social aspects of school life are more pervasive than academic aspects. However, the patterns between the SSAS and the CASQ were similar to those between the CASQ and the SAAS. Specifically, at the subscale level, attributions of success to effort showed a higher correlation to the positive subscales of the CASQ than did attributions of success to ability. Also, the components of the internal subscales of the SSAS showed the least correlation with Internality Positive and Internality Negative subscales of the CASQ. However, when ability and effort were combined to comprise the Internal Success scale, a significant positive relationship was obtained. The Success External subscale was not as discriminating as the Success Internal, indicating that attributions of successes to external causes may not be as pervasive, powerful or permanent.

Similar to the pattern of academic failure attributions, social failure attributions to ability and effort were more highly correlated with the CASQ subscales than social success attributions were to the CASQ subscales, indicating that lack of ability and effort attributions to failure situations may be more powerful as an attribution style; on the other hand, attributing success situations to ability and effort may be more transient and less

permanent in nature. Global scores show similar patterns. The global scale of Pessimism

Failure showed higher correlations to the CASQ's negative subscales than the Optimism

Success global scale. This again suggests that social pessimism is a more stable,

powerful and perhaps enduring attribution style than is social optimism and, if altered,

may be more effective in reducing depressive symptoms.

Attribution Style and Depression

Most studies viewing the relationship between childrens' attributions and

depression (Asarnow & Bates, 1988; Seligman et al, 1984; Mukherji, Abramson, &

Martin, 1982) view the different attribution styles – positive events to unstable, external

causes and negative events to stable, internal causes – as contributing at equal levels to

depressive symptoms. Conversely, Benfield et al (1988) demonstrated correlations

between positive events to unstable and specific causes and depressive symptoms, but the

opposite pattern of attributing negative events to stable and general causes was not noted.

In the present study, attributions of failure or negative events to stable, internal causes

correlated with the CASQ subscales to a greater degree than did the opposite pattern of

attributing success situations to unstable, external causes.

A substantive body of research also has revealed that an unhealthy attribution

style can be stable over time (Seligman. et al., 1984), and predictive of later depression

(e.g.. Nolen-Hoeksema, et al., 1986). This was seen in both long and short term studies

and demonstrates the importance of both identifying and measuring children's attribution

styles. Once practiced or reinforced. attribution styles become more stable and

internalized, and can lead to either an optimistic or pessimistic outlook.

Seligman (1984, 1990), and Mukherji, et al. (1982), among others, have identified that this negative or pessimistic attribution style can directly precede depressive symptoms. Identification of an unhealthy or pessimistic attribution style lends itself to possible attribution change. Despite the demonstrated stability of a negative attribution style, interventions may be helpful (Jaycox et al, 1994; Gillham et al, 1995).

Early prediction or identification of the unhealthy attribution system that precedes depression may help reduce depressive symptoms in children later. The identification of instruments or parts of instruments that can predict depression is a step in that direction. The SAAS and SSAS combined global scores of total failure internal and the global pessimism failure scores from both scales predict depression to a significant degree; hence, they may represent an effective tool for identifying patterns leading to depressive symptoms. The CASQ scales did not significantly predict depression beyond the ability of the SAAS and SSAS; presumably, the SAAS and SSAS global failure scales are more demonstrative of a predictive pattern than the CASQ.

However, the CASQ has been shown to be a predictor of depression in previous studies (Seligman, et al., 1984; Nolen-Hoeksema, Girgus & Seligman, 1986, 1992; Friedlander, Traylor & Weiss, 1987; Gladstone & Kaslow, 1995). Perhaps the SSAS and SAAS are more sensitive due to the independent-choice scoring system (as opposed to the forced choice system used by the CASQ). Also, perhaps the SSAS and SAAS scales were more sensitive because they assess attributions in school settings. the data collection site for all the scales, including the BASC. The CASQ is typically administered in and relevant for more clinical settings. In any case, given the findings that a pessimistic

attribution style can be enduring and stable over time (Mukherji et al, 1982; Nolen-Hoeksema et al, 1986), identification of this attribution style is imperative.

Importance of Attribution Retraining

If a negative or pessimistic attribution style is not identified in a child, it cannot be directly retrained. Many factors may have contributed to a child's pessimistic attribution style, such as learned behaviors, difficult life or school circumstances, or poor role modeling from adults. However, given the fact that children with this attribution style are at risk for future depressive episodes, it is important to attempt to influence positively the attribution style. Several studies have noted success in attribution retraining (Jaycox, et al., 1994; Gillham, et al., 1995), given that a negative attribution style has been identified.

When a child exhibits a negative attribution style, he or she is attributing success situations to elements outside of him/herself and subsequently, outside his/her control. Conversely, he/she is also attributing failure situations to elements internal to him/herself, but still outside his/her control. Since this latter situation particularly is predictive of depression, intervention should involve directly challenging these internalized attributions to failure situations. Children's attributions can be directly retrained to view situations more realistically. In the Jaycox, et al. (1994) and the Gillham et al. (1995) studies, participants were successful in both mediating depressive symptoms and reducing recurrences. Both studies involved first identifying children who demonstrated a negative or pessimistic attribution style. The Student Academic and Student Social Attribution Style Questionnaires have demonstrated utility in identifying these children among a typical sample of school children.

Limitations of the Study

The number of subjects in this study was limited to three typically sized classrooms. Unfortunately, due to absences and students moving out of or into the school district, some were not present for both days of the administration of the instruments. This transience also accounts for the differences in numbers of participants who answered the SSAS versus the SAAS. The subject pool was also limited in terms of the population available. It was mainly Caucasian with approximately 51% below the poverty level.

The means, standard deviations and numbers in the participant pool also fluctuated during the course of this study. When comparing the descriptive statistics of the SAAS and SSAS, the numbers were substantially larger on the SSAS than the SAAS. This variance was due to the difference in the number of items on the two instruments. In general, tests with more items display more variability and thus, may be more sensitive. The SSAS had more items and, in fact, showed more predictive capability.

The two global scales of the social and academic attribution instruments were predictive of depression, but only 31% of the variance of depression was directly attributable to these variables. Consequently, the predictive power of the scales is limited. However, this is not unexpected; there are many factors contributing to depression in children. Heredity, environmental factors, or even transient, situational factors may have also influenced their responses on the dependent measure, or the BASC Depression subscale.

Somewhat surprisingly, the CASQ was not significantly predictive of depression beyond the SAAS and SSAS. This finding is incompatible with evidence presented in

clinical trials where the CASQ was highly correlated with depressive symptoms (Seligman, et al., 1984; 1990). Although these trials were generally with clinical patients rather than typical school children, it would seem likely that many of the same predictive elements would be present. However, perhaps the SAAS and SSAS are more powerful in the school setting where children experience powerful negative or pessimistic attribution styles associated with schoolwork. In addition, the independent-choice rating system may be more sensitive than the forced-choice format.

Implications for Further Research

Given the ability of the SAAS and SSAS to predict childhood depression and provide a reliable measure of children's attribution styles, its utility in the school setting is promising. However, not all subscales and global scales predicted at the same level. For this reason, some refinement in items would be an improvement. Specifically, the external attribution scales were not as robust in their predictive ability. Thus, the academic and social instruments might be more useful and efficient if they simply measured the extent to which children attribute their success and failure situations to internal, stable causes rather than measuring whether their attributions are internal or external. Similarly, the success scales were not as powerful as the failure scales. Perhaps, the success scales could be eliminated, leaving only a measure of attributions for failure situations to internal or external variables, and producing a more efficient scale.

From data in this study it is impossible to determine which element came first: the depressive symptomatology or the unhealthy attribution style. Although attribution style can predict depression as shown by the regression analysis, without extensive

knowledge of a child's background and other knowledge of children's relevant behaviors, causality cannot be obtained. Longitudinal developmental studies are needed. Even so, previous studies have provided some evidence showing that attributions precede and likely influence depression (e.g., Abramson & Martin, 1982; Seligman et al., 1984).

The importance of this research is the impact that it may have on identifying predictors of depression and demonstrating the link between attributions and depressive symptoms in school children. With an increase in the amount of children identified as behaviorally or emotionally disturbed in schools, better methods of identification are needed.

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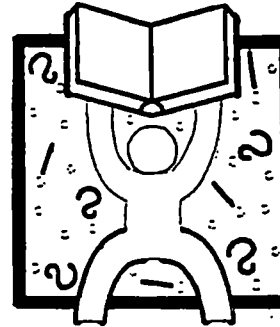Seligman, M. E. P., Kaslow, N. J., Alloy, L. B., Peterson, C., Tanenbaum, R. L., & Abramson, L. Y. (1984). Attribution style and depressive symptoms among children. Journal of Abnormal Psychology, 93, 235-238.

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# APPENDICES

# APPENDIX A

# STUDENT ACADEMIC ATTRIBUTION SCALE (SAAS)

Doing well in school is important to most students. There are different reasons for how well you do in school. Listed below are 24 school situations. There are different reasons for the situations. Imagine yourself to be in each situation. Read each situation and each reason and tell how often each reason applies to you. Let's try some examples.

|  | | **Often** | **Sometimes** | **Seldom** |
|---|---|---|---|---|
| **A.** | I win in the school spelling bee. It is because: | | | |
| | a. I study hard in spelling. | ___ | ___ | ___ |
| | b. I am lucky. | ___ | ___ | ___ |
| | c. spelling is easy. | ___ | ___ | ___ |
| | d. I am a good speller. | ___ | ___ | ___ |
| **B.** | My science project does not win an award. It is because: | | | |
| | a. I am unlucky. | ___ | ___ | ___ |
| | b. I do not work hard on projects. | ___ | ___ | ___ |
| | c. I am not good in science. | ___ | ___ | ___ |
| | d. doing science projects is hard. | ___ | ___ | ___ |

Now, read each situation carefully and mark how true each reason is for you.

|  | | **Often** | **Sometimes** | **Seldom** |
|---|---|---|---|---|
| 1. | I was chosen by the teacher to help another student complete a math problem. It is because: | | | |
| | a.   I am lucky. | ___ | ___ | ___ |
| | b.   I always try hard to help. | ___ | ___ | ___ |
| | c.   I am smart in math. | ___ | ___ | ___ |
| | d.   math problems are really easy. | ___ | ___ | ___ |
| 2. | A classmate asked me to help with some math homework. It is because: | | | |
| | a.   I am good at adding and subtracting. | ___ | ___ | ___ |
| | b.   I am lucky to sit next to him. | ___ | ___ | ___ |
| | c.   I work hard to figure out problems. | ___ | ___ | ___ |
| | d.   homework is easy. | ___ | ___ | ___ |
| 3. | Today, my teacher said I was among the top readers in the class. It is because: | | | |
| | a.   I am good at reading. | ___ | ___ | ___ |
| | b.   I work hard. | ___ | ___ | ___ |
| | c.   the teacher says nice things to everybody. | ___ | ___ | ___ |
| | d.   assignments are easy for everybody. | ___ | ___ | ___ |

|  | | **Often** | **Sometimes** | **Seldom** |
|---|---|---|---|---|

4. I had trouble answering the teacher's question about a math problem. It is because:

   a. problems are hard for everybody. ____ ____ ____

   b. I am not good at math. ____ ____ ____

   c. I do not try hard to solve problems. ____ ____ ____

   d. I am unlucky to be asked hard problems. ____ ____ ____

5. I did not follow instructions on a quiz and got a low grade. It is because:

   a. I cannot read instructions. ____ ____ ____

   b. I do not carefully read the instructions. ____ ____ ____

   c. instructions do not make sense. ____ ____ ____

   d. I am unlucky. ____ ____ ____

6. No one wanted to be my partner in working math problems today. It is because:

   a. I am bad in math. ____ ____ ____

   b. I do not try in math class. ____ ____ ____

   c. I get overlooked by mistake. ____ ____ ____

   d. math lessons are hard. ____ ____ ____

|  | Often | Sometimes | Seldom |
|---|---|---|---|

7.  I messed up today when I had to read a paragraph out loud to the class. It is because:

    a.  I am not careful when I read.

    b.  I am bad at reading out loud.

    c.  I am unlucky.

    d.  it is hard to read aloud.

8.  I get a good grade in reading on my report card. It is because:

    a.  the teacher is nice and gives good grades.

    b.  I am a naturally good reader.

    c.  I work hard in reading.

    d.  the reading book is easy.

9.  I made a mistake on a math problem at the board. It is because:

    a.  I do not do my math homework.

    b.  I am no good at math.

    c.  working at the board is hard.

    d.  I am unlucky.

|  | **Often** | **Sometimes** | **Seldom** |
|---|---|---|---|

10. I did not get chosen to read in a school assembly. It is because:

    a.   I am not good at reading.     \_\_\_\_     \_\_\_\_     \_\_\_\_

    b.   not many kids are chosen.     \_\_\_\_     \_\_\_\_     \_\_\_\_

    c.   I do not work hard at reading.     \_\_\_\_     \_\_\_\_     \_\_\_\_

    d.   it is very hard to read in front of a big group.     \_\_\_\_     \_\_\_\_     \_\_\_\_

11. I get a low grade on a reading worksheet. It is because:

    a.   the worksheet is hard.     \_\_\_\_     \_\_\_\_     \_\_\_\_

    b.   I have bad luck.     \_\_\_\_     \_\_\_\_     \_\_\_\_

    c.   I do not pay attention during reading lessons.     \_\_\_\_     \_\_\_\_     \_\_\_\_

    d.   I am no good at reading.     \_\_\_\_     \_\_\_\_     \_\_\_\_

12. I win the math award for my class at the end of the year. It is because:

    a.   I work hard in math.     \_\_\_\_     \_\_\_\_     \_\_\_\_

    b.   I am lucky to be chosen.     \_\_\_\_     \_\_\_\_     \_\_\_\_

    c.   getting a math award is easy.     \_\_\_\_     \_\_\_\_     \_\_\_\_

    d.   I am naturally good in math.     \_\_\_\_     \_\_\_\_     \_\_\_\_

|  | Often | Sometimes | Seldom |
|---|---|---|---|

13. I get a good grade on a book report. It is because:

    a.   I work hard on reports.

    b.   I am a good reader.

    c.   the teacher is in a good mood.

    d.   teachers give easy book reports.

14. I get a good grade on a math test. It is because:

    a.   I study the night before.

    b.   I am lucky the teacher gives good grades.

    c.   my teacher is an easy grader.

    d.   I am naturally good at math.

15. My teacher asked me to help another student read a lesson. It is because:

    a.   I am smart in reading.

    b.   I am lucky to sit near the student who needs help.

    c.   helping others in reading is easy.

    d.   I work hard in reading and finish my lessons quickly.

|  | Often | Sometimes | Seldom |
|---|---|---|---|

16. We are cooking in my class and I make a mistake in measuring the amounts. It is because:

|  | Often | Sometimes | Seldom |
|---|---|---|---|
| a. I am not good with numbers. | ___ | ___ | ___ |
| b. measurement is hard. | ___ | ___ | ___ |
| c. I was not paying attention to what I was doing. | ___ | ___ | ___ |
| d. everybody makes mistakes. | ___ | ___ | ___ |

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# APPENDIX B

# STUDENT SOCIAL ATTRIBUTION SCALE (SSAS)

Getting along with others and having friends is important to most students. There are different reasons for how well you make friends. Listed below are 30 situations that could happen at school or home. Imagine yourself to be in each situation. Read each situation and each reason and tell how often each reason applies to you. Let's try some examples.

|  | | Often | Sometimes | Seldom |
|---|---|---|---|---|
| A. | Two kids in my neighborhood ask me over to play on the same day. It is because: | | | |
| | a. I am naturally fun to be with. | ___ | ___ | ___ |
| | b. I try hard to be a good friend. | ___ | ___ | ___ |
| | c. they want to play with my games. | ___ | ___ | ___ |
| | d. it is my lucky day. | ___ | ___ | ___ |
| B. | Some kids on my street had a pool party and did not invite me. It is because: | | | |
| | a. I am unlucky. | ___ | ___ | ___ |
| | b. I do not act friendly to other kids. | ___ | ___ | ___ |
| | c. I am not good at being a friend. | ___ | ___ | ___ |
| | d. being invited to parties is hard. | ___ | ___ | ___ |

**Now, read each situation carefully and mark how true each reason is for you.**

|  |  | Often | Sometimes | Seldom |
|---|---|---|---|---|
| 1. | I am invited to a classmate's party. It is because: |  |  |  |
| a. | a lot of people are invited. | ___ | ___ | ___ |
| b. | I make friends easily. | ___ | ___ | ___ |
| c. | I work hard at making friends. | ___ | ___ | ___ |
| d. | making friends is easy for everyone. | ___ | ___ | ___ |
| 2. | A classmate complains to the teacher about my interrupting people. It is because: |  |  |  |
| a. | my classmate likes to tell on people. | ___ | ___ | ___ |
| b. | I am not good at waiting my turn. | ___ | ___ | ___ |
| c. | I do something to make my classmate mad. | ___ | ___ | ___ |
| d. | my classmate is a hard person to get along with. | ___ | ___ | ___ |
| 3. | I am chosen to work with several students in a special class project. It is because: |  |  |  |
| a. | many students are chosen. | ___ | ___ | ___ |
| b. | I work hard on group projects. | ___ | ___ | ___ |
| c. | I am good at working on projects. | ___ | ___ | ___ |
| d. | projects are easy to do. | ___ | ___ | ___ |

—
—

|  | Often | Sometimes | Seldom |
|---|---|---|---|

4. A friend says bad things about my behavior because:

   a. I am not very good at controlling my behavior. ____ ____ ____

   b. my friend is in a bad mood. ____ ____ ____

   c. I behave badly. ____ ____ ____

   d. friends are hard to get along with. ____ ____ ____

5. My friends say they like to sit with me on the bus. It is because:

   a. there aren't many other seats. ____ ____ ____

   b. I try hard to make friends feel welcome. ____ ____ ____

   c. I do well at making friends feel welcome. ____ ____ ____

   d. it is easy to get friends to sit by you. ____ ____ ____

6. I invite some friends to spend the night at my house. They do not come because:

   a. they already have something else planned. ____ ____ ____

   b. I have a hard time making friends. ____ ____ ____

   c. I do not try to show my friends a good time. ____ ____ ____

   d. it is hard to get people to come to parties. ____ ____ ____

|  | **Often** | **Sometimes** | **Seldom** |
|---|---|---|---|

7.  I ask a popular kid to play with me at
    recess.  The kid plays with me because:

   a.   it is easy to get kids to play.    ___   ___   ___

   b.   I am good at being popular.    ___   ___   ___

   c.   the kid is in a friendly
    mood.    ___   ___   ___

   d.   I ask the kid to play in a nice way.    ___   ___   ___

8.  I get into a fight with a classmate.  It is
    because:

   a.   I am not good at getting along with
    others.    ___   ___   ___

   b.   it is hard to avoid a fight.    ___   ___   ___

   c.   my classmate is in a bad mood.    ___   ___   ___

   d.   I do not control my temper.    ___   ___   ___

9.  My classmates are asked to choose five
    classmates they would most like to play
    with.  They choose me because:

   a.   being popular comes naturally to
    me.    ___   ___   ___

   b.   I am just lucky to be chosen.    ___   ___   ___

   c.   it is easy to be chosen.    ___   ___   ___

   d.   I let friends know I like them by
    telling them.    ___   ___   ___

|  | Often | Sometimes | Seldom |
|---|---|---|---|

10. Some popular kids in my class ignore me when I try to join their conversation. It is probably because:

    a. I do not try to behave in a friendly way to others.   ____   ____   ____

    b. talking to popular kids is hard.   ____   ____   ____

    c. the kids are rude to everyone.   ____   ____   ____

    d. I am not good at talking to popular kids.   ____   ____   ____

11. My friends like to talk to me on the phone. This is because:

    a. I am a good listener.   ____   ____   ____

    b. I am lucky they call me.   ____   ____   ____

    c. they call a lot of people.   ____   ____   ____

    d. I try hard to be a good listener.   ____   ____   ____

12. I get into trouble with the principal for pushing someone. It is because:

    a. I am unlucky and get caught.   ____   ____   ____

    b. I do not try to get along with others.   ____   ____   ____

    c. I have trouble getting along with others.   ____   ____   ____

    d. it is hard to keep out of trouble.   ____   ____   ____

|  | Often | Sometimes | Seldom |
|---|---|---|---|

13. Some older students ask me to help them carry their class project. It is because:

   a. I try to be careful with other people's things.   \_\_\_\_   \_\_\_\_   \_\_\_\_

   b. I am good at taking care of other people's things.   \_\_\_\_   \_\_\_\_   \_\_\_\_

   c. it's easy not to break other people's things.   \_\_\_\_   \_\_\_\_   \_\_\_\_

   d. I am lucky to be nearby.   \_\_\_\_   \_\_\_\_   \_\_\_\_

14. I lose my temper playing a game at recess. It is because:

   a. I do not try to get along with others.   \_\_\_\_   \_\_\_\_   \_\_\_\_

   b. some games are hard to play.   \_\_\_\_   \_\_\_\_   \_\_\_\_

   c. no one is in a friendly mood that day.   \_\_\_\_   \_\_\_\_   \_\_\_\_

   d. I am not good at playing with my classmates.   \_\_\_\_   \_\_\_\_   \_\_\_\_

15. A friend tells me about an important problem. It is because:

   a. it is easy to listen to problems.   \_\_\_\_   \_\_\_\_   \_\_\_\_

   b. I try to understand how my friends feel.   \_\_\_\_   \_\_\_\_   \_\_\_\_

   c. I am the only one around to talk to.   \_\_\_\_   \_\_\_\_   \_\_\_\_

   d. I am good at listening to friends' problems.   \_\_\_\_   \_\_\_\_   \_\_\_\_

|  | Often | Sometimes | Seldom |
|---|---|---|---|

16. Another student got hurt on the playground, and I did not help. It is because:

   a.   I am not close by.

   b.   it is hard to help hurt people.

   c.   I'm not good at helping.

   d.   I do not try to help hurt people.

17. I get a good grade in conduct on my report card. It is because:

   a.   getting good conduct grades was easy this time.

   b.   I try hard to behave in class.

   c.   getting along with others is easy for me.

   d.   I am lucky.

18. Some classmates pick on me. It is because:

   a.   I'm not good at getting along with others.

   b.   I do things to make them mad.

   c.   it is hard to know what to say to bullies.

   d.   I am unlucky.

|  | | **Often** | **Sometimes** | **Seldom** |
|---|---|---|---|---|

19. I am voted president of my class. It is because:

    a.  I try to be friendly and fair with others. ____ ____ ____

    b.  I am lucky to be chosen. ____ ____ ____

    c.  being popular is easy for me. ____ ____ ____

    d.  it is easy to be class president. ____ ____ ____

20. I ask a friend to talk with me at lunch, but my friend talks with someone else. It is because:

    a.  it is hard to get friends to talk. ____ ____ ____

    b.  I do not try to be a good listener. ____ ____ ____

    c.  I am poor at listening. ____ ____ ____

    d.  I am unlucky someone else had already asked my friend. ____ ____ ____

21. A popular kid in my class asks me over to spend the night. It is because:

    a.  I am good at being popular. ____ ____ ____

    b.  I try to be fun. ____ ____ ____

    c.  it is easy to be invited. ____ ____ ____

    d.  I am lucky to be asked. ____ ____ ____

|  | | Often | Sometimes | Seldom |
|---|---|---|---|---|

22. A popular classmate does not ask me to a party. It is because:

    a. I am just unlucky to be left out.

    b. I do not try to be liked by my classmates.

    c. I am not good at being popular.

    d. making friends with a popular classmate is hard.

23. A classmate says good things about my behavior in class. It is because:

    a. my classmate says nice things.

    b. I am good at getting along with others.

    c. I say nice things to others.

    d. my classmate is easy to get along with.

24. I see some kids from my class at the shopping mall. They do not speak to me. It is because:

    a. they do not see me.

    b. I do not make friends easily.

    c. I do not smile and wave at them.

    d. it is too crowded at the mall.

|  | Often | Sometimes | Seldom |
|---|---|---|---|
| **25. Two friends tell me they like me. It is because:** | | | |
| a. it is easy to be liked. | | | |
| b. I try hard to be a friend. | ___ | ___ | ___ |
| c. it is my lucky day. | ___ | ___ | ___ |
| d. I am naturally good at being a friend. | ___ | ___ | ___ |
| **26. My friend says something that hurts my feelings. It is because:** | ___ | ___ | ___ |
| a. I ignore my friend. | | | |
| b. friends can be difficult to get along with. | ___ | ___ | ___ |
| c. I am unlucky my friend was in a bad mood. | ___ | ___ | ___ |
| d. I am not good at being a friend. | ___ | ___ | ___ |
| **27. My friends say I am funny. It is because:** | ___ | ___ | ___ |
| a. I am naturally good at making jokes. | | | |
| b. I am lucky. | ___ | ___ | ___ |
| c. I try to make people laugh and have fun. | ___ | ___ | ___ |
| d. it is easy to make them laugh. | ___ | ___ | ___ |
| | ___ | ___ | ___ |

|  | Often | Sometimes | Seldom |
|---|---|---|---|

28. A classmate calls me a teacher's pet. It is because:

   a. my classmate is in a bad mood.

   b. my classmate calls everyone bad names.

   c. I make fun of my classmate.

   d. I am not good at getting along with my classmate.

29. A boy in class lost his dog and asked me to help find it. This is because:

   a. I sit near him in class.

   b. I try hard to help people.

   c. I am good at being helpful.

   d. it is easy to help other people.

30. My friend's parents got a divorce, and she did not tell me about it. This is because:

   a. She forgets to tell me things.

   b. it is hard to know what to say about these things.

   c. I don't really try to talk to people about these things.

   d. I'm not good at being helpful.

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# VITA

Janette A. Doucette was born July 14, 1966, in Hobart, Indiana. After growing up in northern Michigan, she has lived in the Chicago area for approximately eight years while not attending The University of Tennessee. Currently she is employed as a school psychologist for the Palatine/Rolling Meadows school district in Illinois, serving elementary and junior high students.

She attended Michigan State University for her undergraduate education, receiving a Bachelor of Arts in psychology. Following graduation she was employed in the Chicago area, working with adolescent psychiatric inpatients for approximately three years. She worked with a wide variety of adolescents, conducting group and individual counseling and working with families. She has also spent approximately four years working with adult chronically mentally ill inpatients, conducting group and individual counseling.

She attended The University of Tennessee for her graduate education, receiving a Masters of Science in educational psychology as well as a Doctorate of Philosophy, specializing in school psychology. While attending The University of Tennessee she gained experience in a wide variety of school settings as a practicum student. She was also a member of many research endeavors, and assisted in teaching a graduate level psychoeducational consultation course. Also while a graduate student she presented research on school violence prevention at the Tennessee Association of School Psychologists convention and presented research on attributions of school children at the

National Association of School Psychologists annual convention. She was also employed as a Graduate Assistant for the Men's Athletic Department during her four years at The University of Tennessee.